Issue 13

June 2009

NIFG NEWS

Mystery fungus—what is this? [see page 14]

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NIFG NEWS 2009

With the kind support of N. Ireland Electricity

Hi Folks!

The wetness of the early year is obvious, looking out of my study window as I write this. Will the rain ever stop?

Despite the coolness and wetness 2009 has started with a better than average crop of morels and other fungi. A visit, first by Chris Stretch, then Debbie and myself to Straidkilly in April paid dividends. Chris found large numbers of the anemone cup *Dumontinia tuberosa.* This is normally a rare cup fungus and occurs in ones or twos but there were droves on this occasion, where rainwater had washed an area clear in the middle of flowering wood anemone. Chris also found several *Verpa conica,* an uncommon morel which ahs been recorded several times previously in N. Ireland. Here it was in soil under cleared hazel. Debbie and I later found an unusual *Peziza* in this same woodland which I have had difficult identifying. It may be *Peziza ninguis*, a species not previously recorded from Ireland.

The first foray of the season was to Woodburn Glen near Carrickfergus, in mid May. This out-of-the-way place can be found at the end of Woodburn South reservoir by scaling a hole in a perimeter fence! (We are nothing if not adventurous in NIFG). The Glen sports the remains of a path , bridges over the stream and decayed wooden steps all suggesting that its heyday was some decades ago. But an interesting place all the same. Considering the time of year we did quite well with the uncommon brick cap *Hypholoma sublateritium* found clustered on ash over the stream and a selection of brackets and ascomycetes elsewhere. Definitely worth a visit later in the year as the waterfall alone is worth seeing.

Roy Anderson, Editor 25 May

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Chairman's Report 2008

2008 proved rather successful in foray terms. I was glad to see a good few new faces coming and going throughout the year. The interest in fungi has grown tremendously, probably due to the bad reports of various poisonings over the last 2 years. Although I hope that it is also due to the good work that David has done with the website, the effort put in by myself and the members at the Crawfordsburn Apple Festival. I hope this continues throughout this year.

The forays were well attended except for two which suffered from the bad weather. This proved to be a great asset as there were several new species for Ireland recorded and some extremely rare finds uncovered. That's all down to you guys. If you didn't come out and brave the weather I doubt it would be so productive!

Many eyes make big species lists after all!!! We also ran a few conjoined forays with the Forestry Service and also the Northern Ireland Environment Agency (formerly Environment & Heritage Service). The Redburn Country Park foray must have had record numbers of attendees. Sadly the weather made foraying difficult and only some usual suspects turned up apart from a bank covered in Collared Earthstar, Geastrum triplex.. The fascination of this, with the many young children which accompanied their parents sending plumes of spores into the air was more than a lot could

resist!!!

I am the first to admit I am nowhere near to being an expert in this field but I just wanted to take this opportunity to say a big thank you from all the members to the guys who spend taxing hours doing all the scientific identification of our finds. The foray doesn't end when we take off the raincoats and get into our cars. Without the few hard working scientific minds I'm sure we would be missing a lot. We learn so much from you while out on forays and we all appreciate it very much.

Thank you

Debbie Nelson

MEMBER'S NEWS

The Apple Show 2008

After the success of the previous years we were again asked to attend the Apple Festival. This year I made it a personal mission to top the species we had on display.

By Sunday evening we had 136 species in total, which produced a fantastic display and was very well received by the hundreds of people who visited. I also saw the importance of having informative handouts for the public to read as many

were waiting to speak to us and it awas difficult to deal with it all. I borrowed a display stand and purchased
a variety of posters on mycology etc along with some photos of our group in the field. Details of the NIFG and the British Mycology Society were available and I have received many e-mails from people who attended and wish to join as a result.

Thanks to the members who attended and to Arlette for all her labelling, and also for taking the time to bring along her university student friends.

We are planning on attending again this October but adding a little twist to the display. Possibly a cooking display?? We may need your help with this to collect a large selection of edible species. Arlette came up with the idea of setting up a 'mycology lab' and possibly

borrowing some microscopes to let the children look at spores up close.

Also we hope there will be some activities fand bits and pieces for children to take away with them, making spore prints etc..

But this needs further investigation. If you think you would like to help with this, either by manning a particular section, helping prepare for the event, writing up literary material for the public to take away with them etc., please do come forward and e-mail me. All help gratefully will be gratefully received.

Debbie Nelson

Gift from NIFG to a special young boy

MEMBER'S NEWS (contd.)

A few years back we sadly lost one of our younger members, Chris Brauer. He left behind a widow and a young budding mycologist, Ben Brauer. Late in 2008, I received an e-mail from Ben's Aunt expressing his keenness to come along to the forays again. It was the last foray of the year and I also found that he had just passed his birthday. After some consultation it was decided that we would make Ben our youngest and newest Honorary Life member.

So I hope you all will join me in welcoming Ben to the forays. Your baskets will be full with his finds I am sure!!!!

Roy Anderson

Foray and other finds 2008/9

(contd. from p. 7)

...Lough Derg. This has been recorded from Fermanagh but is rare and western. It may be a British Isles endemic. With it was a *Calonectria,* a genus I have not seen before. The species could not be keyed out and may be undescribed. It was living on hazel.

Hazel can be a rich substrate for cup fungi. On a trip to Straidkilly NNR, Co Antrim in April the beautiful cup fungus *Lachnum calyculiforme* was found in abundance on dead branches. A relative in name if not appearance is *Verpa conica* of which several were present on ground below cleared hazel. There were also several 'clumps' of the wood anemone parasite *Dumontinia tuberosa.* All in all a nice looking place and worth an official foray.

Why not visit our Website at

Http://www.nifg.org.uk/

And see

The Online Atlas
New finds
New photos
New books
& much more……..

Miscellaneous Pics, 2008

Residential weekend—party at Florencecourt

Roy attracts the attention ofsome females at Flor-

Arlette & Chris, Florencecourt

Confab at Portglenone

Foray and other finds 2008/9

Foray Records

The first foray of 2008, to Helen's Tower, Clandeboye, featured rather heavily in Edition 12. However I missed one important species—*Boletus luridus,* of drier or more limy soils—not common

in N. Ireland.

Staying with orange colours, this rather beautiful orange peel fungus was photographed at Tynan Abbey on 20 September. Not uncommon on pathsides and wheel ruts in woods.

Tynan was also the site for a remarkable find—*Geastrum quadrifidum.* It is quite difficult to identify and there was some discussion before agreement was reached. The four-rayed earth-

star as it is called has no previous Irish record, and was found under yew on calcareous soil. It is remarkable how many Irish earthstars occur mainly or only under conifers. Quite likely they (and beech) are among the few trees to produce a dense enough shade to prevent competitive herbs from smothering the developing earthstars.

Other new-to-Ireland records for 2008 include an eyelash cup fungus *Scutellinia barlae* from Florencecourt and an unidentified *Calonectria,* from Co Tyrone, in the Other Records section.

Scutellinia barlae looks pretty much like any other eyelash fungus but the spores are unusual in being near-spherical and having large warts of differing sizes on the surface. This is a rare

species with only 11 records on FRDBI, most from southern England. It was in the garden under oak in front of Florencecourt House.

The *Volvariella* secies are generally uncom-

mon in our part of the world but none more so than the huge *Volvariella bombycina.* While wandering

back to base at Florencecourt during a particularly heavy downpour a member spotted one of these sprouting in a large rot-hole on beech. There is s single previous Irish record, pre-1900, for Drum Manor in Co Tyrone. It is less rare in Britain. The Florencecourt specimen was immature but still over a foot long!

The residential weekend of 18-19 October in Fermanagh had other highlights (though not the weather unfortunately!). These included *Hygrocybe laeta* var. *flava* and *Clavulinopsis umbrinella* at Florencecourt, *Pseudocraterellus sinuosus* and *Hydnellum concrescens* at Inisherk and *Gomphidius glutinosus* at Crom.

Hydnellum concrescens, Inisherk

During the year *Microglossum viride,* normally very uncommon, turned up in numbers at Glenmore Wood, Glenariff and Crom. *Thelephora penicillata,* also very uncommon, was found at Glenmore and at Florencecourt.

Among the Russulas, there was, after years of scarcity, something of note. *Russula lundelii* and *R. romellii* were both present at Portglenone and Inisherk yielded a species which could not be keyed out—rather like *R. brunneoviolacea* but with white spores and mild taste. An orange-grey mottled Russula in the carpark at Florencecourt refused to key out to anything sensible but is close to *R. vinosa.* The latter two will be sent to Kew.

Other records

The year saw other notable records. RA took *Encoelia glauca* on hazel in great abundance at Glashagh near the border of Co Tyrone with

Leotia lubrica and *Microglossum viride* at Glenariff

Encoelia glauca

Fungi Picture Quiz

Britain is running out of taxonomic mycologists - experts in fungi. There were 32 in the 1990s, but just eight now

[BBC, November 2008]

Scientists say we should be worried as, without a British research base, other countries could stand to make lucrative fungi-based discoveries in everything from medicine to engineering.

If you should find yourself walking in woodland in the next couple of weeks, you may well discover why experts are saying it's been an exceptional year (2008) for British fungi.

Mushrooms and toadstools love cool, wet summers, and the rare and the beautiful have been popping up all over the country this autumn as a result - golden bootleg in Aberdeenshire, truffles in Nottinghamshire and waxcaps in Wales.

Some have never been seen in this country before, and that is proof, say the conservationists, of how little we know about our nation's fungi.

Fungi's role

Paul Cannon knows more than most, he's a British taxonomic mycologist, a calling which is rarer now than many fungi.

But as we walk through the woods of Surrey hunting for fungi on a clear day, it's clear his enthusiasm for the subject has not dimmed.

"We tend to think of mushrooms on toast or yeast in bread or beer, but they do so much more for us than that," he says.

"Fungi make plant roots work. If it wasn't for fungi, plants would not be able to extract nutrients from the soil. So no fungi, no plants. And no plants, no us."

Some mycologists believe studying fungi is just not glamorous enough for today's biology students, who want to pursue disciplines with words like "nuclear" and "molecular", in laboratories with expensive computers, rather than going to fields and woods collecting samples which you then study through a microscope.

But according to Dr Trevor Nicholls, chief executive of the CABI research institute in Oxfordshire, our national mycological research base could collapse in the very near future.

"There is a danger that it could dry up altogether, it really is a worry," he says.

"We have, for example, no expertise in this country in some of the diseases of wheat and rice, that are caused by fungi, that could have a major impact on food security."

Action needed

Aircraft maintenance does not seem an obvious area where applications for mycology can be found.

But Joan Kelley, the executive director of bioservices at the CABI Institute, shows a sample of aircraft fuel, covered with a thick glutinous mat of mould that glories in the name *Hormoconis resinae*.

Not only can the mould break off and block up fuel pipes, it excretes a corrosive substance which can damage the tanks themselves.

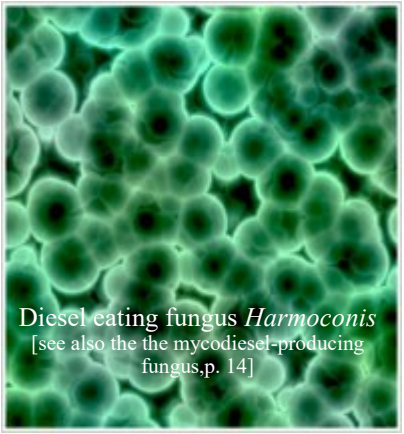
She was the person who developed the test now used across the industry, to alert airlines to the mould's presence.

She has no doubt about the importance of the role the taxonomic mycologists played.

She says: "Yes, we do molecular biology here, but you need the mycologists to tie everything together."

A few solutions to the mycologist droughts have been suggested - producing education material for schoolchildren, for example, or developing university courses in mycology.

But unless we act soon, scientists say, British taxonomic mycologists will be a thing of the past.



Diesel eating fungus *Harmoconis*
[see also the the mycodiesel-producing fungus,p. 14]

French scientists planning to clone luxury "black diamond" truffles

[Daily Telegraph, December 2008]

The pungent fungi may soon be created in test tubes instead of under the roots of trees, according to reports.

France produced 1,000 tonnes of black truffles a year at the beginning of the 20th century, but the figure has now fallen to 40 to 50 tonnes.

Marking the start of the truffle season, the French region of Corrèze will sign an accord for a three-year project with Delpeyrat, which has been making truffle conserves since the 19th century, and STEF-TFE, a food transport company.

Together, they will endeavour to unlock the secrets of what makes the black truffle so special – the soil, climate or trees – and, it is hoped, revive an endangered industry by producing a more consistent crop.

The project will involve culturing cloned truffles together with baby trees in test tubes until they form, a process that can take a year. Once established, pairs will be planted out to mature naturally.

The domestic variety's increasing rarity reflects the decline of French agriculture as well as the fungus's mysterious growth pattern. Truffles are not so much grown as found. The trees are often at least 20 years old before truffles are sniffed out, usually by trained dogs. Both truffles and dogs are becoming increasingly rare.

Jacques Pebeyre, a truffier known as France's "truffle king" said: "We are in peril – there's no doubt of that.

Some rare N. Irish Fungi

(From an early draft of the British Red List by Shelley Evans)

Agarics and Boleti

Amanita lividopallescens

Near Threatened Vulnerable

Conservation News Etc.

Armillaria ectypa	Endangered / B Vulnerable ☼
Boletus fragrans	Near Threatened
Boletus luridiformis var. discolor	Near Threatened Vulnerable
Boletus satanas	Annex Rare
Coprinus sterquilinus	Vulnerable / B
Cortinarius cyanites	Vulnerable / B Vulnerable
Cortinarius porphyropus	Near Threatened Vulnerable
Cortinarius violaceus	Near Threatened Endangered ☼☺
Entoloma bloxamii	Annex Endangered ☼
Entoloma dichroum	Vulnerable / D2 Vulnerable
Entoloma excentricum	Vulnerable / D2
Hygrocybe calciphila	Near Threatened ☼
Hygrocybe calyptriformis	Annex Vulnerable ☼☺
Hygrocybe xanthochroa	Near Threatened ☼
Hygrophorus nemoreus	Near Threatened Vulnerable
Hygrophorus penarius	Vulnerable / D2 Vulnerable
Marasmius scorodonius	Near Threatened Rare
Melanoleuca schumacheri	Near Threatened Vulnerable
Phylloporus pelletieri	Annex
Rimbachia arachnoidea	Near Threatened
Squamanita contortipes	Extinct 1957 Vulnerable
Squamanita paradoxa	Near Threatened Vulnerable
Tricholoma colossus	Endangered / B Endangered
Tricholoma sulphurescens	Vulnerable / D2 Vulnerable
Ascomycota (mainly cup fungi)	
Cryptomyces maximus	Vulnerable / D2 Vulnerable
Dencoeliopsis johnstonii	Vulnerable / D2 ☼
Encoelia glauca	Vulnerable / D2 Vulnerable ☼
Geoglossum atropurpureum	Annex Rare ☼
Microglossum olivaceum	Annex Vulnerable ☼☺
Onygena equina	Near Threatened ☼
Polystigma rubrum	Vulnerable / D2
Spathularia flavida	Near Threatened Vulnerable ☼☺
Trichoglossum walteri	Near Threatened ☼
Xenotypa aterrima	Vulnerable / D2 ☼
Xylaria oxyacanthae	Vulnerable / D2
Non Agaricoid Hymenomycetes (incl. brackets, chanterelles & stipitates)	
Hydnellum aurantiacum	Vulnerable / B Endangered ☼
Hydnellum concrescens	Annex Vulnerable ☼☺
Hydnellum spongiosipes	Annex Rare ☼
Perenniporia medulla-panis	Extinct 1854
Phellodon melaleucus	Annex Vulnerable
Ramaria aurea	Near Threatened
Ramaria formosa	Vulnerable / B
Trametes suaveolens	Vulnerable / B ☼
Gasteroid fungi	
Geastrum quadrifidum	Near Threatened Vulnerable ☼☺
Mycocalia duriaeana	Extinct 1953 Extinct ☼

Comment:

This list has been extracted from a first attempt at compiling a Red List for Britain and Ireland. Comparing it with the final list given in the last (2008) edition of Newsletter, it is clear that it has many more species. This is actually useful since the fuller list gives a more detailed indication of native fungi which might be under threat.

I have seen only a few of these fungi but a worthwhile occupation for members would be to compile a list of historical localities for the species which could then be visited in the fullness of time to see if they are still there.

I have asterisked those species on the list recorded in recent years (☼), including those seen by members on a foray (☺).

The asterisking is by no means exhaustive and I have probably missed some species. If so, I will be pleased to hear from you: roy.anderson@ntlworld.com.

Anybody wishing to see a particular species could join the NIFG Forum and get together a posse to find it.

I think, though, that it is remarkable how rarely attention is drawn to the status of the rarer species when we do find them—a good example is the discovery of *Geastrum quadrifidum* at Caledon, last year.

Mycoacia duriaeana is a tiny birdsnest fungus which I took a few years ago on the edge of the cliffs on Cave Hill, Belfast. The 'nest' or fruiting body is very small and fragile so all I have left are the 'eggs' containing spores, but these indicate that I have indeed got *duriaeana,* supposedly extinct in Britain.

I am sure we could all contribute a great deal to knowledge of species like this by taking a special interest. More senior members of the group like myself are only too willing to lend a hand with identification—just ask!

Roy Anderson

Microscope use and photography

1. Buying a microscope

The choice of a microscope for amateur use depends partly on the available money, partly on the intended use.

Intended use.

What do you want the microscope for? Do you want to observe and photograph only the whole fungus or bits of it? Or do you wish to look at spores and other microscopic parts?

If the first, then your best bet is a low-power stereomicroscope, preferably with an option for photography. This requires an in-built third tube i.e. a photo tube in addition to the binocular viewing assemblage.

If the second, then a completely different instrument is required—a compound microscope. The compound microscope has much greater resolving power and specialised lenses which allow up to x 1200 magnification. This is necessary if you are serious about wanting to identify fungi which often requires examination of the spores at x 1000. More of that later.

Stereomicroscope

- Relatively inexpensive compared to the compound microscope
- Magnification range 10x to 40x [-80x]
- Should be purchased with a binocular head; or trinocular for photography
- Useful only for relatively large identification features
- Not useful for spores or other microscopic features
- Prices: w/o photo tube £150 -200; w photo tube ~ £300
- New or secondhand [one of the few purchases where good secondhand can be as desirable as new!]

Compound microscope

- Relatively expensive
- Essential for fungal identification
- Magnification range 100x to 1000x [-1200x]
- Should be purchased with a binocular head; or trinocular if you wish to photograph subjects
- Should be purchased with in-built illumination (Köhler illumination)
- Ideally, should be modular—start with a simple condenser but it is useful if it can be upgraded to dark-field or phase-contrast condensers later [neither are essential for fungal identification]
- Secondhand is often as good as new but be sure to view before purchase to examine the optics which should be clean and fungus or scratch free; or purchase off a reliable dealer e.g. Brunel microscopes
- If possible buy main brands: Olympus, Nikon, Zeiss, Leitz, Meiji etc. Parts and repair will then be easier to obtain
- Prices: £300—£1000

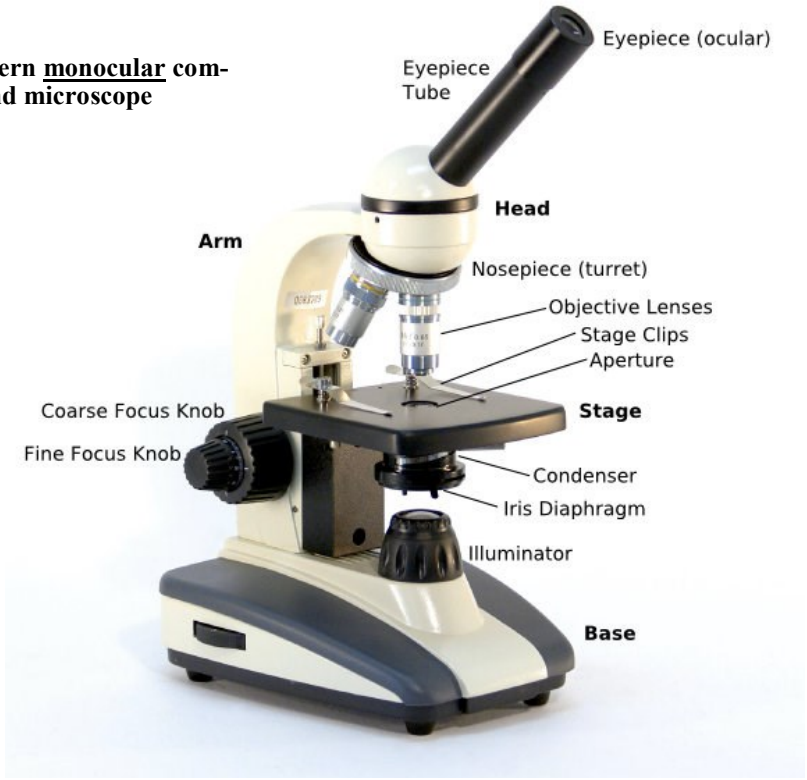
New or second hand?

There are several producers of good new instruments. The famous brands often have at the lower end of their product line an affordable instrument. And there are also good instruments available of minor brands, mostly produced in Japan, in a price range that is within the reach of an amateur. Second hand instruments of a famous brand are often available. Sometimes it is possible to buy excellent instruments for a very reasonable price e.g. from science labs disposing of redundant gear.

Although a model might not look very modern, the optics are the most important part, and good objectives and microscopes do not become obsolete. But examine carefully for damage.

What type of lenses? There are two important things to consider. Modern achromatic objectives are of excellent quality. Buying very expensive apochromats or planapochromats only makes sense for very demanding colour photog-

Modern <u>monocular</u> compound microscope



raphy or for the resolution of very fine details.

For most purposes, achromats are quite sufficient. If available, fluorite lenses (Fluotar and similar brands) are excellent and cheaper then apo's. The objectives most used are 10x, 20x, 40x and 100x (oil immersion). The latter is essential if you wish to look at spores.

2. Microscope parts and first steps

Parts of the microscope

1) **Eyepiece**, more than one may be supplied. The usual eyepiece is 10x. [Total Magnification = eyepiece x objective magnifications: 10x10 = 100x; 10x40 = 400x; 10x100 = 100x].

2) **Coarse focusing knob**.

3) **Fine focusing knob** to finely adjust the focus at higher magnifications.

4) Three or four **objectives,** 10x, 40x, 100x, on a rotating turret; along with the eyepieces give a range of magnifications typically from 100X to 1000X.

5) **Stage** with a hole to let light through. The clips hold the glass slide on which the specimen is mounted.

6) **Condenser Lens**: The purpose of the condenser lens is to focus the light onto the specimen. Condenser lenses are most useful at the highest powers (400X and above). Microscopes with in stage condenser lenses render a sharper image than those with no lens (at 400X). If your microscope has a maximum power of 400X, you will get the maximum benefit by using a condenser lenses rated at 0.65 NA or greater. 0.65 NA condenser lenses may be mounted in the stage and work quite well. A big advantage to a stage mounted lens is that there is one less focusing item to deal with. If you go to 1000X then you should have a focusable condenser lens with an N.A. of 1.25 or greater. Most 1000X microscopes use 1.25 Abbe condenser lens systems. The Abbe condenser lens can be moved up and down. It is set very close to the slide at 1000X and moved further away at the lower powers.

6) **Diaphragm or Iris:** Many microscopes have a rotating disk under the stage. This diaphragm has different sized holes and is used to vary the intensity and size of the cone of light that is projected upward into the slide. There is no set rule regarding which setting to use for a particular power. Rather, the setting is a function of the transparency of the specimen, the degree of contrast you desire and the particular objective lens in use.

7) **External lighting** is required to reflect light up through the stage, preferably from an inbuilt lamp.

How to Focus Your Microscope:

The proper way to focus a microscope is to start with the lowest power objective lens first and while looking from the side, crank the lens down as close to the specimen as possible without touching it. Now, look through the eyepiece lens and *focus upward only* until the image is sharp. If you can't get it in focus, repeat the process again. Once the image is sharp with the low power lens, you should be able to simply click in the next power lens and do minor adjustments with the focus knob. If your microscope has a fine focus adjustment, turning it a bit should be all that's necessary. Continue with subsequent objective lenses and fine focus each time.

How to use the condenser?

Beginners often misuse the condenser (the part of the microscope that directs the light through the sample). They regulate the intensity of the light by closing or opening the condenser diaphragm or iris, and by adjusting the height of the condenser.

The intensity of the light must be adapted to a convenient level by means of the voltage on the lamp. Closing the condenser diaphragm diminishes the resolution of the microscope. Always open the diaphragm as wide as possible. To achieve sufficient contrast you have to close it a bit, a good rule of thumb is to open the condenser diaphragm for two thirds of the maximum opening. A second rule of thumb is to put the condenser in the highest position against the object glass when using high magnifications—400x to 1000x.

How do I prepare an object for examination? When you want to look at a certain subject under the light microscope you have to put it on a glass slide and cover it with a coverslip. Because the strong magnification of the microscope gives a very shallow depth of field it is necessary to have a very flat sample.

The object also has to be submerged in water or other fluid (for making permanent slides there are all kinds of substances available to cover the object). When you are preparing a slide, do not use too much water. The cover glass must not float above the object. A small drop suffices. The trick is to get the sample as flat as possible. Usually, with soft fungus tissue gentle pressure with a finger on the coverslip will squasgh the sample flat and push out excess water from under the coverslip. This water should be mopped up with atissue.

For oil immersion microscopy of spores etc. an additional step is needed. A drop of immersion oil should be added to the top of the coverslip as nearly over the centre of the sample as possible. When the slide is placed on the stage proceed as under 'How to focus your microscope' but once coarse focus is achieved switch the rotating turret to the oil immersion lens and focus with the fine focus knob. The lens will immerse itself in the oil and the film of oil between objective and coverslip allows much better clarity and finer focussing.

Fungal Miscellany

The hound that found a fortune in the ground!

No-one knows why truffles grow in this one patch of British woodland, but they do, as Brenda the dog can testify!

[Daily Telegraph—Rose Prince, 20 Dec. 2008]

I am warned by Chef John Campbell, who joins our expedition, that I might have to be blindfolded. That won't be necessary I assure him. Ask my husband. He says my talent for getting lost on car journeys is matched only by a blind Mexican cave fish. Sure enough, after about 15 minutes in the car, I haven't the foggiest where we are. Somewhere in the Berkshire Downs I think.

If this all seems a bit over the top, it is because something extraordinary has been discovered on farmer Harvey's land. "If you had truffles worth £2 million in the gound in your woodland, you would be worried too" says Campbell.

He is the Chef at the Vineyard in Starcross, Berkshire, which has two Michelin stars. He shoots twice a week, bringing hare, rabbit and deer back to the restaurant to serve to his customers. And he forgaes for sloes to ues in sauces for venison. And for truffles which he shaves over risotto. \the taste is so intense that you feel as if you are grazing the woodland floor. After an hour in Harvey's fenced, rabbit and deer-proof wood planted with beech, hazel and oither trees, it is clear there is no shortage of the subterranean fungi.

"It has been the largest truffle hoard recorded in the UK" says Harvey, adding that the largest truffle weighed in at 1 lb 7 oz (650 g). Mycologists from all over Europe have been swarming over the farm ever since. This year Harvey expects to harvest 440 lb to 660 lb (200—300 kg). "The mycologists confirmed that the species is *Tuber aestivum* the English summer truffle, though our best and most fragrant can match a *melanosporum*". This is better known as the highly pungent, famed black truffle of Périgord.

Why the truffles are so abundant in Harvey's woods is a mystery. "We planted this wood on our arable farm in 1990 and my wife found the first truffle four years ago" he says. The phenomenon could be down to the trees they planted, thought to have originated in the Chilterns, or the *terroir*—an alkaline topsoil over a layer of thick chalk. Helping Harvey with the search is Brenda , a down-to-earth name for a white Italian water hound, bought in Bologna by Somerset-based handler Tom Lywood and trained since he was a puppy to hunt and dig for truffles. "Brenda can find a truffle where there is only one in a hundred yard area" says Harvey. "She is wonderful".

Brenda is not having much trouble today. We have already found about a pound in weight when she takes off again. "Don't eat them Brenda shouts Lywood, running desperately after her as she starts snuffling the ground 20 ft away. Catching her, he pulls a few tiny pieces of chopped truffle from his pocket and feed shera reward, before digging with a special knife to loosen the truffle.

"That's a beauty" says a delighted Harvey. I sniff its rough surface and there, unmistakeably, are the heady, come-hither tones that humans will pay thousands of pounds for. (I felt certain once, walking through Gatwick with a big smelly Périgord truffle in my bag, that I was being followed).

Even more exciting than this cache is the prospect that the summer truffle is returning more generally to Britain. Lywood has been finding truffles in alkaline soils in many parts of Britain and we know that were once abundant enough to be exported in the 19th century.

Foraging is making a comeback, especially now that times are tight. I think of our cottage in Dorset, standing on chalk with beech and hazel everywhere. Perhaps I should invite Brenda down for the day?

Note: English truffles cost about £185 per kg.
It also occurs in Ireland having been recorded from Kilkenny, North Tipperary and Clare. Probably widespread under beech and oak on calcareous soils—SO GET HUNTING!!

Lichen named after President Obama!

[Science Daily—pril 16 2009]]

A researcher at UC Riverside has discovered a new species of lichen – a plant-like growth that looks like moss or a dry leaf – and named it after President Barack Obama.

"I discovered the new species in 2007 while doing a survey for lichen diversity on Santa Rosa Island

in California," said Kerry Knudsen, the lichen curator in the UCR Herbarium. "I named it *Caloplaca obamae* to show my appreciation for the president's support of science and science education."

C. obamae, the first species of any organism to be named in honor of President Obama, grows on soil and almost became extinct during the days of cattle ranching that spanned nearly a hundred years on Santa Rosa Island.

"This species barely survived the intensive grazing of cattle, elk and deer on Santa Rosa Island," Knudsen said. "But with cattle now removed, it has begun to recover. With future removal of elk and deer – both of which were introduced to the island – it is expected to fully recover."

Lichens, which grow slowly and live for many years, result from fungi and algae living together. They represent an important element of the biodiversity of life on public lands. There are approximately 17,000 species of lichen worldwide, with approximately 1,500 species reported from California. More than 300 lichens have been reported from Santa Rosa Island, almost as many species of native plants on the island.

Mycodiesel is on the way!

[Fox News April 2009]

A fungus which lives in rainforest trees, named *Gliocladium roseum*, stands out in the crowd when it comes to biofuel conversion.

"This is the only organism that has ever been shown to produce such an important combination of fuel substances," said researcher Gary Strobel from Montana State University. "The fungus can even make diesel compounds from cellulose, which would make it a better source of biofuel than anything we use at the moment."

The scientists are now working to develop its fuel producing potential, according to a paper published in the November issue of the journal *Microbiology*.

The fungus grows inside the Ulmo tree in the temperate Patagonian rainforest of Chile and Argentina.

"When we examined the gas composition of *G. roseum*, we were totally surprised to learn that it was making a plethora of hydrocarbons and hydrocarbon derivatives," the stuff of diesel, Strobel said. The fuel it produces has been dubbed "myco-diesel."

Dish culture of *G. roseum*

Cellulose, lignin and hemicellulose make up the cell walls in plants. They make stalks, sawdust and wood chips and cannot be digested by most living things.

Some 400 million tons of this plant waste is produced ever year just from farmland, Strobel and his colleagues say. In current biofuel production, this waste is treated with enzymes called cellulases that turn the cellulose into sugar. Microbes then ferment this sugar into ethanol that can be used as a fuel.

If *G. roseum* can be used commercially to make fuel, a step could be skipped.

"We were very excited to discover that *G. roseum* can digest cellulose. Although the fungus makes less myco-diesel when it feeds on cellulose compared to sugars, new developments in fermentation technology and genetic manipulation could help improve the yield," Strobel explained. "In fact, the genes of the fungus are just as useful as the fungus itself in the development of new biofuels."

The discovery also questions assumptions about how fossil fuels are made.

"The accepted theory is that crude oil, which is used to make diesel, is formed from the remains of dead plants and animals that have been exposed to heat and pressure for millions of years," Strobel said. "If fungi like this are producing myco-diesel all over the rainforest, they may have contributed to the formation of fossil fuels".

Picture Quiz

1. *Boletus satanas*
2. *Hygrocybe conica*
3. *Aleuria aurantia* [orange peel]
4. *Inonotus dryadeus*
5. *Orbilia delicatula*
6. *Mycena maculata*
7. *Microglossum viride*
8. *Russula nigricans*
9. *Xylaria hypoxylon*
10. *Tremella mesenterica* [jelly fungus]
11. *Trametes versicolor*
12. *Entoloma chalybaeum*

Mystery fungus ion front page

Taphrina prunі on sloes at Carmoney Hill, June 2004. This fungus covers the developing sloe with a layer of yellowish tissue which greatly enlarges and elongates. Not uncommon on blackthorn in May or June.

FORAY PROGRAMME 2009

FORAY ARRANGEMENTS!

Hi.

A few notes on the way the forays run if you wish to come along.

Foray layout:

A days foraying begins, for those wanting a full day, at 11am at the designated meeting point. Returning to the carpark for lunch between 12.30 & 1pm. Then foraying again from 1 – 4pm. You are welcome to join at either of these starting times.

1. We recommend highly that you WEAR SUITABLE OUTDOOR CLOTHING.. that is SENSIBLE FOOTWARE. Trainers, wellies or waterproof walking boots are a must for some sites. Please bring a rain-coat and/or waterproof bottoms. It can suddenly start raining and you'll regret not having some protection.
2. Some sites may be hilly! Please do check the sites before you plan to come along. We have tried to give you as much detail regarding the site ie grid ref and O.S. map numbers so you can find them and check the ter-rain on your maps. If you need more advice please contact us. It can be off putting if you arrive to find a mountain site and you are unable to cope physically with it.
3. If you are planning on spending the whole day with the group do bring a packed lunch as some ven-ues are 'out of the way' and may not have shops nearby.
4. If you wish to collect a few speci-mens to take home and identify yourself bring a collection container or basket (mushroom boxes from your local green grocers are good!).
5. A small guide book is also recom-mended. The Collins Field Guides are very good but will only have the very commonly found species in them. Once you feel more confident you can invest in more advanced books.

Good Luck

Debbie Nelson

[PLEASE NOTE - Space is limited and it has not been possible to reproduce the site maps in the Newsletter— please consult the maps, if needed, at www.nifg.org.uk]

<u>May 16th - Woodburn Forest</u>
OS map no. 15.— J372914
From Nth/Wt/Sth, follow onto M2 to J5. Take A57 for Larne. Follow to Ballyclare R'bout. Take 1st exit, directly on right take B58. Continue straight. Road splits (keep right on B58. Continue approx 2.3mls. On right you will see North Woodburn Reservoir. Make next right turn. Turn left at the next junction and follow foe a mile to the carpark at Woodburn South Reservoir.

<u>July 18th - Castle Leslie</u>
OS map no 28, Discovery Series no 28b — H719418
From North follow to Omagh then A5 for Ballygawley, From West follow A4. Just before B'Gawley R'bout take Right (A5). Coming from Omagh/East at R'bout take A4 West. Directly after R'Bout take Left A5 Tullyvar Rd. Continue through Aughnacloy(rd becomes A28) to Caledon. Just before Caledon town take the right onto B45 Annaghroe rd. Becomes R185 when crossing the border. Continue to Glaslough. Enter the Gates of the Estate.

<u>August 8th - Banagher Glen</u>
OS map no. 7 - J678048
From Derry. Follow A6 towards Dungiven. Just outside town take B74 (Feeney rd). From Belfast follow M2 Nth to Dungiven, Just past town take B74 on left. Approx 1.1ml on left take banagher road. Round sharp R H bend take 2nd main rd on left! (very close to 1st rd). Follow to fork in road, keep straight. Car park on Left at Water Commissioners.

<u>August 22nd - Moyola Wood</u>
OS map no.14 — H930945
From North:Follow A6 along Glenshane to M'felt r-bout. Take 1st exit to CastleDawson. From South follow M2 to M'Felt R'bout. Take 3rd exit and follow to C'Dawson/ Once at Castledawson R'bout go straight A54 M'felt rd/ Take 2nd MAIN rd on left, Hillhead rd.
Moyola wood on right.

<u>September 12th - Magilligan Nature Reserve</u>
OS map no.4 — C661388
From South/Belfast Follow to Dungiven. Once at Dungiven take the B68 signposted to Limavady, follow Ballyquin rd to town. Once at town follow Left round town onto Catherine Street. Folow straight to R'bout, 2nd exit onto B69* (seacoast rd). Continue to end. Take left onto A2 continuethen straight to 1st main rd on left B202 Point rd. Follow to end onto small lane. Look for parking on left at N reserve.
From Derry: Follow A2 for Limivady. After Ballykellytown at next r'bout take 1st exit and follow as above*

<u>September 19th - The Argory</u>
OS map no. 19— H871583
From all direction head for M1 in direction of J13. At J13 take take slip road and follow in Loughgall direction. 3/4ml at bend in roadturn right onto Derryhirk Road. Keep right and follow to end. Right onto

Clonmore rd, after 1/2ml take left onto DerryGally Rd. take next left onto Derrycaw rd. Argory on lane on right. Please look for Signs. Its is directed.

October 4th - Carnfunnock Country Park
OS map no. 9 — J385065
From South follow M1 to Belfast and onto M2. Follow M2 from Nth or Belfast to Junction 4 (Sandyknowes R'bout.) Take the A8 posted Larne. Follow to Larne. Once in Larne follow signs for Glenarm Coast route. Just past Drains Bay continue straight till entrance for Carnfunnock (C.P. Please tell gate guy you are NIFG member for foray Free parking arranged!).

October 10th Mourne Wood
OS map no. 9 — J275165
The most direct route to this forest is to be following directions to Newry. Once in Newry you should follow the A2 through Warrenpoint to Kilkeel. Mourne wood is situated approx 3.5km outside Kilkeel town on the left hand side. Signs at the entrance, Kilkeel Golf Club. Follow up lane and veer left to gravel carpark.

October 17/18th Crawfordsburn Apple Festival.
The display is held in the Country Park Information Centre, just outside Bangor. Will be well signposted.

October 24th/25th Residential
Members only and booking required—TBA

November 7th - Divis Mountain
OS map no. 15—J281755
Sth: M1 take Junction 9 (Moira 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 road for some miles. Pass a sports ground on right. Continue on till Divis Sign. Take left. Divis road. Carpark on left approx 1/2ml.
From Belfast: Continue round A55 circluar rd.Follow to Kings hall. Continue straight past Musgrave hos. At r'bout take straight ahead. Outer ring. 2 r'bouts, both straight ahead. After 2nd r'bout take main rd on left at top of hill, B38 Upper Springfield rd. Continue to signs for divis on right. Follow to carpark.

It's a fungi old world

"Blessed are they who can laugh at themselves, for they shall never cease to be amused."

Long before the discovery of the usefulness of the penicillin mould, the French discovered that rubbing mouldy cheese on infections cured them. I wonder, was this before or after they served it as an hors d'oeuvre! [NB - this joke originated from America! - mea non culpa!]

A doctor, an engineer, and a fungal taxonomist arrived at The Pearly Gates.

The doctor said how he'd healed the sick, helped the lame; but he was a sinner and was sent to Hell.

The engineer told how he'd built homes for the homeless, etc.; but he messed up the environment, so he was sent to Hell.

The fungal taxonomist was frightened by all this, but as soon as he mentioned his occupation, God said "You've already been through Hell, welcome to Heaven."

A mycologist phones his wife from his office and says, "Darling, something has just come up, I realize its not my field season, but I have to visit my this particular field site for a week. So, would you pack my clothes, my field equipment and my blue silk pajamas? I'll be home in 1 hour to pick them up."

A week later he returned. "Did you have a good trip, dear?" his wife asked. "Oh, it was just a typical field trip, you know, work work work," he exclaimed, and added "But you forgot to pack my blue silk pajamas."

"No I didn't," she replied. "I put them in the box of field equipment!"

While driving down a steep and curvy logging road, a group of biologists lost control of their 4x4 and careened down the hill. The truck piled up at the bottom and everyone aboard perished. Suprisingly, they all went to heaven. At an orientation meeting they were asked, "When you are in your casket and your friends and family are mourning your death, what would you like to hear them say about you?"

The first guy, a well known mycologist said, "I would like to hear them say that I was one of the greatest mycologists of my time, and that I left an eternal contribution to the world of mycology."

The second guy, an ornithologist, said, "I would like to hear that I was a wonderful birder and made a huge difference in the recovery of our bird populations."

The last guy, a scruffy mammalogist, replied, "I would like to hear them say... 'LOOK, HE'S MOVING!!!'