

Issue 11

August 2007



Panellus serotinus
Olive Oyster

NIFG NEWS

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NIFG NEWS 2007

With the kind support of Museums & Galleries of Northern Ireland (MAGNI)

Hi Folks!

Another foraging season is well under way—and what an unusual year for weather. It will be interesting how our fungal friends cope with the wild variations in sunshine and rainfall.

If the first couple of forays are anything to judge by, the response is likely to be as variable as the weather has been. However, on a Sunday afternoon stroll I picked up a large clump of fungi sprouting from wood chip piles at the Wildfowl & Wetlands Trust at Castle Espie and to my surprise, this turned out to be a species new to Ireland. It hasn't got a colloquial name yet as it was only described in 2003, from the Netherlands. But it is a fairly large *Agrocybe*, *A. rivulosa* Nauta, 2003. A photo appears inside. Apparently the species is probably from the tropics although no-one knows its country of origin.

So at least there is a new habitat appearing all over gardens and parks—the wood chip bed. NIFG have recorded only a small fraction of the

fungal species known from such places in Britain. But there is no reason why these 'aliens' should not eventually turn up here and supply interesting additions to our home-grown fungi. If there are wood chip beds near you keep an eye out. The chances are that you will find something interesting, especially if the beds are newly laid and heating up to a degree.

I recall Chris Stretch finding morels on wood chip in Coleraine and I have found hundreds of *Stropharia aurantiaca* in the gardens at Carnfunnock on old wood chip. So get out there and see what you can find.

Roy Anderson, Editor

Roy Anderson

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Chairman's Report 2006

After eleven years in the chair it is with great pleasure and some regret that I now hand over to the ever energetic Debbie Nelson. As most of you will know by now, I shall be retiring next year and it is wise to have a leisurely transference of duties. So far things have proceeded very smoothly and apart from tying up a few loose ends the transition is as good as complete. On behalf of you all I therefore wish Debbie a long and rewarding term of office.

DISCLAIMER

The contents of NIFG NEWS are as accurate as can be achieved within the constraints of a small newsletter. The editorial staff take no responsibility for views expressed about the edibility or otherwise of fungi described by contributors. Edibility is a relative term and what may suit one person may react badly with another. The identification of fungi for consumption is entirely the responsibility of the individual reader. Guidance given in these pages is not definitive and regardless of the degree of expertise available, infers no guarantee of edibility. Therefore the management accept no responsibility for the consumption of fungal fruiting bodies based on information presented here, whatever the advise or ultimate consequences.

Last year was full of non standard events, the most spectacular being our editor's experiencing a severe case of positive geotaxis on Slieve Donard in June. As a result he had to be transported by a Sea King helicopter to the RVH and, at the time of writing, is still hobbling about on crutches. Please make a swift and complete recovery Roy as we need you for those little black spots on twigs and ascos in general. A new event was the microscope workshop held on July 4. Roy was to have been our tutor, but Chris Stretch bravely took his place thus ensuring a highly successful day – more about this elsewhere. Finally we manned a display at the Crawfordsburn Autumn Festival. Many thanks to the organizers for setting up a live display of tree trunk fungi, and to the British Mycological Society for providing us with copious amount of leaflets and posters. Again, a full write up on this appears elsewhere.

The AGM was held at Peatlands Park in our traditional manner, but this time the attendance was

a whopping twenty five. Business was nowhere near as heavy as last year so the afternoon proceeded at a gentle and relaxed pace. Before the elections I had the pleasure of reporting a number of unusual finds made by various members. These had duly been sent to Kew, who were very grateful – see the new finds section in this issue for further details. Please note that Kew is always eager to receive dried and properly documented specimens – instructions on this matter can be found in the BMS's Guide to Collecting Fungi.

The new post of Foray Secretary was combined with that of Chairman with Debbie (proposed Arlette Bataille, seconded Peg McCusker) being elected unanimously by acclaim. The other officers remaining as before: Chris Treasurer and Roy acting recorder/editor. We decided to hold our residential in the Roe Valley this coming October, but had to reject the Raddison as too expensive. Fortunately the Drummond Hotel has made us a very reasonable offer.

It has been great fun helping to run the show over the last eleven years, but there are other things in life than foraying. For instance, once a free man, I intend to carry on visiting major British folk ceremonies such as the Padstow 'Obby 'Oss on May Day and the Abbots Bromley Horn Dance which is performed on the first Monday after the first Sunday in September (don't ask me why).

Happy foraying for 2007

Gerry.

MEMBER'S NEWS

Microscope Workshop, Wednesday July 4

At the last AGM many members asked if it were possible to provide instruction on the use of a microscope. The answer was yes, and Roy Anderson kindly agreed to be our tutor. However, as a result of his incapacity (a broken leg), Chris and I had to take his place. Chris did the most difficult bit in explaining how microscopes were constructed, the functions of their various parts, how to set them up and adjust the light etc. etc. After a short break Chris then explained how to take sections, stain and mount them. Then came the long practical session with me acting as Chris's lab assistant. Twelve other members were present with a large and interesting selection of specimens to

examine.

Notable rare finds were *Laccaria fraterna* (Robert), *Pluteus aurantiorugosus* (Matthew) and *Cordyceps sphecocephala* (John). The workshop was made possible by the excellent support provided by Joan Taggart of the School of Health and Life Sciences. Joan supplied us with lab coats, razor blades, seekers, stains, immersion oil, reagents and microscopes. Many thanks Joan.

I rather think this will become a permanent feature of future programmes. Certainly there is room for a more advanced follow up.

GP Shannon

Forthcoming events:

The Apple Show 2007

Due to the success of last year's Apple Festival at Crawfordsburn Country Park we have been asked to attend again this coming October. The event will take place on the 13th & 14th from 10am to approx 5 pm both days. We will have a large stand of fungi specimens on display and be on hand to answer questions or give advice where we can. We will also be selling some education resources courtesy of BMS, to help raise funds for the Group.

The Park is situated just outside Crawfordsburn Village and is well signposted from the A2 Belfast to Bangor road. Please come along and show your support, either by saying "Hello" or maybe staying to lend a hand with the display.

If you are coming along bring some fresh samples that could be set out in the display. Hope to see many of you there.

Debbie Nelson

[Photos and write-up of last year's event are on p. 12]

REVIEWS

MycoKey 2.1

Key to 850 genera of Basidiomycetes and Ascomycetes from northern Europe.
Thomas Laessle & Jens H. Petersen (2006)

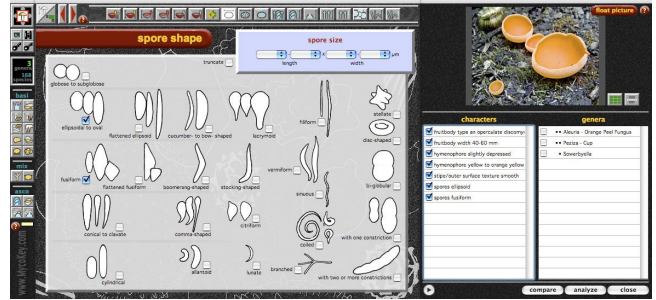
Available as a DVD or as a WEB download from: www.mycokoey.com. Price incl. VAT = £44.80.

~~I have always been fascinated by inter active 'live' keys with good illustrations. It seems to me that, potentially, this is one of the things that the WEB and/or computers can do best.~~

The usual dichotomous 'paper' keys are to many people too technical, and without a clear understanding of all the terms used within couplets, it is very easy to take a wrong turn early on and end up nowhere near an accurate identification.

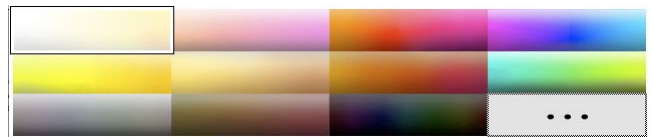
Mycokoey avoids this with its inbuilt drawings and photos and its synoptic rather than dichotomous mode of operation. It has an incredible 3600 photos of fungi for use within the key for identification. This allows, if you have managed to pin down the genus of your unknown fungus, to scroll through the excellent colour photos of species within that genus to identify your specimen.

The system works in Windows XP, which makes it compatible with the average computer system and runs by standard menu-driven or tick box operation. Because of the large number of illustrations and photos, the software takes up a



Synoptic page for spore shape and size

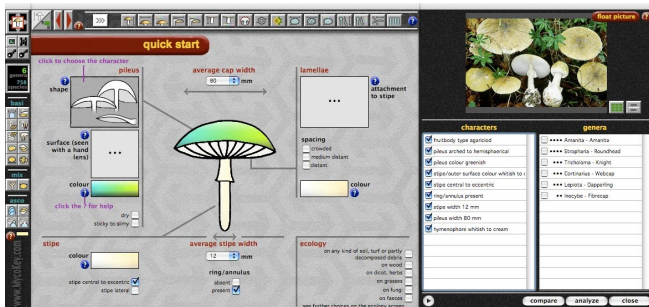
There is also a comprehensive reference system to the literature for a particular genus. This is necessary if you are doing any research on the unknown fungus.



Synoptic colour key for spores or fruiting bodies

I found MycoKey an invaluable way to 'get into' genera of agarics which I am not familiar with, just by scrolling through the images or trying out the key in different ways. This is an excellent way to increase your knowledge of native fungi and highly recommended. And as if that were not enough, it includes ascus!!

Roy Anderson



Synoptic key in operation showing tick box layout with selected genera to the right.

fair amount of space at 800Mb, but since computers have long since broken the multiple gigabyte (Gb) memory barrier, this really isn't a problem. I would recommend download on to your desktop from the WEB, however, rather than purchase of a DVD, as getting photos etc. off the DVD would make operation slow and bothersome.

I found that the key works well and there is a choice of simple or advanced keying, depending on your level of understanding. In both you proceed through a series of windows with field characters containing a variety of tick boxes. As the number of characters and windows you work through increases, so a list of possible genera given to one side narrows. When only a few genera are left you can try these by going through photos under each generic heading to see all of the individual species included with the key.

Foray and other finds 2006/7

Foray Records

Forays in 2006 didn't produce a great number of interesting fungi although the record regarding numbers of species in one trip was broken at Castle Espie with a total of 81. Despite that, no new Irish records were forthcoming from that list, although the rare *Entoloma asprellum*, with only



Feather stalkball *Onygena corvina*, Castle Espie

three other NI records, was found in grassland on the old runway. Debbie Nelson had earlier found a very unusual asco on birds' feathers in the Reserve at Castle Espie. This is *Onygena corvina* which grows exclusively on feathers. The only previous Irish record is also from Castle Espie, but pre-1980. Congratulations to Debbie!

The Umbra trip landed second prize for number of species of agaric in one trip, at 41. Among these was the uncommon but deadly poisonous *Amanita phalloides* or death cap. This occurred in



Death cap *Amanita phalloides*, the Umbra

profusion under hazel at the entrance to the Re-

serve along the Umbra River, with giant puffball and hordes of bitter pie, *Hebeloma sinapizans*. Also on this trip was a bewildering array of grassland Entolomas many of which escaped



Rosy pinkgill *Entoloma roseum*

identification because many look pretty similar and there was a lot to collect. Two rare species were recorded, *Entoloma kevrenii* [only other Irish record from Mayo] and *E. roseum*, with a single previous NI record, for Fermanagh.

Other records

Moving to other records, quite a few interesting finds were made during the year. These include the following.

The very colourful bracket *Ceriporia purpurea* was found (by RA) on a disintegrating elm base at Belfast Castle in February. The only previous Irish record is for Ardmore, co. Ardmagh in 1884.

Staying with north Belfast, a rare waxcap, *Hy-*



Ceriporia purpurea, Belfast Castle

grocybe lacmus, was found in several places on Cave Hill in October 2006 (RA). It is also known from Black Mountain and from a site each in north Antrim and Donegal.

In June 2007 Chris Stretch recorded a rare



Grey waxcap *Hygrocybe lacmus*, Cave Hill

Pluteus at Downhill. This was *Pluteus auranti-*
orugosus new to Ireland and only about the third



Pluteus auranti-orugosus, Downhill

record north of the Wash. It was growing out of
a hole in a fallen tree. Congratulations to Chris.



Agrocybe rivulosa, Castle Espie

As mentioned under Editor's comments, in July 2007 I was walking in the grounds of the Wildfowl & Wetlands Trust at Castle Espie when I noticed a rather large and abundant fungus on a fresh wood chip pile. After some playing around with keys I thought it might be an *Agrocybe* but it didn't fit anything in the books. A quick Google later and I had located *Agrocybe rivulosa* described in 2003 by Marijka Nauta from wood chip piles in the Netherlands. This species is likely to become common in fresh wood chips i.e. those which are showing signs of fermenting and heating.

Finally, Chris Stretch clocked a nice record, of *Russula cessans*, from the lawn in the University of Ulster where he works. As far as I am aware, this is only the second confirmed Irish record. It grows in association with pine.

N. Ireland Fungus Group Forum

[<http://nifg.proboards54.com/index.cgi>]

You may be aware that a new 'chatroom' for



Russula cessans, Coleraine

members was set up during the year under the "Proboards" banner. This was after the great public response at the Crawfordsburn event and the large number of identification queries that surfaced. Robert Cobain very kindly took the lead in organising the Forum and it seems to have had a splendidly busy first year with lots of photos posted and a determined response by members co-opted to moderate areas like 'Fungal News', 'Foray Board', 'Beginner Finds', 'Interesting Finds' etc. Members sign in with a 'username' (which can be anything) and a password and can post queries, engage in discussions etc.

It would therefore be very remiss not to bring some of the more interesting queries and finds to the notice of all members through the Newsletter.

Old Man of the Woods posted this photo of an orange version of the fly agaric, found at Clan-deboye Estate in April. This is the typical colour form in N. America called var. *formosa*.

The same gent reported the re-appearance of the false truffle *Hydnangium carneum* (below) under eucalypts in his parents' back garden.

The truffle, like the tree, is an introduced alien from Australia.



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(meaning hairy—I wonder who that could be?) reported the red *Pluteus* from Downhill.

A query was posted by *Smaxi* about the fungus below. This is certainly a *Clavaria* but which one? I put it through Alex Henrici's draft



key to *Clavaria* and it came out at *Clavaria vermicularis* (= *fumosa*) on the colour and medium-sized, non-globose spores.

The peculiar beast above is a fungus which is parasitic on flies! The fly involved is rather aptly named *Calliphora vomitaria* and the fungus



Cordyceps forquignonii.

It is new to Ireland and was identified by Brian Spooner at Kew. Taken by *Bracketman* in moss in Craigantlet South ASSI.

Congrats, *Bracketman*!

Roy Anderson

Why not visit our Website at

[Http://www.nifg.org.uk/](http://www.nifg.org.uk/)

And see

The Online Atlas

New finds

New photos

New books

& much

more.....



Fungi Picture Quiz



Can you identify these 11 fungi?
Answers on page 13



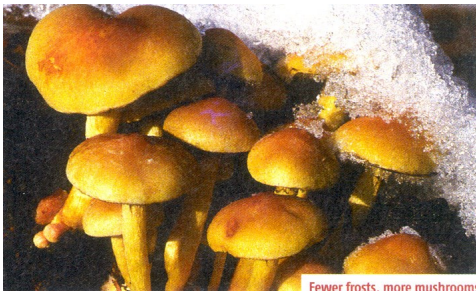
Fungal Miscellany

Fungi come in from the cold to fruit twice a year

[New Scientist, 14 April 2007]

It is perhaps the most striking example of how global warming is turning up the heat on the world's wildlife. Across the UK wild mushrooms are reproducing twice a year instead of the usual once, the first time that climate change has been reported to affect the life cycle of any organism in this way.

Many fungus species spend their lives in the soil as a fibrous mat called a mycelium. Once a year they reproduce, forming the fruit-



Fewer frosts, more mushrooms

ing bodies that resemble the familiar caps and toadstools that litter forest floors. In the UK, this used to happen around September, during the main onset of the British autumn. All that has changed now.

Within just 50 years, many fungi have doubled the length of their breeding season from 33 days to an average of 74, according to a survey of 315 species conducted by Alan Gange of Royal Holloway, University of London and his colleagues. Species now appear above ground in July, mainly as a result of warmer temperatures, and the scarcity of frosts means that they keep breeding into December (*Science* vol. **316**: 71).

More significantly, many have also switched to reproducing twice a year, fruiting once in the British spring and again in the autumn, something unheard of before temperatures began to climb in the

1970s. "The most astonishing thing from our analysis is that 30% of species we looked at now fruit in May as well", says Gange.

Gange believes that the fungi used to be kept in check by sharp frosts earlier in the year. As temperatures climbed, and the frost disappeared, there is nothing forcing the fungi to remain dormant in the soil. "Now the fungi grow, and with rain in March, they fruit and appear in April or May" he says.

In many respects, this dramatic change may have positive ecological effects, says Gange. "Mushrooms provide a huge food resource for insects, which themselves are food for birds", he says. Fungi also accelerate decomposition of wood and leaf matter, providing more soil nutrients for plants.

A downside is likely, though. Some species, such as the honey fungus (*Armillaria mellea*) are pests that can damage plants in orchards and gardens and will clearly flourish.

Mushrooms become source for eco-building

[AP Press, June 2007]

Eben Bayer grew up on a farm in Vermont learning the intricacies of mushroom harvesting with his father. Now the Rensselaer Polytechnic Institute graduate is using that experience to create an organic insulation made from mushrooms.

More at home on a pizza, mushrooms certainly aren't a typical building material, but

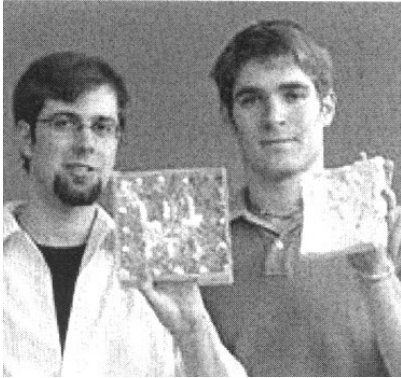
Bayer thought they just might work when given the assignment two years to create a sustainable insulation. Combining his agricultural knowledge with colleague Gavin McIntyre's interest in sustainable technology, the two created their patented "Greensulate" formula, an organic, fire-retardant board made of water, flour, oyster mushroom spores and perlite, a mineral blend found in potting soil. They're hoping the invention will soon be part of the growing market for eco-friendly products.

Bringing the insulation to market is still at least a year away though, said McIntyre, and will require much more research and work, not to mention more sophisticated equipment and a better work space. "We've been growing the material under our beds" said McIntyre, adding that they've applied for a grant from the National Collegiate Inventors and Innovators Alliance. The two young developers - Bayer is 21, McIntyre 22 - graduated in May from RPI with dual majors in mechanical engineering and product design and innovation.

"I think it has a lot of potential, and it could make a big difference in people's lives," said RPI Professor Burt Swersey, whose Inventor's Studio course inspired the product's creation. "It's sustainable, and enviro-friendly, it's not based on petrochemicals and doesn't require much energy or cost to make it".

With a rapidly increasing global population, a limited supply of natural resources, and rising energy prices, eco-

friendly housing products are selling fast. Numerous companies have carved out their niche selling "green" building supplies such as recycled fiber board and plant-based paints. The Environmental Home Center in Seattle sells an insulation made from denim scraps and another made from 100 percent recycled paper among their



many green building products.

After looking through about 800 patents, though, Bayer and McIntyre realized they'd hit upon a relatively original idea. Unlike many green building products, Greensulate isn't made from pre-existing materials. It requires little energy or expense to produce because it's grown from organic material.

Here's how it works: A mixture of water, mineral particles, starch and hydrogen peroxide are poured into 7-by-7-inch molds and then injected with

living mushroom cells. The hydrogen peroxide is used to prevent the growth of other specimens within the material.

Placed in a dark environment, the cells start to grow, digesting the starch as food and sprouting thousands of root-like cellular strands. A week to two weeks later, a 1-inch-thick panel of insulation is fully grown. It's then dried to prevent fungal growth, making it unlikely to trigger mold and fungus allergies, according to Bayer. The finished product resembles a giant cracker in texture.

"It really allows for a myriad of uses," said McIntyre. He said they've envisioned modifying the product to make structural panels that could be grown and assembled onsite to produce sustainable homes. "Green building materials should be evaluated on the idea of cradle to cradle," said Evelyne Michaut of the Natural Resources Defense Council. In the cradle-to-cradle industrial model, goods should either be fully biodegradable or reusable, limiting waste and pollution, according to Michaut, a sustainable city advocate from Santa Monica, California.

"That's the ultimate environmental reference," she said, adding that it seems like Greensulate is on its way to fulfilling that criteria. For Bayer and McIntyre,

their next step will be creating larger pieces of Greensulate to use in building a wall. From there, they'll perform further testing to see how the product stands up to various elements, including saturation and humidity. McIntyre said they have one two-year-old sample that's been exposed to the elements and shown no sign of degradation. As part of their development plan, they're entering a new business incubation program at RPI to get their company, Ecovative Design, off the ground.

Eventually, they hope to land a partnership with another company.

Royall Moore



**Joint Field Trip with
Armagh Naturalists,
Brantry Lough,
7 October 2006**

Conservation News Etc.

National Trust Waxcap Survey

(Extract from National Trust website):

“The grounds of National Trust houses are famed for their croquet perfect lawns so it’s no surprise that we have large numbers of waxcap sightings in our gardens.

This also means we have an important role in the protection and conservation of waxcaps.

However, despite suspecting the Trust is nationally important for waxcaps, we don’t have a good picture of where they are and lack the resources to survey the hundreds of Trust lawns and grasslands. This is where you come in.

This autumn the National Trust is asking visitors to their properties to look out for waxcaps and log their sightings on the National Trust website.



© NTPL / Stephen Robson

You don’t need to be an expert and we welcome participants of all ages. All we need to know is:

- The colour of the toadstool
- Where you saw it
- When it was found

You don’t need to touch them and you don’t even have to stand on the lawns or get down on your hands and knees – just use your eyes. It’s easy. The best thing is that they are found,

literally, on our doorsteps.



© NTPL / Rupert Truman

You can do your own Waxcap Watch survey or join a National Trust fungus foray event. There are forays throughout the autumn and this year many are taking part in the Waxcap Watch. Visit the [events pages](#) to find one near you*.

How will the public survey help?

The results from the Waxcap Watch will be used to find out where there are large concentrations of waxcaps on National Trust land. These areas will then be surveyed in more in-depth surveys in autumn. The results will be used to encourage specialist fungus forays to encourage sightings and to encourage people to get grips with the botanical world of

what you provide us will be fed into a database and used to aid the study of these fascinating fungi.

The survey will be live early September. Please visit the site soon to add your results.

* <http://www.nationaltrust.org.uk>

It’s a funny old world

Q: How did your first wife die?
A: Poison Mush-
Q: And your second wife?
A: Drowned."
Q: What was that?"
Suspect: "She wouldn't eat the mushrooms."

[you have to be a Yank to get this first time]

What did the female mushroom say about the male mushroom?

"He's a real fun guy"

[those of a sensitive disposition should skip this one]

A greenish fungus was growing all over Johnny’s b**ls so he anxiously rushed to hospital to remedy the problem.

A specimen was taken and investigated by the hospital scientists. Finally the report came back. "You've heard of cauliflower ears?" said the doctor. Well you have brothel sprouts"

- 1) Lumpy bracket *Pseudotravetes gibbosa*
- 2) Porcelain fungus *Oudemansia mucida*
- 3) Orange birch bolete *Lecinum aurantiacum*
- 4) Rosy bonnet *cena rosea*
- 5) Hazel woodwort *Hypoxylon fuscum*
- 6) Giant polypore *Meriphi-*
- 7) Oak crust *Meriphi-*
- 8) Star cannon *Sphaero-*
- 9) Scarlet waxcap *Hygrocybe coccinea*
- 10) Split gill *Schizophyllum commune*
- 11) Collared parachute *Marasmius rotula*

FUNGI PICTURE QUIZ

Crawfordburn, 2006

Fungal Frolics

In October 2006 we were asked to attend the Apple Festival in Crawfordburn Country Park, outside Bangor. The EHS staff at the park laid out a superb table with logs, branches and leaves covered in a mixture of fungi and some stuffed animals for effect. We also were given a 3ft sq table covered in a grass turf to display a collection of fresh



specimens some of the members had collected that morning.

Gerry Shannon, Arlette Bataille, Matthew Porter, Robert Cobain and myself manned the stand over the weekend. We had an amazing response to the stand and drew a lot of interest. A Powerpoint slide show of fungi photographs was put on display. Adults and children alike were fascinated by the sheer diversity of fungi in Northern Ireland. As a result of the interest Robert set up the NIFG Fungi Forum where NIFG members



and the public could submit photographs and descriptions of their finds to get advice or just to put a name to something they've found. It has proved a success.

We will be attending the next Apple fair on the 13th & 14th October 2007 at Crawfordburn so please come along and visit us or if you would like to lend a hand please do (see advert on p.4).

Debbie Nelson

Fungal Miscellany—2

Fungal Luminescence

Once upon a time I had a large privet hedge but it did not last long – the dreaded *Armillaria mellea* put paid to it. It is well known that *A. mellea* is one of the most destructive fungal parasites,



DAY



NIGHT

but less well known that it glows in the dark as does its rhizomorphs, mycelia and the wood that it infects. Bioluminescence, that is the non incandescent emission of light by living organisms, has been recorded since at least the time of the ancient Greeks, but it was not until the seventeenth century that the work of Robert Boyle gave us some idea of its nature by showing that oxygen was necessary for its occurrence.

In these days of light pollution it is not so easy to observe, but in the past pieces of rotten luminous bark were used to mark nighttime woodland trails. Another use of luminous fungi was that of a torch in fire hazards. During the blackouts in world war two light from decaying wood was highly conspicuous and many times gave cause for alarm.

At first it was thought that luminosity was caused by bacteria living on the fungi, but this was disproved when the phenomenon was observed from the rhizomorphs of *A. mellea* grown in pure culture. Many other fungi exhibit bioluminescence but why they do so is not clear – it has no obvious evolutionary purpose and is probably just a byproduct of intrinsic chemical reactions which involve oxygen.

There is a large literature available on this fascinating topic, but for a gentle and very readable introduction I recommend *Mushrooms and Toadstools* by John Ramsbottom, Collins, London, 1959.

GP Shannon
Now for 2 articles on -
“All you never wanted to know about

Modern DNA Taxonomy

and traditional fungal relationships”:

1. The Evolution of a Great-Big Headache: "Understanding" Mushroom Taxonomy and Phylogeny

by [Michael Kuo](#)

[excerpt from an article in *MushroomExpert.com* about the confusing changes brought about by DNA studies of fungi]

My Headache

My headache stems from the fact that I have just finished reading a little piece by Binder & Bresinsky (2002) telling me that DNA research reveals *Gyroporus castaneus* to be more closely related to *Scleroderma citrinum* than to *Boletus edulis*. Hunh? I mean, really now! Look at these three mushrooms:



. . . and tell me you see what Binder & Bresinsky mean?? A puffball and two **boletes!**

[Wow. Life ain't half getting complicated!! But read on.

Editor]

2. The Clades (or related groups): What's In and What's Not

Gary Lincoff and Michael Woods

Euagarics Clade

This clade includes nearly all the gilled mushrooms. In addition, it includes the coral (*Clavaria*), the tooth fungus (*Deflexula*), the polypore (*Fistulina*), the cantharelloid fungus (*Cantharellula*), the parchment (*Chondrostereum*), and the gasteroid fungi: the gasteroid agarics like *Endoptychum*, the true puffballs (*Calvatia* & *Lycoperdon*), the stalked puffballs (*Battarrea* & *Tulostoma*), and the bird's nest fungi (*Crucibulum* & *Cyathus*). It also includes many cuplike (or cyphelloid) 'agarics,' like *Cyphella* and *Calyptella*. It even includes *Nia vibrissa*, a puffball-like marine basidiomycete!

Gilled mushrooms not in this clade include:

Lactarius & *Russula*, *Lentinellus* (Russuloid clade); *Gomphidius* & *Chroogomphus*, *Paxillus* & *Tapinella*, *Hygrophoropsis* (Bolete clade); *Horakia* (Thelephoroid clade); *Rickenella* & *Loreleia* (*Gerronema*) *marchantiae* (Hymenochaetoid clade); *Lentinus* & *Panus* (Polyporoid clade); *Cantharellus* (Cantharelloid clade); and *Gloeocantharellus* & *Gomphus* (Gomphoid-Phalloid clade). There are gilled or agaricoid mushrooms in every major phylogenetic clade!

Bolete Clade

This clade includes all the mushrooms we call boletes. In addition, it also includes the gilled mushrooms *Gomphidius* & *Chroogomphus*, *Paxillus* & *Tapinella*, *Phylloporus*, and *Hygrophoropsis*. It includes the coral mushroom *Clavulinopsis*, the crust fungi *Serpula* and *Coniophora*, a toothed crust *Hydnomerulius pinastri*, and a variety of "gasteromycetes," e.g., *Scleroderma*, *Astraeus*, *Pisolithus*, *Calostoma*, *Rhizopogon*, and *Truncocolumella*. It even includes the pagoda fungus *Podoserpula pusio*.

Russuloid Clade

In addition to *Lactarius* and *Russula*, this clade includes all the

gasteroid forms of these mushrooms, like *Macowanites* and *Zelleromyces*. In addition, it includes the gilled mushroom *Lentinellus*, the tooth fungi *Auriscalpium* and *Hericium*, the coral mushroom *Clavicornia*, the polypores *Albatrellus* and *Bondarzewia*, and the crust or parchment fungi *Aleurodiscus* and *Stereum*.

Thelephoroid Clade

This clade includes the vase fungus *Thelephora*, the tooth fungi *Hydnellum* and *Sarcodon*, the cantharelloid fungus *Polyozellus*, the coral *Scytinopogon*, the polypore *Boletopsis*, the crust fungi *Tomentella* and its allies, and the lamelloid fungus *Lenzites*.

Polyporoid Clade

This clade contains most of the polypores, plus the gilled mushrooms *Lentinus* and *Panus*, the chanterelle-like *Faerberia carbonaria*, the coralloid fungus *Sparassis*, the tooth-like fungi *Irpex lacteus* and *Phanerochaete chrysorhiza*, the crust fungus *Phlebia*, even the hydnoidelephoroid fungus *Mycobonia*, and the little, white craterellus-like *Stereopsis humphreyi*.

Hymenochaetoid Clade

This is a small clade that includes a few polypores, like *Coltricia*, *Inonotus*, *Oxyporus* and *Phellinus*, as well as *Trichaptum*, and the toothed *Hydnochaete*, the vasselike *Cotylidia*, the crust *Hymenochaete*, and the gilled mushrooms *Rickenella* and *Loreleia* (*Gerronema*) *marchantiae*.

Cantharelloid Clade

This clade includes the genera *Cantharellus* and *Craterellus*, plus the coral fungi *Clavulina* and *Multiclavula*, the tooth genus *Hydnum*, and the resupinates *Sistotrema* and *Botyrobasidium*. It may even include the heterobasidiomycete jelly crust, *Tulasnella*!

Gomphoid-Phalloid Clade

This clade includes *Gomphus* and *Ramaria*, and *Clavariadelphus*, plus all the stinkhorns, as well as the earthstar, *Geastrum*, the cannonball bird's nest, *Sphaerobolus*,

the tooth *Beenakia*, the crust *Kavinia* and the gasteroid *Gautieria* and *Hysterangium*.

Jelly Fungi

It is also worth noting that many of the Heterobasidiomycetes (Jelly Fungi) also have the same general morphologies as the Homobasidiomycetes discussed here. The Jelly Fungi do not form a single clade but includes all the fungi that are traditionally recognized in the 3 main orders of the Auriculariales, Dacrymycetales, and Tremellales. It includes examples of all the basic mushroom shapes: jelly (*Tremella*), coral (*Calocera*), tooth (*Pseudohydnum*), pore (*Aporpium*), cantharelloid (*Phlogiotis*), parchment (*Auricularia mesenterica*) gasteromycete-like (*Phleogena*), cuplike (*Auricularia auricula*), and even gill-like (*Protodaedalea*).

[Phew! Think I'll stick to Phillips and Bon. The DNA people can go their own sweet way!

Editor]

FORAY PROGRAMME 2007

NEW FORAY ARRANGEMENTS!

The new arrangement for forays has been extended into 2007. Just to remind you, this essentially means that on each date 2 forays will be held.

The first foray on a given date (for those who wish to foray all day) will start at 11am and go on until 12.30pm.

There will then be a return to the meeting point for lunch and a second foray (along previously established lines) will be held from 1pm to 4pm. This will allow those wishing to spend more time at the site to do so. These arrangements are subject to alteration. Details will be forwarded of any changes.

Please visit www.nifg.org.uk for maps etc.

19th May Glenarm Castle (D302119)

Belfast, follow M2 Nth. Take Jtn 5 (posted T'patrick/Int. Airport) Turn R at T-Jn. Follow A8 to Larne. In Larne, L into town centre, take 3rd exit at r'bout follow Coast route. Continue to Glenarm. Upon entering Glenarm, follow B97 (posted Ballymena) for 1/2 km to entrance of Estate. *Drive past the estate offices, carry on over the bridge, through 'Lower Deer Park'. Drive through flat meadow with horse jumps. Come to gate with UWT sign. Parking space is on R just before gate. Nth, M2 J11, L onto A42. Pass Broughshane. Continue straight for approx 3.5mls. At fork take R turn (posted B97 Glenarm). Follow as * Meeting Place: UWT sign in the Lower Deerpark.

21st July Clare Wood, Tandragee (J022447)

Take M1 towards Portadown. Take J 11 (M12). Follow signs for P'down T.C. Round a hairpin bend L onto A3. keep in A3 lane for Armagh. Travel along A3 Nthway. At R'bout Turn L (posted A27 Armagh Rd). At lights turn R for T'ragee. Keep on A27. Through T'ragee to mini r'bout with Spar, turn R onto Markethill rd (B3). follow for 1.2ml. Turn L onto Clare rd. Clare wood 1ml on L. Meeting Place: Clare Wood carpark.

August 11th Killynether Forest (J476722)

From Nth: Follow M2 to Belfast. Keep to R exiting motorway. Follow onto Sydenham Bypass. *Pass City Airport. Keep in R lane, veer R at bend. Follow centre lane through Knocknagoney j'tn to R. At T'lts go R & follow signs for Newtownards. Entering Ards, down hill to R'bout, take R (3rd) turn. At T-Jn go R. Pass Maxol stn, take next L, Scrabo rd. Follow road past Scrabo Twr entrance. Follow for about 100yds. Carpark on R through gates in stone wall.

Sth: follow M1 to Belfast, onto & follow Westlink to end. Take Bangor/Ards A2 lane. Follow onto Sydenham Bypass. Follow from *. Meeting Place: Scrabo public carpark.

25th Aug. Ness/Ervey Wood (C528 118)

Sth, Follow M2 nth to L'derry over Glenshane Pass, straight through Dunganon. Approx 9.5mls look for R turn, *Ervey Rd (Brown sign for Ness & Ervey wood). Approx 0.5ml on R is carpark.

L'Derry City Centre: Follow A6 to Belfast, straight at r'bouts. 6mls out of Centre, Turn L on Ervey Rd as above*.

Meeting Place: Ness Wood carpark.

15th September Hamilton Kee's Organic Farm (H492695)

Sth, enter M1 at your nearest junction. Follow as for Omagh. At Ballygawley r'bout take A5 to Omagh. Continue straight. Approx 7.5 miles along road, past J. B. Plant hire, take 2nd rd on R (Camowen Road). *Straight at cross roads, take next left. Farm is set in trees.

Nth. Follow roads for Omagh A5. In Omagh, continue on A5 posted Dunganon/Belfast. Straight at r'bout, continue straight past junction for B83. Take 3rd rd on left past B83 (Camowen Rd) follow as above*.

Meeting Place: Organic Farm carpark.

29th September Loughanmore Estate. (joint BNFC) (J210869)

M2 (Nth/Sth) Take Jn 5. At T-jn go left. At R'bout take 3rd exit. Drive along for approx 2 mls. Take 2nd turn on left (Sweetwall road). 1st L into farm buildings. Park here.

Meeting Place: Loughanmore Estate Farm.

6th October Parkanaur (Joint Armagh F.C.) (H744615)

Nth/Sth: Travel to M1 Follow M1. M1 ends, becomes A4. Follow A4. There are several Brown signs for Parkanaur on Right. Follow signs.

Nth: follow Cookstown, to Dunganon, Right onto M1 then as above.

West: Follow A4 posted Belfast M1, Pass Ballygawley r'bout. Parkanaur approx 4-5mls on Left.

Meeting Place: public carpark at Parkanaur Forest.

27th October Slievenacloy ASSI (Belfast Hills) (J242708)

Sth: M1 take Junction 9 (Moirra r'bout). Follow A26 to Nutts Corner R'bout.

Nth: Take M2, junction 5 to T'patrick. Follow signs for Int. Airport. At r'bout take 1st turn on L to Nutts Corner.

At Nutts Corner R'bout, take Dundrod turnoff, (5th from south, 3rd from North). Follow to Dundrod crossroads. Turn R (posted Lisburn) B101. Follow for 3-4mls. Past Ballymacward P.Sch on L, pass yellow road sign take 1st rd on L (Flow Bog Road). Follow Rd for 1.2mls. Reserve on

Left. Park in lay by.

Meeting Place: layby at Slievenacloy Reserve.

20th - 21st October Roe Valley Residential (C632221)

The Residential is set for Roe Valley C.P. & surrounding areas. We are hoping to reserve B&B facilities at the Drummond Hotel, Limavady. Please contact Debbie Nelson ASAP on nelson_debbie2002@yahoo.co.uk

/07724417274 if you wish to reserve a place. Details will be given on contact. Please feel free to arrange your own accommodation but please advise.

3rd November Sixmilewater (Antrim B. Council) (J156854)

From Belfast: Follow M2 north. Take J5 (T'Patrick) Left at T-Jn. 2nd rd at r'bout. 2nd turn at next r'bout posted A6 (Antrim). At next r'bout go straight (Belmont rd A6). At next r'bout take Left (posted Crumlin/Int' airport). *Take 3rd left, Kirby's Lane. Brown sign with 'Mill Race Trail at end of road) follow to next brown sign pointing into carpark on L.

From Nth: Follow M2. Take Jn 1, keep R for Antrim A26. Follow straight through 4 r'bouts. After 4th r'bout follow as *

Meeting Place: Mill Race Trail carpark, Sixmilewater valley.

17th November Leslie Hill/Enagh, Ballymoney (C935259)

Nth: Follow A2. Straight at r'bout to Limavady. In Limavady, go straight at 1st r'bout, 2nd r'bout, take 2nd turn (R) (Downland Road, A37). approx 2 mls on right take B66. Keep on B66 past Ringsend, at staggered crossroad go R then L, next crossroad go R then L, Keep on B66. On approach to Ballymoney, cross Agivey Bann Bridge, take 4th L, Enagh Road. At cross roads straight, then next left, posted Leslie Hill Open Farm.* Parking 1/2ml on L before farm.

Sth, Follow M2 Nth, take J1, Follow A26 Ballymena, 3rd exit at seven towers r'bout, straight at next r'bout. Follow A26 Nth.. On approach to Ballymoney, take 1st left (B62). Straight at R'bout, Straight at C'rds, L at fork onto Church street, straight at c'rds, 4th on R (Leslie hill rd). Parking as above.*

Meeting Place: Leslie Hill Open Farm Carpark

Obituary

It was with great sadness that we heard of the sudden death of Chris Bauer in May of this year. His widow Frances supplied the following biographical details. We extend to Frances and Ben our sincere condolences and hope that they will feel able to attend some of the group's forays in the future.



Chris was born in England in 1965. When he was 2 years old he moved to Northern Ireland with his parents and 2 sisters. He went to Cabin Hill, Campbell College, then Leicester Poly. He attained an M.Sc. in Business Studies and worked in the family's company Fergusson's Irish Linen from 1988 until his death.

Frances and Chris were married for 13 years but had been together in total for 24 years. Ben was



Chris Bauer and Ben

born 6 years ago in 2000. Ben and Chris loved to do boy things together—walking, remote-control aircraft flying, mushroom hunting etc. Chris loved walking in the mountains and often walked with his father and Ben. He was a kind, gentle man who had a sharp sense of humour. He was with Ben and Frances when he died suddenly of cardiomyopathy as the family watched 'Dr Who Confidential'. He had been due to travel to Thailand and USA in the weeks after his death and the family were going to drive from New York to Niagara Falls for a holiday. Chris and Frances used to walk in Clare Wood 20+years ago, which is ironic as it was the first foray of the year in 2007. Frances didn't think she could but Ben and Frances are very much looking forward to a foray in the future.

Frances is constructing a memory book for Ben about his dad and if anybody in the Club has a special memory of Chris/Ben they can e-mail them to me and I see that Frances receives it to add it to Ben's Memory Box.

Roy Anderson