Newsletter 75
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north east fungus study group

nefsg

Mycena pura
Photograph: Paul Forster; taken with Canon 40D , 100mm Macro prime lens , 400 ISO

In this issue:

Affiliated to the Association of British Fungus Groups

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Winter cometh

After a magnificent weekend of foraying and fun times at Kielder I'm very sorry to say I've not seen much of anyone of late due to working away, but I know there have been tons of finds and interesting times over the last couple of months – I've seen the lists!

Below is a gorgeous photo from the Lindisfarne foray provided by Keith – wish I was there!

So here is the last newsletter of the year; season's greetings to all and with any luck, see you in the new year...

Laura

NEFSG, October 11th, Lindisfarne (photo provided by Keith Tuplip)

Keith Cunningham

A tribute by NEFSG Founder, Alan Legg

I first met Keith on a walk organised by the Darlington and Teesdale Naturalists' Field Club; it seems a very long time ago, on or about 1990.

I recall that, when he heard that I was involved with fungi, he expressed interest but was quick to point out that he knew very little about them. Much later when, after retiring in 1996, I was attempting to set up a BMS fungus "Group" for the North East of England, Keith was one of the people I contacted. Once moves were afoot to put such a project in to action, Keith was quick to offer his services as a member of the organising committee and then went on to become one of the group's original committee members.

For a long time he was a loyal and helpful member and a friend, able to offer much invaluable background information about possible sites for forays in Co. Durham and other areas of the North east with which I was unfamiliar and had only sketchy knowledge. Keith's help was very much appreciated and we owe him a great debt of gratitude in the North Eastern Fungus study group, as we became known.

Once the group was fully functional, Keith rapidly became a highly valued and involved member, whose attendance at meetings was always to be relied upon and whose contributions to our discussions and planning helped enormously in attracting new members. His quiet guidance steered many of our current members in the right direction, aiding them in the difficult task of knowing what to look out for on forays.

Keith was always utterly loyal and his understated presence will be deeply missed for a very long time to come.

Alan Legg (Founding Member NEFSG)

A deed poll for fungi...

Article by Tom Kirby

Oh, how I wish it wasn't true....names change all the time, as we all know, but latterly even some of the familiar species have been stripped of their identity and given new ones. After a recent foray, a hue and cry went up in my lonely study...a bewildered foray leader could not find *Collybia butyracea* on the VRS. Well, quite. It is no longer there. It is no use looking for its cousins, either, those deviants...sorry, variants...have gone too. You must now look up *Rhodocollybia butyracea*. Slips nicely off the tongue, doesn't it? Here is how we stand at today's date:

Collybia butyracea is now *Rhodocollybia butyracea*

Collybia butyracea f. asema is now *Rhodocollybia butyracea*

Collybia butyracea f. butyracea is now *Rhodocollybia butyracea*

Collybia butyracea var. asema is now *Rhodocollybia butyracea*

Collybia butyracea var. bibulosa is now *Rhodocollybia butyracea*

Collybia butyracea var. phaeopodia is now *Melanoleuca phaeopodia*

Collybia butyracea var. rufovinosa is now *Rhodocollybia rufovinosa*

Collybia butyracea var. steinmannii is now *Collybia steinmannii*

Collybia butyracea var. ushuvaiensis is now Collybia ushuvaiensis

Of course, we all knew about these changes, or nearly all of us... but we still get caught out. I heard *Russula mairei* getting an airing on the Ashington foray though I didn't find a record slip for it... but even if I had, and I am ashamed to admit this... as Dom gently reminded me it has been *R. nobilis* for ten years or more.

Now waxcaps...nearly all of us think of *H. conica* because it took over the mantle from *H. nigrescens* in my lifetime. Fine, but ALL of the variants are now classed as just *H. conica*.

Simpler, yes, but things take a nasty turn if you just bear with me. The next most well known waxcaps have got to be *H. virginea* and *H. nivea*. I think it is common knowledge that *H. virginea* triumphed and *H. nivea* is no more... but wait

Hygrocybe virginea is now *Cuphophyllus virgineus*

Hygrocybe virginea f. virginea now *Cuphophyllus virgineus*

Hygrocybe virginea var. fuscescens Hygrophoraceae now *Cuphophyllus virgineus*

Hygrocybe virginea var. ochraceopallida now *Cuphophyllus virgineus*

Hygrocybe virginea var. virginea now *Cuphophyllus virgineus*

Don't worry if you can't keep up, no one else can, either. As long as we all know what we mean. An example: *Clitocybe dealbata*... hmmm.... pretty deadly, I tell everyone. You know the sort of thing... just one a cap will finish you off. Mind you, *C.rivulosa*... that IS a bad boy. You shouldn't even touch it, the learned sources say.

Nope... not anymore. *C. dealbata* and *C. rivulosa* are one. *C. rivulosa* wins by a half cap.

....and don't even start on the Lepiotas. There they are, unaware of their new home in the taxus tables. I just got used to calling, knowingly one might say, Lepiota rhacodes by its "new" name, Macrolepiota rhacodes when it suddenly became not only *Chlorophyllum rhacodes*, but *Chloropyhllum rachodes*.... and it took its whole family along for the ride!

So now we have:

Lepiota rachodes is now *Chlorophyllum rachodes*

Lepiota rachodes f. celebica is now *Lepiota celebica*

Lepiota rachodes f. rachodes is now *Chlorophyllum rachodes*

Lepiota rachodes f. riograndensis is now *Chlorophyllum rachodes*

Lepiota rachodes subsp. puellaris is now *Chlorophyllum rachodes*

Lepiota rachodes subsp. rachodes is now *Chlorophyllum rachodes*

Lepiota rachodes var. hortensis is now *Chlorophyllum brunneum*

Lepiota rachodes var. puellaris is now *Leucoagaricus nympharum*

Lepiota rachodes var. rachodes is now *Chlorophyllum rachodes*

Recently, after finding a flush of Trooping Funnel Caps, temptation overcame me and I ventured that they were now called *Clitocybe infundibuliformis*. Hmmm.

Clitocybe geotropa (Bull.) Quél. 1872, (also see Species Fungorum: *Infundibulicybe geotropa*)

Fair enough, I hear you say...but:

Clitocybe infundibuliformis Quél. 1872, (also see Species Fungorum: *Clitocybe infundibuliformis*)

So, here we have TWO claimants to The Trooping Funnel Cap, BOTH with currently accepted names. Will the REAL Trooping funnel cap step forward, please. (Note. It is that word "trooping" that causes confusion!)

From Wikipedia on *Clitocybe geotropa*:

"French mycologist Pierre Bulliard initially described the trooping funnel as *Agaricus geotropus* in 1792, before Lucien Quélet renamed it *Clitocybe geotropa* (a name by which it was long known) in 1872. Its specific epithet derived from the Ancient Greek words γῆ/gē "earth", and τρόπος/tropos "turn".

Finnish mycologist Harri Harmaja proposed I. geotropa and twelve other Clitocybe species be split off into a new genus Infundibulicybe, thus the new binomial name is Infundibulicybe geotropa."

There is no hanky-panky in all this. You don't believe me?

Handkea excipuliformis (Scop.) Kreisel (1989), (= *Lycoperdon excipuliforme*)

The Mycenas are right in the thick of it. Long known to be problematical to the on-the-hoof identifier, most of us, wisely, take the species home if any doubt exists. The whole genus is a minefield of enigmatic variations. Things are moving on at quite a pace. Just one recent example occurred on the Cragside foray. *Mycena epiterygia* was happily recorded as *Mycena epiterygia* var. epiterygia. That was the conveniently precise name which showed you cared.

Thankfully, ALL the variations have gone, leaving just *Mycena epiterygia*.

It's easy to go too far with "keeping up".

I hear proud pronouncements on the change of name from *Ganoderma applanatum* to *G. australe*. This is a very common bracket fungus and everyone recognises it, or its cousin, on site. *G.applanatum* is thin edged and *G. adspersum* is thicker and knobblier. When the name change came, or did it, there was always some doubt over which had undergone the identity crisis. Look at this:

Ganoderma applanatum is STILL (= *Ganodema applanatum*)

Ganoderma applanatum f. applanatum (Pers.) Pat. (1887), (= *Ganoderma applanatum*);

Ganoderma applanatum f. macrosporum (= *Ganoderma applanatum*)

Ganoderma applanatum subsp. applanatum (= *Ganoderma applanatum*)

Ganoderma applanatum var. applanatum (= *Ganoderma applanatum*)

Ganoderma applanatum var. laevisporum (= *Ganoderma applanatum*)

Ganoderma applanatum var. philippinense (= *Ganoderma applanatum*)

Ganoderma applanatum var. vegetum), (= *Ganoderma applanatum*)

Only THREE candidates have actually assumed the new mantle:

Ganoderma applanatum subsp. australe (= *Ganoderma australe*)

Ganoderma applanatum f. australe (= *Ganoderma australe*)

Ganoderma applanatum var. tornatum (= *Ganoderma australe*)

One variation hangs on in there.

Ganoderma applanatum var. laccatum (= Ganoderma laccatum)

Should this all be a worry? Perhaps, yes... in the future. The name changes go on all the time. Species Fungorum (http://www.speciesfungorum.org/names/names.asp) and Index Fungorum (http://www.indexfungorum.org/names/Names.asp) will hopefully provide us with all we need to keep informed... but it is not easy and the updating of the two Indices is carried out by a diminishing number of hard-pressed volunteers. For our contribution, we can but try to make our records as current and accurate as possible.

Using the VRS for recording your finds is only the first stage in error-trapping. If the name you believe is correct is NOT on the drop-down "Species" list then check that you are using the current name...or just leave it off and send a note in with your records.

Every notified error will be checked and the VRS corrected if necessary. We will never be 100% accurate but the two national databases have yet another filter which should pin things down nicely. The trouble is, it all takes time down the line. That is why it is important to send in records on the most up-to-date VRS. Version 5 is ready for release but if we just hold on until this year's forays are all inputted, then we are sure that WE are doing all we can to make life easier for those who are attending to the difficult process of maintaining ACCURATE records.

There are dozens of examples of out-of-date names which come across on every foray and it is not going to get any better. The process of changing the name of a species seems as easy as a deed poll but there is much goes on behind the scenes...all we can do is keep recording. Oh, and while I remember, don't forget "Association" and "Substrate"...YOUR name doesn't matter, apparently...about one in twenty field slips has no finder recorded!

Tom Kirby

Note. All information sourced from Index/Species Fungorum, internet public access, October 2104 unless otherwise stated.

"Index Fungorum is a community resource currently co-ordinated and supported by the following partnership:

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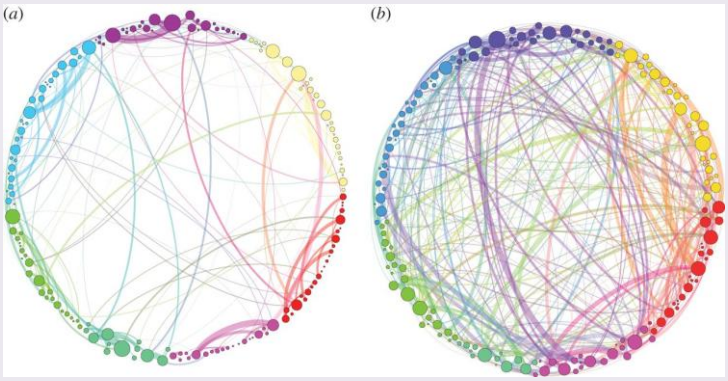
Neural networks

I happened upon a study published last month in the Journal of the Royal Society Interface which set out to investigate the effects of psilocybin on the functional brain networks in healthy volunteers. The subjects exposed to psilocybin (by IV infusion) displayed dramatically different connectivity patterns between cortical regions in the brain compared to the placebo group. These patterns were then mapped out, revealing entirely new neural networks in previously disconnected regions.



Simplified visualization of the persistence homological scaffolds in placebo (a) and psilocybin (b) groups. In both networks, colours represent communities obtained by modularity optimization on the placebo persistence scaffold and are used to show the departure of the psilocybin connectivity structure from the placebo baseline. The width of the links is proportional to their weight and the size of the nodes is proportional to their strength. Note that the proportion of heavy links between communities is much higher (and very different) in the psilocybin group, suggesting greater integration.

The results showed that psilocybin brings about a less constrained and more intercommunicative mode of brain function. Perhaps in the future it may be valuable for treating psychological diseases?

The full paper can be found here: http://rsif.royalsocietypublishing.org/content/11/101/20140873.full

Would it harm a Fly? Yes, when it's entomopathogenic

Article by Keith Tulip

Figure 1

It was September at Bolam Lake, and Dominique Colback was down on the ground looking for beech mast fungi. There was a cry of excitement, and up he came with a 'fly on a stick' (Fig. 3).

When such an elongated fruit body was seen coming directly out of an insect host, thoughts immediately turned to the genus *Cordyceps*. A recent article by Alick Henrici (2012) in *Field Mycology* describes the British species, which, following a DNA study, have been split into *Cordyceps*, *Elaphocordyceps* and *Ophiocordyceps*. Only one British species is described as parasitizing flies, and that is *Ophiocordyceps forquignonii* (it is still *Cordyceps* in the FRDBI). It was called the Dung-fly Club by the Victorian mycologist Mordecai Cubitt Cooke (1892). There is still only one record for Northumberland, found by Babs Walton and identified by Alan Legg (2002). But Petch (1938) describes this species as having a long slender stalk and a small ovoid head. As no head is present in our specimen, it would then seem to be the anamorph (asexual) form, given the name of *Hymenostilbe muscaria* (pictured in Péan (2009)). A key to the species of *Hymenostilbe* can be found in Samson & Evans (1974).

They write that the species has 'cylindrical synnemata covered by a hymenium-like layer of conidiogenous cells'. That is, the fruit body is covered in a dense layer of spore-bearing cells, producing the asexual conidia. A drawing can be seen at Seifert *et al* (2011). The cells from our specimen can be seen in Fig. 2. The few conidia found were measured at an average of 8 x 4.8 microns. These are larger than the 3-7 x 1.5-3.5 given by Petch (1938). However, ten years later, he has changed this to 4.1-8.3 x 3.3-5.3, into which our results will fit (Petch 1948).

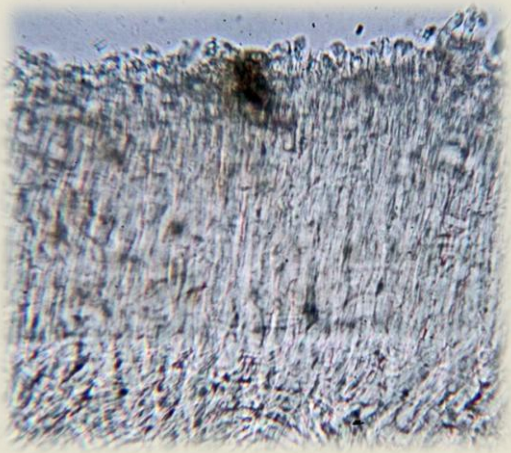


Figure 2 - conidiogenous cells

Figure 3

Samson *et al* (1988 p1) describe entomopathogenic (insect-killing) fungi as 'in the main, highly specialised parasites which have co-evolved with their hosts over a considerable period of time'. Insects showing fungal infection have been found embedded in amber from 25 million years ago (Poinar & Thomas 1982). The development of the long stems in *Cordyceps and Hymenostilbe* 'is obviously to lift the spore-forming tissues into a position favourable for the dissemination of inoculum' (Samson *et al* 1988 p142). Other *Cordyceps* species seem to manipulate ant behaviour causing them to move to areas optimum for the growth of the fungus out of the ant. The ants then clamp themselves by biting into leaves in what has been called the 'death grip'. Evidence of this behaviour has now been found in fossils dating from 48 million years ago (Hughes *et al* 2010).

Kew are quoted as saying our species is 'uncommon, but maybe overlooked' (Flaxton 2008); Henrici (2012) goes further, reporting 'probably not uncommon in woodland, especially in the north'. But as we have only one record in our area of the teleomorph *O. forquignonii* and now one for its probable anamorph, *H. muscaria*, we might be missing something. We need our eyes closer to the ground - get down to it!

Figures:
Figure 1 is a composite of 178 photographs taken through a microscope at x40, stacked and stitched. Software used was CombineZP and Canon Photostitch.
Figure 3 is a scan using an Epson Perfection V350 Photo scanner.

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Kielder

Here are a few snaps from the weekend at Kielder with the fabulous MAK.

Enthusiastic talk about fish at the hatchery

...still enthusiastic

Hard at work

Chair's speech

Tom's famous game pie

And this magnificent cake

Exciting specimen of *Cortinarius violaceus*

...in its natural habitat

All beautifully laid out

Still working...

Gordon and Paul in deep discussion about fungi... or the macarena

And the departing shot

Eat your heart out

Article by Tom Kirby

For the mycophages among our ranks, and I am one, a little story of good cheer...but first, an opening comment which is unfortunately necessary.

The constitutional NEFSG and hopefully the individual members, do not condone the collecting of fungi for the pot. There are times, however, when a particular species occurs in such abundance that it is irresistible to collect a few tasty caps for personal consumption. The key words in that last line may require a little explanation. "A few..." is relative. The rule which I follow is the rule of thirds. Take one leave two. If there are only three leave them all....but use common sense and restraint at all times. "Personal consumption" means just that. Not for your street, your neighbours or your friendly restaurateur.

OK. Now that that's clear there is one more thing. If you come across an abundance of edibles, please keep the location secret. I fail on this one but generally tell only group members where things are bountiful....if anyone else asks I make dire warnings of poisoning by misidentification and that does the trick.

Over the last five years the *Hydnum repandum* population in a local plantation has gone up by an order of magnitude. They cannot be picked fast enough and I am pleased to say that though I advised a couple of NEFSG worthies of the location, this year has seen no diminution in numbers. Not surprising, really, as their interest is photographic. Last year I visited a local Wetlands Reserve and found a goodly population T. terreum as well as prolific *Cortinarius sp*. and of Boletii and Lactarii. This year, and I have just returned, the population of *L. deliciosus* has quadrupled. They are everywhere and in great abundance.

Which is what this article is about. I picked some (see basketful pic). I know a thing or two about *L. deliciosus* which is strictly culinary and so I have decided to give a few tips on preservation... this to avoid the risk of picking more than can be properly used. Oh, the location?

Well, some of you may know already but if you really want to know get in touch by email. I don't want to give the location away. First of all, *L. deliciosus* "flush" over a long period. We are almost in December and they are STILL coming after a first appearance in early September. What this means is that there will be fungi at the "button" stage growing alongside side others well past their smell-by date!

So you can be choosy as long as you are cautious. Young specimens are often difficult to identify but this species, with its bright orange milk, is hard to get wrong. Watch out just the same. *Paxillus involutus* dwells among them! So you have made your pass and collected a varied bagful of little and large. First thing to note is that the tiny button sized specimens are best left whole. This is fine as far as it goes but for the pesky maggots getting in to the stipe. Cut it close and look to see signs of infestation. You will get relatively few which are unusable because the stipes will by solid and the maggots will not have had "time" to gain entry.

The "medium" caps are best for flavour but cannot be salvaged due to damage from slugs, maggots and weathering. It is best to cut these caps in half and check to see the condition. "Large" caps are tempting but from my own experience are not worth picking. They will have done their bit for spore distribution and deserve a happy retirement. Unless you can find solid, clean, uninfested caps just leave alone. I brought a few back but most were inedible for one reason or another. Slicing the caps is essential to check on quality and this is my policy.

Wash the caps well to remove any pollutants (a euphemism) and prepare by selection in to the three groups, cutting up or not as suggested. Put "batches" of the fungi in to a lidded skillet with a little olive oil, a knob of butter, then salt sparingly. Leave for ten minutes to begin the "leaching" process. The salt will help the caps loose liquid which means that it will be safe to apply heat, lid on, and partially (your choice) cook. Gently stir every now and then but do not cook for more than, say, ten minutes. That should be enough. With the whole caps, leave them gill side up to begin with, then turn over and complete the cooking. Always keep the lid on when not stirring. The liquor in the pan will help to keep the fungi moist once bagged up for the freezer...and that is the best way to preserve the blighters.

Once again, it should be clearly understood that "collecting" for the pot is a minor part of mycology. I have found that eating *A.bisporus* whilst looking at a picture of *B.edulis* works for me. If you need more stimulation then buy a bottle of Porcini Infused Oil from the Chiltern Oil Company (http://chilterncoldpressedrapeseedoil.co.uk/) and dribble a drop or two into your mushrooms. It works.

Photos

Some spectacular photographs by Paul Forster; Taken with Canon 40D , 100mm Macro prime lens , 400 ISO

Mutinus caninus, Freeholders Wood

Ceratiomyxa fruticulosa, Chopwell

A Musing

by Ron Pattinson

Dear Sir, (aargh it should be madam),

I like nothing better than setting forth on a bright Autumn day to my favourite woodland through a well marked path. Strangely, I've found that path edges always seem to be the best for the growth of fungi and of course the easiest place to spot and collect. Sadly, I've also found that dog walkers complete with canine friends also enjoy exactly the same terrain which, therefore, quite often means that I've also become quite adept at spotting the uncollected waste products.

My point is not to complain too much about waste produce, merely to enquire if anyone else has noticed this phenomenon of woodland path increased fungal growth and if so, is the growth actually facilitated by canine waste matter? After all... 'they leave me in the dark and feed me b.....t'

Yours faithfully,

Ron Pattinson, Cramlington

Links and things

On Monday 10th November, the BBC Radio 4 Food Programme broadcast a programme about mushroom cultivation over the years, which is actually very interesting:
http://www.bbc.co.uk/programmes/b04n2hv2

Following Tom's naming theme, I stumbled across an interesting table showing commonly encountered genus names and their meanings/origins (unable to reproduce here due to copyright):
http://www.first-nature.com/fungi/facts/names-genus.php

Although it's quite short and doesn't have too much to say, beautiful time-lapse film featuring Paul Stamets can be found here:
http://io9.com/you-know-whatre-awesome-mushrooms-mushrooms-are-aweso-608062610

Finally, John and Christine have spotted a couple of relevant photography courses coming up next year at Harlow Carr in North Yorkshire: "Photography through a microscope" on the 19th June and "Photographing fungi" on 2nd October.
https://www.rhs.org.uk/education-learning/pdf/courses-and-wokshops/harlow-carr/harlowcarr_courses_2015