



North Eastern Fungus Study Group

Newsletter No 99 - Winter 2020

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NEXT ISSUE: The deadline for articles for the Spring newsletter is 25th April 2021
All contributions will be gratefully received!



Forthcoming Events

Events are subject to cancellation or change depending on Covid-19 restrictions at the time.

Procedures on forays--the consensus is not to go for number limitation but to split into more than one group if needed on the day. Recording slips to be handed to foray leader [into a plastic bag on the day!] or sending list of finds by email later Social distancing, masks, gloves, tissues, hand sanitiser to be used with common sense

Multiple handling of fungi discouraged but arrange to display at end of foray for viewing [possibly hard to implement safely]

Details for some outings will follow by e-mail.

NEFSG FORAY PROGRAMME 2021

Sunday April 24 th	Bowlees - Jo Scott
Sunday May 16 th	Sidwood - Mike Cruse
Saturday July 31 st	Pub Lunch—Durham City - Val Standen
Sunday August 22 nd	Linden Hall—Morpeth - Sally Pattison
Saturday September 4 th	Birch Wood—Bilsdale NYM - Alan Simkins
Sunday September 5 th	Edmondsley Wood - Mike Cruse

Sunday September 12 th	Lordstones—NYM - Alan Simkins
Saturday September 18 th	Druridge Bay - Mike Cruse
Sunday September 19 th	Hartford Hall - Sally Pattison
Saturday September 25 th	Crook - Louise Watson
Sunday September 26 th	High Plains - Mike Cruse
Sunday October 3 rd	Auckland Deer Park - Alan Simkins
Saturday October 9 th	Hadrians Wall—Walltown - Shaun Hackett
Sunday October 10 th	Harbottle - Mike Cruse
Saturday October 16 th	Letah Wood—Tyne - Gordon Beakes
Saturday October 23 rd	Croxdale—Wear - Val Standen
Sunday October 24 th	Frost Hall—Farndale NYM - Alan Simkins
Saturday October 30 th	Malton—County Durham - Val Standen
Sunday October 31 st	Mulgrave Castle—Whitby - Paul Forster
Sunday November 7 th	Boltby—NYM - Rhona Sutherland
Sunday November 14 th	Errington Woods—New Marske - Alan Simkins

Sunday April 24th - Bowlees - Jo Scott

GR NY 907 282. Nearest post code DL12 0XF.

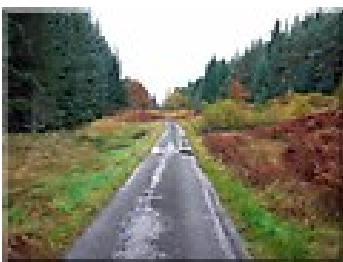
Meet in the Bowlees Visitor Centre Car Park. A look at lichens in the woodland around the Visitor Centre and a walk down to the river to take in the walls and riverside rocks.



Tel: 07413939729

Sunday May 16th - Sidwood - Mike Cruse

Part of Kielder Forest just two miles NW from the village of Greenhaugh. Formerly part of an old estate, some ancient trees and ornamental species remain from this time. There is a large car park shortly into the woods, do not proceed to the picnic area marked P on the map.



Grid Ref :- NY 778 889 Nearest Postcode :- NE 48 1NB

The link below provides an interactive map of the area .

Road south-east of Sidwood <http://www.geograph.org.uk/photo/3745238>

mikecruse@live.com

01661 823229

Mob:- (On the day only) 07486 992923

‘Tis the Season for Arrhenia’

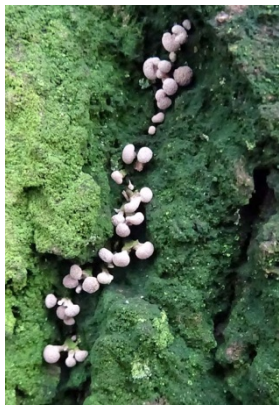
Covid local walks have also given me surprising urban finds of *arrhenia rickenii*. Initially spotted in November on a walk through Houghall arboretum, Durham, on moss growing on a calcareous stone, then unexpectedly on similar at a relatively new estate at West Park, Darlington. In December found on moss growing on weathered mortar between cobbles on Staindrop Rd, Darlington, (in front of the Mowden Pub!) and then again in a similar habitat in a local back alley. I now think that I also found it on moss growing on old cement in my back garden in 2014 and I misidentified it as *a. griseopallida* in my early pre-microscope days. A rarely recorded fungus - but now I know its habitat - another to watch out for.

Arrhenia peltigerina, a parasite of peltigera hymenina lichen, was a rarer find on a fungal walk near Comondale with Alan Simkins. Totally unlike in form, but similar in habitat, is *arrhenia retiruga*, tiny delicate, white, unstalked ‘cups’ that grow on the feather moss in my lawn every year. *Arrhenia acerosa*, taken on a mossy wall-top Heddon on The Wall.



Jill Cunningham

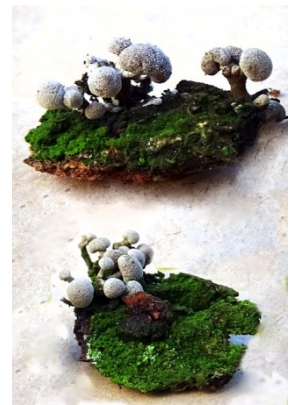
Deck the Oak with Swarms of Stalkballs’



Skerningham Woodlands, 2 tiny areas of older woodland linked by a recent plantation, is on the northern outskirts of Darlington. Pointing out fungi on the final stretch on the southern tip of the Hutton wood I came across a dead standing Oak trunk with swarms of ‘bobbles on stalks’ in the cracks of the bark covering 3m of the trunk, definitely fungal - but what?

It looked like a slime-mould but larger and firm; so was it an asco? Sample examined - whitish, fawn-grey roundish heads on sturdy stalks, 3-8mm tall, some single others

appearing joined at the base. Spores round, 6-8µm, on the surface of the heads, budding off from unusual transversely septate *basidia* so not an asco. Conclusion - there was only 1 possible ID - Fenugreek Stalkball, *phlegena faginea* - not in any book except the Collin's and in the ‘rare/unusual’ section. Mike has checked CATE2 - 209 records with none north of Warwickshire. NBN atlas has 1 record in the NY Moors and 1 in Scotland, the remainder southern - so do keep an eye out for it. The naming of Fenugreek comes from the curry smell when it is dried; ‘faginea’ as it was first found on Beech and its closest relatives are the rust fungi.



(This land is awaiting planning permission for 1400 houses and a possible bypass. The woods could be cleared - is it ethical to try to move some to other dead trunks in Nature Reserves in Darlington?)

Jill Cunningham. 17/12/20

More Things that go Bump in the Night.....

An update on the foxes and hedgehogs caught on the trail camera in the garden between March and December. Look out for an itchy hedgehog, fighting hedgehogs, hedgehogs partying, close encounters and a mouse. <https://youtu.be/j0xpojluWeU>

Jo Scott



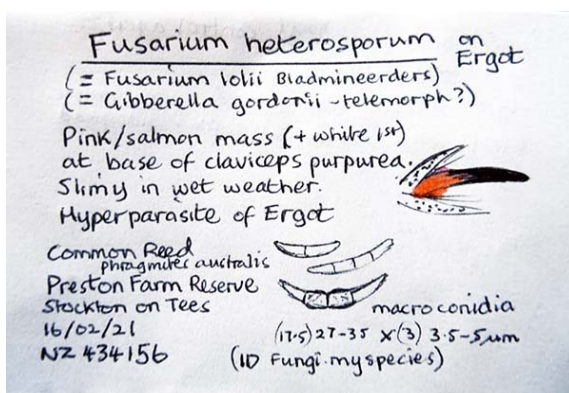
Geastrum triplex



Barry Robinson sent in this super photograph of *Geastrum triplex*. It is only the second specimen I have ever seen. The first was in a woodland in Hertfordshire 42 years ago. This specimen appeared in my garden in South Hylton, Sunderland, in October 2020. I was overjoyed to see it.

Fusarium heterosporum

Ergot on *phragmites australis* - some of it had been infected by a salmon pink fungus. Did the microscopy and the ID is *Fusarium heterosporum* (Fungi.my species), (synonyms *Fusarium lolii* and *Gibberella gordonii*), a hyperparasite of *claviceps purpurea*.



Jill Cunningham

Hollyhock Rust - The Garden magazine of the Royal Horticultural Society

Managing hollyhock rust

Hollyhocks (*Alcea* cultivars) can be severely affected by rust – a disease caused by a fungus called *Puccinia malvacearum* – which spreads by airborne spores. Affected plants have bright yellow-orange spots on the upper surface of the leaves and reddish orange or brown lumpy pustules on the lower leaf surface (below) as well as the stems and flowers. In humid conditions the pustules turn grey as spores are released. Severely affected leaves shrivel and fall, leaving the plant stunted and lacking in vigour.

Control options

In order to keep on top of the fungus it is best to check plants regularly, removing any affected leaves – or disposing of whole plants if they are severely infected. Consider growing plants as biennials, discarding them after flowering.

If you keep plants more than one flowering season, cut down to soil level in autumn and dispose of all plant debris (do not compost). Avoid dense planting to reduce high humidity around the foliage and ensure plants develop good roots by avoiding waterlogged or dry soil.

Fungicides are available to home gardeners for the treatment of rusts on ornamental plants. Target applications when they are most needed (start only after you see rust infection and then try to protect new growth) as maximum applications per year range from three to six, depending on the fungicide.



Alan Simkins

Interesting sites from the web .

Check out Misidentifying Fungi and related blogs by Clare Blencowe .

Misidentifying Fungi <https://misidentifyingfungi.blogspot.com>

Misidentifying Fungi Friday, 1 January 2021 Remembering 2020: a fungal retrospective So, that was 2020.

A Fungal Retrospective

Misidentifying Fungi Friday, 1 January 2021 Remembering 2020: a fungal...

<https://misidentifyingfungi.blogspot.com/2021/01/remembering-2020-fungal-retrospective.html>

Misidentifying Fungi

I took my exercise on a farm in the High Weald today, where I had permission to ...

<https://misidentifyingfungi.blogspot.com/2020/11/>

Misidentifying Fungi - Advice

Fungi and the Drugs Act 2005 . Any fungus containing psilocybin/psilocin is also a ...

<https://misidentifyingfungi.blogspot.com/p/advice.html>

25 Things I Learned on Fungus Study Week

Misidentifying Fungi Saturday, 20 October 2018 25 things I learned on Fungus ...

[Misidentifying Fungi Saturday, 20 October 2018 25 things I learned on Fungus ...](#)

A Grassland Waxcap.....

Misidentifying Fungi Saturday, 7 September 2019 A grassland waxcap identification ...

<https://misidentifyingfungi.blogspot.com/2019/09/a-grassland-waxcap-identification-tool.html>

A wealth of fungi information is provided in the 4 , ‘ Links to other fungi sites ’

[Links to other fungus sites - David Moore](http://www.davidmoore.org.uk/Assets/Mostly_Mycology/Diane_Howarth/links.htm)

http://www.davidmoore.org.uk/Assets/Mostly_Mycology/Diane_Howarth/links.htm

[Links to Other Mycological Sites..](https://www.fungus.org.uk/nwfg/nwfglink.htm)

<https://www.fungus.org.uk/nwfg/nwfglink.htm>

[Index Fungus.org.uk](https://www.fungus.org.uk/nwfg/nwfglink.htm)

<https://www.fungus.org.uk/nwfg/nwfglink.htm>

[Great Wildlife, Wild Flower and Fungi sites.....](https://www.first-nature.com/worldsites/index.php)

<https://www.first-nature.com/worldsites/index.php>

Mike Cruse

FURTHER THOUGHTS ON PROTOTAXITES



In our Autumn 2019 newsletter an article by Kibby from the BMS journal was included to whet our appetites about curious fossilised “life” which appeared to dominate terrestrial environments in the Palaeozoic [Ordovician to Devonian geological periods—460 to 380 million years ago].

“Curious” because despite knowledge of the existence of Prototaxites from geological sites across the world for over 150 years scientists have yet to conclude what it was. At various dates it has been assigned to the kingdom of Plantae, or to the Kingdom of Fungi, or to the kingdoms of Monera

and Protista [mainly algae]. Some wondered whether it was a composite early experiment of life on land which fairly soon became unviable and extinct.

Not so curious because fossils are often incomplete, or distorted, or their macro- and microscopic details are indistinct if preserved at all. Fragments of the same fossil species may only be found years or even decades apart.

[To digress slightly—Palaeobotanists have had to grapple with the fragmentary nature and wide variety of plant organs present in sedimentary rocks, usually those laid down in fluvial, deltaic, or estuarine environments. There are roots of various kinds, a plethora of leaf types, stem fragments present in bewildering variety, little seeds and large seeds, pollen containing reproductive structures of numerous shapes—and so on. The problem is which parts belong to which plant and at which stage in its life cycle. Evidence to help the palaeobotanist includes that from actual attachment of parts, that for attachment inferred by similarity of anatomical features, and evidence for attachment inferred by frequency with which parts are associated or by total absence of parts. The binomial system [genus and species name] is adopted in the same way as with modern plants. The individual fossilised organs, usually disassociated, are given their own unique genus/species names where relationships are unclear between stem, bark, leaf, seed, etc. Once the painstaking study of the relationship of the fragments is completed and a proven single plant is established [this may take decades] it is the first named fragment which becomes the genus name for the whole plant—so some plants have a genus name from a root, or a stem, or a leaf and so on. Thus *Prototaxites* is the accepted name for our presumed fungus even though its name refers to the tree genus *Taxus* [Yew] which it was thought to relate to when it was first discovered in the 19th century----end of palaeobotanical lecture].

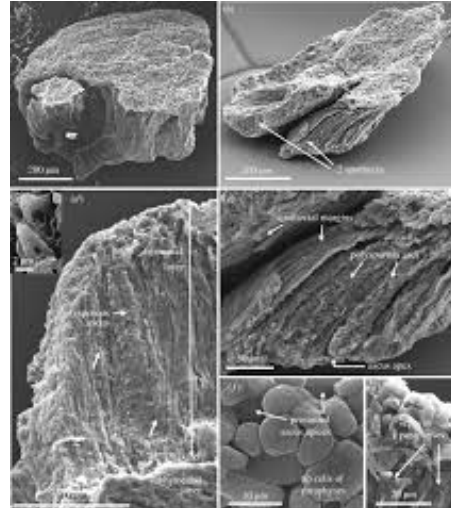
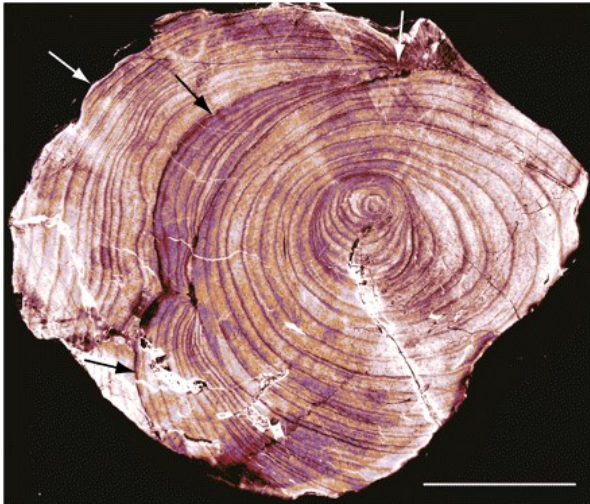
One interesting thing about *Prototaxites* is its size—up to nearly 9 metres high and 1.4 metres in diameter. Life in the Ordovician period was just beginning to emerge from the oceans. It was small—plants were mosses, liverworts, and small shrubs. They lacked a woody stem and therefore tall growth was inhibited. Animal life on land was invertebrate and small [millipedes and worms etc] and there were no terrestrial vertebrates. A 9 metre high fungus would be a surprise in the modern world of tall trees. The fossil *Prototaxites* would have been all the more striking in the diminutive landscapes of the Ordovician to Devonian [see artists reconstruction above]. In these ancient terrestrial habitats the largest organism present was *Prototaxites*. Its “trunks” were tree-like and were constructed of tubes less than 50 microns in diameter that were arranged concentrically in transverse section [see illustration below].

Current scientific opinion [as described in Kibby's article] is in favour of *Prototaxites* being a fungus, or possibly a lichen [see also Sheldrakes 2020 book *Entangled Life* for the most recent discussion]. Those environments didn't include vascular plants, being dependent on cyanobacteria [blue-green algae], eukariotic algae, lichens, mosses, liverworts and the related bryophytes. According to Moore the most compelling evidence that *Prototaxites* was a fungus is the isotope ratio mass spectrometry of individual *Prototaxites* studied. Moore considers this evidence conclusive. Carbon isotope ratios of $^{12}\text{C}:^{13}\text{C}$ of individual *Prototaxites* fossils are shown by these analyses to have varied too much for them to have been photosynthetic primary producers of any type—thereby indicating that *Prototaxites* was a heterotroph [saprotroph] which digested substrates that were isotopically heterogeneous, which suggested it was a consumer and recycler. It has been demonstrated [Hobby and Boyce 2010] that a similar large range of carbon isotopes

exists amongst extant fungi from environments of the present day that resemble the landscapes of those Palaeozoic times.

However [there is always a however]--back in 2002 Selosse suggested that Prototaxites may have been an example of an ancient mutualistic association of 2 or more different organisms combining both heterotrophy and a degree of lichen-like nutritional mode. Taylor et al [2009] suggest that this hypothesis has some merit though no direct evidence of an associated photobiont has been found. It is suggested that the photobiont may have consisted of cyanobacteria associated with the outer surface of Prototaxites.

So---a fungus or a lichen?---the debate continues.



Selected References

-Taylor, Taylor and Krings [2009]--Precambrian Life—Palaeobotany [Second Edition] London, Academic Press: 43-70

-Moore, David [2013]--Fungal Biology in the Origin and Emergence of Life—Cambridge University Press.

-Monroe [2015]--Australia--The Land where Time began.

-Kibby [2019]--British Mycological Journal

-Sheldrake [2020]--Entangled Life—Penguin Random House: Page 257.

Alan Simkins

Individual lichens can have up to three fungi - ScienceDaily

Christine Whitehead sent in this link which she thought might be of interest.

<https://www.sciencedaily.com/releases/2019/01/190117142055.htm>

Minutes Of The 2021 AGM Of The Northeastern Fungus Study Group

[Distributed by email on 5.2.21 and responded to by participants by email]

- 1- Approval of the 2020 AGM Minutes was proposed by David Minter and seconded by Keith Tulip. No objections were received.
- 2- Approval of the report of the Chair and the report and accounts of the Treasurer were proposed by Doug McCutcheon and seconded by Barry Robinson. No objections were received.
- 3- Election of officers for the year [Alan Simkins-Chair, Val Standen-Secretary, Ron Pattinson-Treasurer] were proposed by Peter Holmes and seconded by Sally Pattison. No objections were received and no other nominations were recorded.
- 4- The proposed 2021 Foray Programme was noted. [This will be redistributed in the February 2021 Newsletter.]
- 5- Date of 2022 AGM—The Chair to arrange a date in 2022 at Rainton Meadows.

Lichen Lookout

Some yellow lichens usually found on walls and rocks.



Caloplaca flavescens

A common orange lichen on walls. Colour varies a bit between yellow/orange. Orange Lobes long and thin. Many orange apothecia in the centre of the thallus.



Candelariella vitillina

Similar to Phaeophyscia orbicularis but does not turn green when wetted. Thallus up to 7cm diameter. Bluish grey. Distinctive balls of grey soralia on the lobes of the thallus. Commonly found on nutrient rich rocks and fences.



Caloplaca saxicola

Another orange/yellow lichen on walls. Lobes are shorter than C. Flavescens and are wider at the tips. Often pruinose. Dark orange apothecia in the centre of the thallus.