The last quarter of the year is always a busy one for anyone interested in finding and identifying fungi, and Sporeprint expands accordingly. Alex Prendergast's packed foray programme has led to many interesting records, and, very encouragingly, the recruitment of a number of enthusiastic and increasingly competent fungus folk. Thank you all for sending me your observations, specimens and records. I apologise to anyone whose prize find is not mentioned here (remind me for the next Sporeprint).

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The unexpected one

If ever a fungus was well-named it is *Amanita inopinata*. It has no English name but when Derek Reid described and named this fungus in 1987 he chose the specific epithet *inopinata*' meaning 'unexpected'. It is unexpected in at least two ways: first it is a surprise that such a distinctive fungus should have remained undiscovered until 1981 (in Kent), and secondly, that such a strange amanita should exist at all. And to find it in a North Norfolk garden, extending its range northwards by over 100 km, was also unexpected.

Amanita inopinata. West Beckham, November 2013. *Photo:* Tony Leech.

The Norfolk Group of Plant Heritage had invited me to lead a foray in the large garden of John and Judy Wilson at West Beckham. When Pauline Davies emerged from the shrubbery and offered me the specimen with a tentative 'is this anything interesting' my first thoughts were *Lepiota* or something similar. With gills a very delicate shade of peach, *Agaricus* was excluded. Back home I even toyed with *Squamanita*, the bizarre genus of parasitic agarics, before Alick Henrici put me right.

Amanita inopinata is not thought to form mycorrhizal associations with any tree species but many of the finds have been with introduced conifers, particularly, as in Judy's garden, *Chamaecyparis*. sp. Its association with habitats influenced by man, and its recent appearance and subsequent spread, suggest that it might have been introduced. After a description of *Amanita inopinata* was published in Field Mycology in 2000, it was reported that an identical (but unnamed) fungus had been previously found in several locations in New Zealand, but again with non-native conifers in man-made habitats. One explanation is that it has indeed been inadvertently introduced to both Britain and New Zealand from a third centre, as yet undiscovered.

Foray highlights

Almost every foray turns up something new or interesting. An early foray with the Dersingham Mushroom Group at Bawsey Pits near King's Lynn produced relatively few species but these did include the second Norfolk *Amanita lividopallescens*, a scarce ringless amanita. The grounds of Brinton Hall included old lawns so waxcaps were expected, but to record eleven species was not. These included the first Norfolk record for *Hygrocybe aurantiosplendens* (identified by Alex in his new-found enthusiasm for the genus) and *H. glutinipes* var. *glutinipes* (photo), confirmed at the site of its first Norfolk record.

Above: *Hygrocybe glutinipes*, Spout Hills, Holt, 2009. Right: *Amanita lividopallescens,* Bawsey Pits, September 2013. *Photos:* Tony Leech.

Another interesting site was Sutton Fen, the RSPB reserve where NFSG had been asked to generate a species list. One particular wet wood (Sutton Broad Wood South) was exceptionally rich, with *Cortinarius cinnamomeoluteus* (2nd Norfolk), Girdled

Webcap *C. trivialis* (4nd Norfolk) , *C. uliginosus* (4nd Norfolk), *Leccinum aurantiacum* (2nd Norfolk), *Lactarius lacunarum* (2nd Norfolk) *and Peziza limnea* (3rd Norfolk) all found within a few minutes.

Notable finds on other forays included *Lepiota griseovirens* (2nd Norfolk) and *L. pseudolilacea* at Watermill Broad (Cranwich Pits) and *Sowerbyella radiculata* var. *radiculata* (1st Norfolk), at Earlham Cemetery.

Right: *Lepiota pseudoliacea*, Watermill Broad, Cranwich, Oct 2013. *Photo:* Tony Leech. **Below:** *Sowerbyella radiculata* under conifers at Earlham Cemetery, Norwich. *Photo:* Neil Mahler.

To round off the year on the Saturday after Christmas, *Mucronella flava* was found in Holt Country Park. Initially it was passed over as a dense swarm of very small *Calocera cornea* but under the microscope it was clearly not a jelly fungus. At one stage *M. flava* was classified with the tooth fungi but is now considered to be a spindle. The only records on FRDBI are three recent ones for Hampshire but it may have been passed over as a yellow form of *M. calva* until distinguished in *Funga Nordica* (solely on colour).

However, James Emerson may have got there first! I recalled that at the beginning of December James had sent me a photo of what he thought might be a *Calocera* sp. on a fence-post near the Visitor Centre at Holt Country Park. At the time, I pointed out that *C. cornea* had been recorded on conifer wood and that this was the most likely identification. Unfortunately I was not able to collect a specimen at the time and a later search failed to find it. It is quite possible, indeed likely, that this was actually the first Norfolk record.

Above: *Mucronella flava,* Holt Country Park, Dec 2013. *Photo:* Jenny Kelly. **Right:** Possible *Mucronella flava,* Holt Country Park, Dec 2013. *Photo:* James Emerson.

Finally, although I am sure much has been missed from this report, the Scarlet Bonnet *Mycena adonis* at Litcham Common has to be mentioned.

Smutty reeds

Despite their lack of fruiting bodies, the smuts are basidiomytes which parasitise plants, especially grass species. As Caroline Leybourn was paddling her canoe though a narrow dyke at Surlingham Broad she noticed Reed *Phragmites australis* in which parts of the lower stem, and in some cases the leaves, were covered with a dark-brown powder. Her photograph (below) left no doubt that they were being attacked by the smut fungus *Ustilago grandis*. In some cases the fungus had weakened the stem causing it to droop into the water.

The most surprising aspect is how rarely this distinctive fungus is seen in a county rich in its host plant. The only Norfolk records appear to be from Buckenham Ferry (Ted Ellis, 1937); Wheatfen (Ted Ellis, 1947) Rockland Broad (Ted Ellis, 1959), Bure Marshes (Reg Evans, 1992) and Thetford (Tony Leech, 2011). Apart from these records ,there are only eight more from Britain, mostly from the west.

Good spot, Carl

Carl Chapman, Norfolk's recently appointed Cetacean Recorder, must have taken a moment from his sea-watching at Holkham to look down and see the *Cystoderma granulosum* he photographed. Richard Shotbolt kindly identified it, pointing out that the granules on the young fungus are lost as it matures. We have records from Hockering, Felthorpe and Reffley Woods (all from Reg and Lil Evans in the 1980s) but not from Holkham where it becomes the 582nd species recorded there.

Chegging along at Holt Hall

Many of the fungi characteristic of well-established unimproved grasslands belong to just four groups, known by the initial letters of their names: **C**lavarioid fungi (spindles); ***H****ygrocybe* (waxcaps); ***E****ntoloma* (pinkgills) and ***G****eoglossum* (earthtongues) – or CHEG fungi for short. These were the focus at the Norfolk Naturalists' Society workshop on Grassland Fungi held at Holt Hall in October. The aim was to encourage participants to record grassland species in a way that might make it possible for a more experienced mycologist to make an identification. The workshop was supported by the Norfolk Biodiversity Information Service (who had received a DEFRA grant from to promote recording of species in grassland) and by the British Mycological Society. On the day, three spindle fungi, nine waxcaps and three pinkgills were found, giving a CHEG score of 15.

Fungi on lichens

Mycologists mostly ignore lichens – perhaps they have enough species to deal with without looking for trouble. One of the consequences is that the many species of fungi which parasitise lichens are overlooked. When Pat Negal found *Illosporiopsis christiansenii* in 2000, at Newton Flotman, it was new to Norfolk. Recently, Pat (and I) have found it widely on *Physcia* spp. Its shocking-pink blobs are easily seen under a lens but microscopic examination is needed to exclude *Marchandiomyces corallinus* , a superficially similar, but unrelated, species yet to be recorded in Norfolk.

The lichen *Xanthoria parietina* with apothecia infected by *Xanthoriicola physciae* (upper left). The pink spots are *Illosporiopsis christiansenii.* Watermill Broad, Jan 2014. *Photo:* Tony Leech.

Peter Lambley recently reported *Xanthoriicola physciae* on the lichen *Xanthoria parietina* on Blakeney Point, again new to Norfolk. Again it is distinctive; small areas of the lichen appear sooty and shrivelled. Since then I have found it on almost every *Xanthoria*-covered branch I have looked at, The hosts for both of these lichenicolous fungi often grow together and have become very much commoner recently, probably due to nitrogen deposition from a polluted atmosphere.

Any association?

It is generally held that the genus *Cortinarius* is exclusively mycorrhizal, requiring association with a tree to survive. The only trees on Blakeney Point are a few Corsican Pine, Sycamore and Hawthorn which were planted close to the Lifeboat House around 1915. So the discovery in 2009 of *Cortinarius pratensis*, a small orange-yellow species on the fixed dunes, far away from these trees, was initially puzzling. There are very few records of this species from Britain, just a few from northern Scotland where it is reported with Creeping Willow as well as in the absence of trees, and from South Wales, where again it occurs on grassland.

Top: *Cortinarius pratensis* in situ; note Sand Sedge *Carex arenaria* bottom left. **Bottom:** *C. pratensis*, Blakeney Point, November 2013. *Photos:* Tony Leech.

Shortly afterwards, Peter Roberts, in his column in *British Wildlife* reported *C. cinnamomeus* with Glaucous Sedge *Carex flacca* from grassland in Glamorganshire and noted that *C. cinnamomeus* had been shown to be mycorrhizal with both this sedge and Pill Sedge *Carex pilulifera* by Harrington & Mitchell in 2002. It seemed possible that the specimen collected on Blakeney Point was in mycorrhizal association with Sand Sedge *Carex arenaria,* a very common plant on the dunes.

At the suggestion of Martyn Ainsworth (Kew) specimens of the fungus and adjacent Sand Sedge were collected in November 2013 and sent to Gareth Wyn Griffiths at the University of Aberystwyth who has offered to investigate any connection between the two.

Going down!

Several agarics have 'rooting stipes', stems which extend below ground (or originate underground) including Rooting Shank *Xerula radicata*. This specimen, collected in Pigney's Wood, near North Walsham) in September was over 35cm long, with about 40% below ground. *Photo:* Tony Leech.

Education, entertainment or employment?

Public forays are a mixed blessing. It can be an ego trip to reel off Latin epithets (of common, easily identifiable species!) but although I aim at education I am conscious that entertainment is probably what I actually provide. But then I find the forayers entertaining too, even if it is a strain to think up a new positive comment when handed the twentieth Honey Fungus or Sulphur Tuft (and been asked yet again how to tell them apart). This is compensated for by the possibility of ignorant eyes spotting a rarity: *Hygrophorus penarius* and *Leucoagaricus badhamii* (Little Plumstead Woods), *Ramaria stricta* (Beacon Park Gorleston), *Cortinarius praestans* (almost certainly, in Foxley Wood NWT), or *Pluteus aurantiorugosus* (Bayfield Estate, Holt).

A well-handled *Hygrophorus penarius* fom Little Plumstead. Scarce in Britain and first record for Norfolk. Photo: Tony Leech.

Before I start a foray, I generally ask if there are any retired professors of mycology in the group; it is better to get experts on-side from the outset rather than discover at the end. But embarrassment is often unavoidable. When a Stinkhorn is found I don't usually give its scientific name but someone, often an older man, will inevitably ask if that is the one he has always called the Willy Fungus? Similarly if I use the name Jelly Ear someone will ask if that is the same as Jew's Ear – cueing unnecessary explanation and risking embarrassment when there would have been none.

Typhula phacorrhiza in all shapes and forms

When Francis Farrow found numerous white button-shaped fungi with depressed surfaces on decaying ash leaves at Beeston Common, Norfolk, we both assumed that they were discomycetes. The first indication that they were not came from their firm, almost rubbery, texture; the second from the total lack of asci or any other reproductive structures. Some of the leaves also bore dark brown 'buttons'; these too lacked asci.

Anne Edwards, a molecular biologist at the John Innes Centre, Norwich, with a particular interest in ash dieback disease offered to investigate the mystery fungus as it, too, was on ash leaves. To our surprise, sequencing part of the 18s ribosomal RNA gene revealed that both the white and the brown fungi were *Typhula phacorrhiza*, a spindle fungus arising, as do other members of the genus, from sclerotia. Ted Ellis recorded this fungus at Wheatfen in the 1940s but it was not recorded in Norfolk again until 2003 when it occurred in Simon and Anne Harrap's garden at Edgefield. The young white sclerotia at Beeston Common were so different in shape and colour from those at the base of fruiting bodies that the link was not made. Earlier this year Rob Shepherd found *T. phacorrhiza* in his garden near Dereham.

In the past, others, too, had failed to make the connection as the white sclerotia had been assigned the separate name, *Sclerotia scutellata.* Perusal of images on the internet showed white sclerotia rather less regular in shape than those found here. Anne herself had previously investigated the DNA of a stalked, buff-coloured fungus on ash leaves which she had found to be *T. phacorrhiza,* but in this case the structure and colour were somewhat more similar to the mature spindles.

The white sclerotia varied in size from 2-4 mm in diameter, but not in shape except that the larger ones were more depressed at their centres. They were attached narrowly to the leaf, often, but not always at the midrib, but had no true stalk. Presumably as the sclerotium develops it darkens.

Left: Young white sclerotia of *Typhula phacorrhiza* on ash leaf. Beeston Common, Norfolk. *Photo:* Tony Leech.

Below: Brown sclerotium of *Typhula phacorrhiza* on ash leaf. Beeston Common, Norfolk. *Photo:* Francis Farrow.

Above left:*Typhula phacorrhiza* showing sclerotia., Edgefield, Norfolk. *Photo:* Tony Leech. **Above right:** Young *Typhula phacorrhiza*, Lower Wood Ashwellthorpe, Norfolk, March 2013. *Photo:* Anne Edwards

Typhula phacorrhiza on ash litter, Edgefield, Norfolk. Photo: Tony Leech

Colney Woodland Burial Park

At first sight, the woods at Colney Woodland Burial Park do not look very promising for anything other than widespread species, but we were in for some surprises. Two visits were made, the first in early October was a public foray, attended by several members of NFSG. The second Group foray took place in late November but there was still much about.

The public foray started impressively with a young girl picking up *Lepiota cortinarius* – for the first time in Norfolk! Lepiotoid species were to feature heavily on the list, with *Cystolepiota hetieri* making a repeat appearance after being found there by Paul Bachelor and Alex Prendergast during the previous year. Several specimens of *Chlorophyllum olivieri*, a rather greyer and more scaly version of Shaggy Parasol, were collected by foray participants. This was only the second time it had been recorded in the county but it is probably more widespread. A fine clump of Golden Bootleg *Phaeolepiota aurea*, another uncommon species found by Paul and Alex in 2012, impressed all of us. *Amanita betulae*, a newly recognised ringless amanita, was recorded for the second time in Norfolk.

Top left: *Amanita betulae*. **Top right:** *Lepiota cortinarius*. **Right:** Dark Honey Fungus *Armillaria ostoyae.* Colney Wodland Burial Park. *Photos:* Tony Leech.

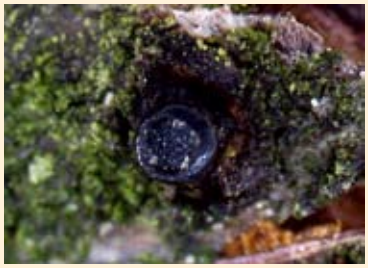
The second visit was almost as rewarding as the first, with Dark Honey Fungus *Armillaria ostoyae*, *Pholiota tuberculosa* and Piggyback Rosegill *Volvariella surrecta* being added to the list. The latter is one of the few agarics parasitic on other agarics, usually, as here, Cloud Funnel *Clitocybe nebularis.* Nationally rare, this was the sixth site at which the fungus has been found in Norfolk. The Jewelled Amanita *Amanita gemmata* was a welcome addition to a long list.

Volariella surrecta, photographed at BMS Autumn Foray, Huntingdon. *Photo:* Tony Leech.

So why such diversity? I suspect that this may be an ancient wood (Colney Old Wood) which has been replanted. The diversity of species and the elimination of a shrub layer may also help. We have been invited back to lead another public foray in 2014.

Dermea padi on Domestic Plum

Most hard black fungi on plants are pyrenomycetes, ascomycetes in which the spores are produced in flask-like cavities over the surface of the fungus. But not all. The spiky fungus which Robert Maidstone found on dead twigs of an 'Early Rivers' plum at Wacton had no asci but an abundance of conidia (asexual spores) suggesting that it was an anamorph. A close look revealed one discomycete fruiting body (the teleomorph form producing sexual spores) ca. 0.5mm across looking like a sucked black wine gum. It is very rarely recorded, with only five records (sites) on FRDBI. These include one by Kerry Robinson from Swanton Novers in 2003.



Left: *Dermea padi* anamorph. **Right:** *Dermea padi* teleomorph. Wacton, December 2013. *Photos:* Tony Leech.

NFSG forays 2014

Alex is putting together a full programme for 2014. Most forays will take place on the third Saturday of the month, with extra events in the autumn.

STOP PRESS

Jenny Kelly has added a fourth Norfolk site for Sandy Stiltball *Battarraea phalloides* in as many years with her find of a single (but large) specimen at Sedgeford. It is only one of four fungi in Britain which has legal protection.

Nail fungus nailed

Since the 1970s virtually all records for Nail Fungus *Poronia punctata* have been from the New Forest where it occurs commonly on pony dung. There are two historical Norfolk records for the species: the first, from Horsford Woods in 1944 by Ted Ellis is likely to be correct but the second, reported from Holme in 1982 is problematical – despite bearing the note 'reliable record'! The problem is that the find was only a few hundred metres from where *Poronia erici* was found on Rabbit dung in 2010. The latter species, with larger spores, had not been described in 1982 but has subsequently been found on horse dung – in Europe and, also in 2010, at Snape Warren in Suffolk

More recently, however, a nail fungus was spotted at two Norfolk locations on pony dung and in both cases *P. punctata* was confirmed. The first was by Jonathan Spencer (Forestry Commission ecologist) at Hockwold Heath in March 2012 and the second by Jonathan Preston (NWT warden) at Roydon Common in October 2013. If it was not already clear that the two nail fungi cannot be separated by substrate specificity, a recent occurrence of *P. punctata* on rabbit dung in France underlines the need to examine spore dimensions.

Nail Fungus *Poronia punctata* (dried) on pony dung, Roydon Common November 2013. *Photo:* Tony Leech

New galaxy of Tiny Earthstars

With the exception of a single record from the Cumbrian coast, the dunes at Holkham are the only British location for the Tiny Earthstar *Geastrum minimum*. In recent years numbers have diminished at the well-known sites near the end of Lady Anne's Drive, possibly due to shading by scrub and trampling. It has been known for some time, however, that colonies exist in the dunes to the west of the pines and in 2009, Dr Martyn Ainsworth mapped several of these as part of study supported by Natural England. Since then, the management of this National Nature Reserve has become the responsibility of the Holkham Estate. Assistant Conservation Manager Andy Bloomfield has found additional colonies and intends to monitor at least one of these year by year.

Tiny Earthstar *Geastrum minimum.* Holkham Meols, 2012. *Photo:* Neil Mahler.

Small size is not a unique characteristic of *G. minimum*. The Dwarf Earthstar *G. schmidelii* can be equally small and occurs in similar habitats at Holkham but also more widely in Britain. It can be distinguished by the pleated perimeter of the opening on the spore-sac.

From south of the border

Neil Mahler, Suffolk County Fungus Recorder, is a frequent and welcome attender at NFSG forays as he can be relied on to spot interesting fungi that the rest of us miss. During the week-long BMS Autumn Foray at Leiston in 2009, for which Neil was one of the local organisers, Martyn Ainsworth (Kew) collected a species of *Dendrothele* from elm bark at Kenton Hills, Suffolk which he did not recognise. Two years later, as material ran out, Martyn asked Neil to accompany him to collect more material from the same tree and its near neighbour. He describes the fungus as a 'whitewash' corticoid; Neil, more colourfully as 'like white bird poop running down the side of a bark scale forming the letter L, no more than 1 cm tall and 1 cm long'.

Subsequently, in 2012, the species was described as *Dendrothele naviculofibulata* by Bernard Duhem from similar material first collected in 2005, and subsequently at a second site, both in France. The Suffolk material was made available to Duhem and these remain the only records for the species worldwide.

Rather more widespread, but and not yet recorded from Norfolk, is *Plicatura crispa* found by Neil at

Plicatura crispa, Flatford Mill, Suffolk. December 2013. *Photos*: Neil Mahler.

Orchard Tooth *Sarcodontia crocea*. Bury St Edmond's, Suffolk. *Photo*: Neil Mahler.

Flatford Mill on Christmas Day. This predominantly northern species has been passed around the major basidiomycete groups but has come to rest in the Agaricales.

Earlier in the year Neil confirmed the identity of the BAP species Orchard Crust *Sarcodontia crocea* 'killing' a very old apple tree at Bury St Edmunds. Neil pointed out to the finder that the fungus would have been growing on wood that was already dead, although can sometimes weaken a tree. In the last few years *S. crocea* has been found twice in Norfolk, at Bergh Apton and at Hunstanton.

Running with the big boys

The British Mycological Society Autumn Foray is a week-long event which takes place in a different part of Britain each year. Last October about 45 members spent the week at Lakeside Lodge, a Golf Centre with conference facilities near Huntingdon. The local organiser (Richard Shotbolt) had put together a programme of forays for each day and on return we settled down to identify the finds in the workroom. It can be a bit daunting but the exciting part is that the country's best field mycologists are around to help when needed. Each evening, Foray Leader Geoffrey Kibby led a 'show and tell' session around the finds table, seen in the foreground in the photograph below.