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Winter 2020

The variety within this Bulletin will, I think, entertain you and present a picture of the interesting things which are going on in the world of lichens despite the curtailing and adaptation of traditional events necessitated by the pandemic. The report on what we have all been getting up to during lockdown is indeed witness to the ingenious and irrepressible nature of some lichenologists.

The considerable work involved in producing LGBI3 continues and we now have two new accounts of genera in the Arthoniaceae and Collemataceae, available to access freely on the BLS website as pdfs. The new glossary is also available to download alongside these publications. The editorial team encourages you all to try out the keys and to get back to them with any constructive queries or comments you may have. And, of course, the regular feature on updates to generic and sometimes specific names too is right here in the Bulletin to help you to get to grips with all the changes.

For a number of years now there have been offers of, and requests for, features relating to the role of lichens in inspiring art and in this issue you can read about the work of some of these artists. A display of Liz Campbell's beautiful sketches and watercolours at the AGM in Edinburgh early this year may have whetted your appetite to learn more about this increasingly popular angle.

There always seems to be something new happening in the world of lichenicolous fungi and soon it will be possible to have access to a series of sheets describing more than 50 of them. Take a look at an example in this Bulletin to see how really useful these are going to be in reaching a reliable identification. There is also a reference to the fungi.myspecies.info website for further information.

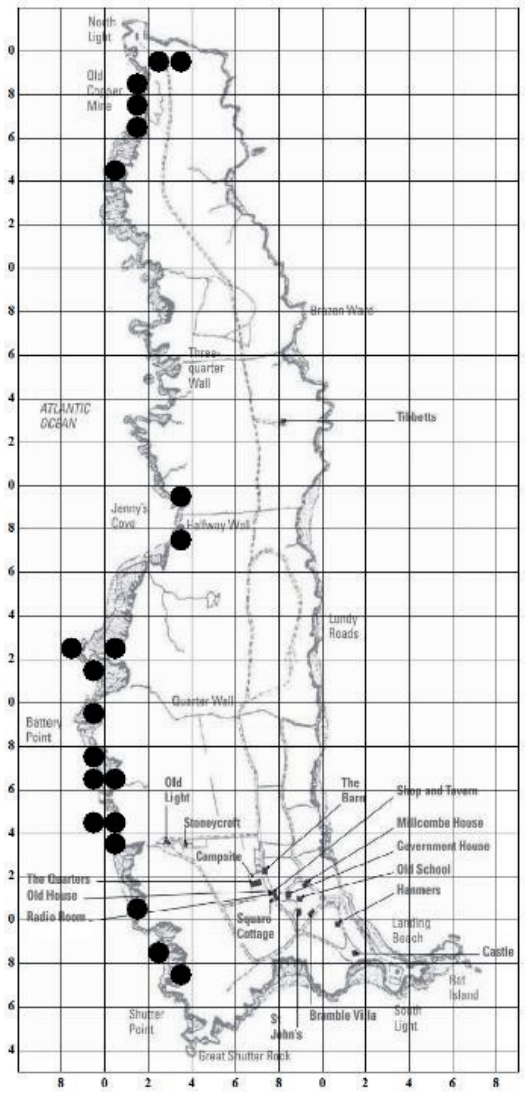
The absence of field trips, workshops and local group gatherings has affected all our lichen lives but despite that plenty has been going on. In some parts of the country local groups have been meeting regularly, employing sensible safety measures, to add records to the database and virtual 'Improvers Group' meetings are being trialled as I write. During these friendly virtual meetings it is possible to be introduced to like-minded people in your area as well as much farther afield and to enjoy mini presentations on a variety of topics from techniques to portraits of selected lichens. It is also a good medium for sharing and discussing your photographs. A comment made at one of the first meetings was a good recommendation; 'One session has taught me more than reading Dobson's book 12 times!' For more information contact Judith Allinson at jallinson@daelnet.co.uk.

Front cover: *Lobaria virens* and *Pannaria rubiginosa* after several wet days, Barnluasgan Forest, Argyll. From a watercolour painting by Liz Campbell. © Liz Campbell. lizcampbelloutdoors@gmail.com

Lichen records during a Lundy bryophyte survey

Lichens on Lundy are both remarkably rich and rather well recorded. The island was surveyed in particular detail by Peter James, Ann Allen and Barbara Hilton between 1995 and 1997, which culminated in the book *Lundy Lichens* (Allen, 2007). This not only described more than 350 lichen taxa occurring on the island, it also included descriptions of lichen communities and key areas in which to admire them. Nevertheless 10 species were recorded new to the island in 2017 by Maxine Putnam (2018) during a survey with a party of other naturalists.

In contrast, bryophytes have been very poorly recorded, with just a 1950s review (collections by non-specialist Rosalie Cox identified by Michael Proctor at Exeter University), a short visit by liverwort expert Jean Paton, and a couple of day trips by BBS members. I set about systematically recording bryophytes across the island during a family holiday in 2017 and have now increased the island total from 118 to 220 species (155 mosses, 63 liverworts and 2 hornworts). This systematic recording used a 200m grid to guide me to all areas of the island, and led me to places which might not have been scrutinised by a cryptogam specialist before. As well as plenty of new bryophytes I have had some lucky lichen 'by catch', which I will describe in this brief note.



One of the first things that strikes the visitor to Lundy is the sheer abundance of lichens. The trees in Millcombe are grey with epiphytes, and coastal rocks sport thriving *Ramalina* populations. Indeed, Lundy feels more like a lichen-rich island than a bryophyte-rich one. Nevertheless, my primary study is bryological, and the following records are by no means the result of exhaustive searching for lichens.

Teloschistes flavicans is widespread around the island, and I have been trying to GPS colonies when I have stumbled across them, with 29 records so far.

Unfortunately, a map of my records shows that I have been far less systematic about recording *Teloschistes* than I had realised, as the apparent absence from the central part of the west coast is because I recorded that area in autumn 2019 when I was focusing even more on bryophytes than lichens. Filling that gap will be a project for 2021!

Slightly less obvious than the *Teloschistes* are colonies of *Anaptychia ciliaris* (probably subsp. *mamillata*), which are concentrated in the NW alongside the *Anaptychia runcinata* that grows around the entire coast.

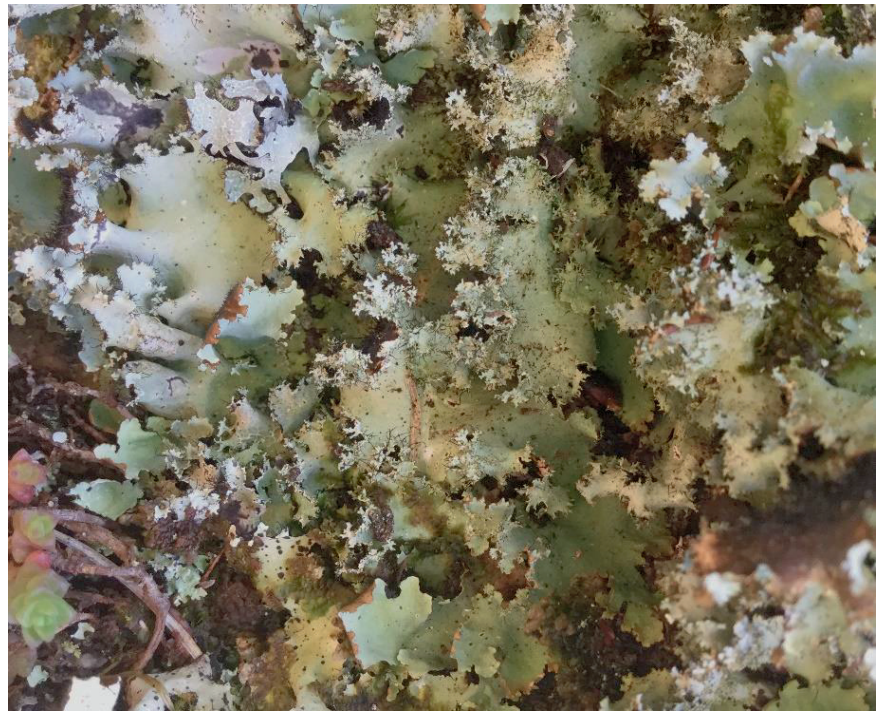
Anaptychia ciliaris subsp. *mamillata*.

So far I have noted *A. ciliaris* in four places: Battery Steps (SS12794488), Long Roost (SS13124767), North Light (SS13184800) and Jenny's Cove (SS13324592).

The first indication I had that there might be lichens to be found on Lundy was my discovery of *Sticta fuliginosa* s.lat. in a gully in Millcombe (SS14034407). This appears to be the first record of any *Sticta* from Lundy, despite this gully being close to the village and landing stage, and the home to a 'Lundy letterbox' (a popular compass-based treasure hunt).

Sticta fuliginosa s.lat.

Although Maxine Putnam (2018) recorded *Parmotrema crinitum* near the Battery, a large population in the Earthquake gully (SS13074542) appears not to have been recorded previously. It grows alongside the only known Lundy colony of the hyperoceanic liverwort *Plagiochila punctata*. There was also a small population of *Parmotrema crinitum* growing with the hyperoceanic liverwort *Frullania teneriffae* in the VC Quarry (SS13874536).



Parmotrema crinitum

Streams running down from the island plateau, with cascades and granite boulders, have proved to be among the richest bryophyte habitats on the island. Two streams – at Quarter Wall Copse (SS13894486, east coast) and Punchbowl Valley (SS13114557, west coast) – hold *Dermatocarpon luridum*. Bizarrely this distinctive lichen appears to be new for Lundy.

Dermatocarpon luridum.

The rarest lichen that I have found so far on Lundy is *Roccella fuciformis*, discovered by luck on the Mousehole & Trap tor on the east coast (SS13814697). A large thallus of this species had fallen on to a grassy sheep track below the tor, and careful searching subsequently revealed three thalli on the tor above this fallen tuft. I replaced the fallen thallus on the tor and hope that it will reattach.

Fallen tuft of *Roccella fuciformis.*

There are still a few additional areas of Lundy that I have not searched for bryophytes, and I hope that I may stumble across a few further notable lichens. It is always important to keep an eye out, even in 'well recorded' localities, because there are always species to be found.
(Photos © Sam Bosanquet)

References

Allen, A. (2007) *Lundy Lichens*. Published by the Lundy Field Society.

Putnam, M. (2018) Lichen Survey on Lundy in July 2017. *Lundy Field Society Annual Report 2018*.

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Some artists currently working with lichens

To those of us who study lichens it's often surprising to find out how many, perhaps most, people don't notice them at all. Lichens seem to become part of the background colour of walls, roofs and trees, a sort of outdoor wallpaper. We see them differently, a smudge on a roof, a blotch on a tree, both arouse our curiosity and with a hand lens their beauty and diversity become apparent. Artists are observant people but also vary as to whether they see lichens. Luckily for us, some artists become captivated by them and in many cases we can appreciate the resulting works.

At our 2020 AGM, held at the Royal Botanic Garden Edinburgh (RBGE), the work of a number of artists, all with a lichen interest, was displayed in the 'Small is Beautiful' exhibition', curated by Sarah Roberts. My aim here is to bring the work of these artists to those who were not able to attend the AGM. For good measure I have thrown in the work of some other artists who have come to my attention, one or two of whom have been featured in the Bulletin previously. But it is a random selection. All bar one are female artists, all extraordinary people.

One of Liz Campbell's preliminary studies of *Lobaria pulmonaria*. © Liz Campbell

In Edinburgh, I was transfixed by the sketchbooks of Liz Campbell, on display in the foyer, filled with notes, sketches and paintings of lichens she has studied. Liz has discovered lichens rather late in her career. She is an expert mountaineer, rock climber, kayaker and marathon runner (how many of us can say that?!). On retirement, she enrolled on a Diploma course in Botanical Illustration at RBGE, producing, as part of that course, a series of stunning watercolours of lichens of Atlantic hazel woods. Her work is ultra-realistic and she clearly looks at lichens more closely than many of us who call ourselves lichenologists. Copies and cards of her work may be viewed and purchased by emailing Liz at lizcampbelloutdoors@gmail.com.

Joanne B. Kaar is an artist of the extreme north, living on Dunnet Head, Caithness. She works in many media, from drawing to textiles, and has collaborated in projects around the globe, notably in Newfoundland. An account of her work with lichens, assisted by Sue and Les Knight, on the 'Fabric of Place' project in Swaledale is to be found in BLS Bulletin **122**, 40–42. At the Edinburgh AGM she exhibited a series of watercolours based on lichens, mostly of the lecideine variety, growing on stones from Dunnet Head. I really liked the idea of producing images from some of our less showy lichens and how the paintings caught the feel of her local landscape. She has a website, www.joannebkaar.com.

A Dunnet Head stone by Joanne B. Kaar. © Joanne B. Kaar

Annie Woodford is an artist specialising in porcelain and glass sculpture, with a deep love for, and interest in, lichens. She has lived in Scotland for ten years and is working on a project, 'The Language of Lichen', a combination of ceramics, glass, mixed media, drawings and prints. It should be on show at the Groundwork Gallery, Kings

Lynn, in summer 2021, moving to a London venue later in the year. See her website www.anniewoodford.co.uk for details and for images of her work. Staff at RBGE have been supporting her in her research for the project.

Porcelain and glass sculpture 2016. © Annie Woodford

Heading south, Abigail Brown is a Falmouth-based silversmith who has been inspired by lichens. A few years ago she created a design for an exhibition of contemporary silverware based on a lichen that grows on a prehistoric stone circle in the Penwith district (Land's End).

Lichen-inspired brooch. © Abigail Brown

Boscawen-Un Vessel by Abigail Brown. © Abigail Brown

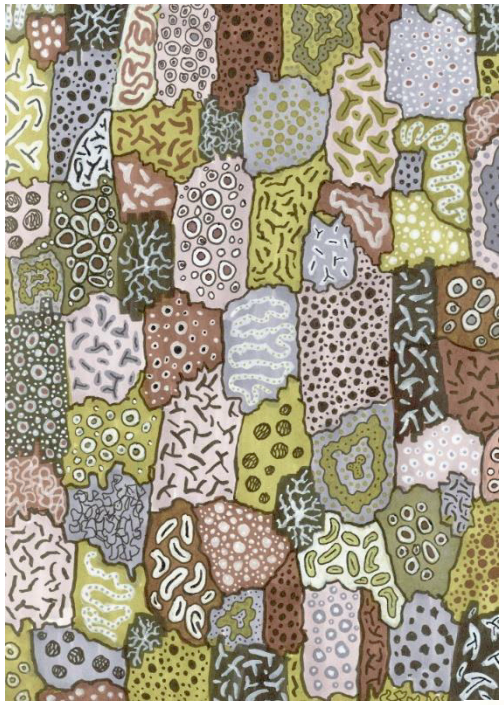
Her vessel ‘Boscawen-Un’ was on display at the V&A, London, for nearly two years. She continues to work with lichens and her lichen-inspired pieces may be viewed on her website. www.abigailbrown.co.uk/lichen-work. The lichen upon which she has modelled her pieces is apparently *Flavoparmelia caperata*. To me, the pieces suggest perhaps a *Parmelia*, complete with lovely reticulations, but I’m just being picky, they’re very attractive.

Another ceramicist, Lorna Fraser, is a well-known Edinburgh artist, working in porcelain. Many of her works are botanically inspired and she has had exhibitions at RBGE. Recently her work, ‘Lichen Wall’ (2019), a fascinating installation made from recycled refrigerator plastic, has been on display at RBGE in an exhibition ‘Think Plastic – Materials and Making’.

Lichen Wall (2019) by Lorna Fraser (detail). © Lorna Fraser

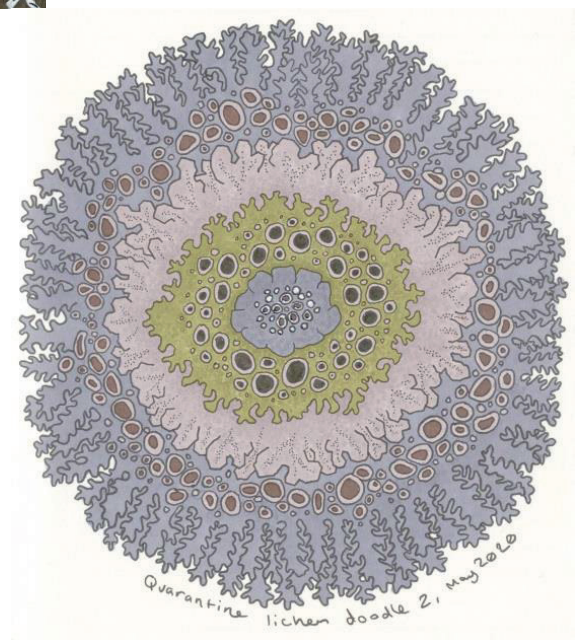
I have always been rather cautious about social media but recently I was persuaded to involve myself with Twitter, at first to see the wonderful lichen information being posted by Mark Powell and Vince Giavarini. I soon lost my fear, even posting a couple

of tweets myself. One lockdown day in June I was amazed to see some lichen doodles by ‘Cartoon Neuron’.



This turns out to be the Twitter name of the artist Immy Smith, a neuropharmacologist fascinated by pattern formation, camouflage in plants and animals and mimicry. She is a scientific illustrator, her witty and observant tweets presumably being somewhat of a sideline. Her subject matter is not confined to lichens of course but is always interesting.

She does not believe in a gulf between arts and science and sets out to prove it. Some items of hers, at least one lichen-themed, I think, are available through the website www.redbubble.com along with works by many other artists, some of which is lichen-themed (facemasks for instance).



Two examples of lichen doodles from Immy Smith. © Immy Smith
www.redbubble.com/people/immy

Lastly, a mention for Phil Barnett, a digital artist whose work can also be viewed on Twitter as @squinancywort1. He produces the most amazing photographs, poems and thoughts about the natural world, lichens every now and then.

Phil Barnett’s virtual art gallery, clearly with a lichen theme. It seems a hand lens is required here.
© Phil Barnett

His work ‘Circle of Enlichenment’ was the front cover image of our Summer 2018 Bulletin.

Artists are working with lichens around the world, see ‘The Living Valley’ by Diane Haughland and Amanda Schultz in BLS Bulletin **124** 32–36, about some work in Canada, for example. The selection above is, I know, just the tip of the iceberg and I am always interested to hear of other lichen-related art.

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What did lichenologists get up to in lockdown?

It seems a long while ago now, that first sudden call for lockdown against COVID-19 and the restrictions that we all had placed upon us. Initially, there was a sense of almost war-time camaraderie, and a feeling that it won't last all that long. Then, reality slowly made it apparent that this was going to be more serious, and a longer commitment than first envisaged.

We were all missing the BLS Field Meeting on Harris in early May, but still, an early spirit of positivity prevailed. As I write a regular Lichen Report for *British Wildlife* (BW), I asked around for snippets of what lichenologists had been doing during lockdown. There was a wonderful response, from so many folk, far too much for my space-restricted slot in BW, so I have pulled together replies, expanded on the bits I did get into BW, and relate them here.

Initially, everyone turned to taking the opportunity to catch up on an awful lot of non-lichenological 'jobs'; for example, an early response from David Hill "I will run out of jobs round the house soon - well those that I feel I actually want to do! Garden like most people's is looking rather neat and tidy for once!" But luckily, lichens lend themselves to 'local looking' perhaps more than several other wildlife groups. BLS Twitter suggested recording lichens on your doorstep, windowsill or garden, surfaces probably totally ignored in the past. But, as lockdown was lasting and lasting, and, after the initial 10 lichens seen on the patio slabs, where to go next? Well, there was exercise – we were advised that we could go out locally, to 'exercise'. Here are some records made whilst taking exercise (pros and cons):

- Heather Paul (Forres): I amused my neighbour by going down on my knees on the pavement outside to look at *Lecanora muralis* which of course I have never recorded here.

- Mark Seaward (Leeds): I take a daily walk, no more than a mile, and should the lichens attract my attention I have a hand-lens – I couldn't believe, for example, on Sunday last I found *Flavoparmelia caperata*, *F. soredians* and *Parmotrema perlatum* on *Acer* so close to my suburban home in North Leeds. Walls, cement-work, fences, soil can all be studied *en passant*.

- David Hill (Wotton-under Edge): surveying my house and garden …. ending up over the lockdown with a total list of 78 spp. The most unusual I think was *Acarospora smaragdula* on timber pergola.

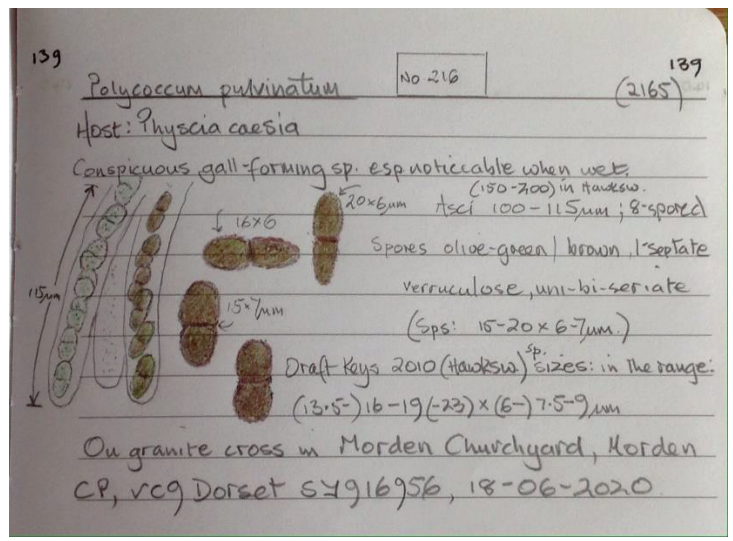
- Caution from Alan Orange (South Wales): I think fieldwork has to be very discreet, as it is against the spirit of the lockdown even if it is not so different from exercise. I would do a garden list but this would mean climbing onto the shed roof and making a spectacle of myself. I have been looking at some non-lichen samples that I already had in the house, leading nowhere but completely engrossing. 'Pseudo-work' I call it.

- Paul Cannon: (Surrey): I'm separating my daily exercise and lichenological activities, on the grounds that when I start looking for lichens I rarely get any noticeable exercise at all.

- Dave Lamacraft (Pwllheli, N Wales): Don't know if this is of any interest….? I had plans to gently potter and look at some of the trees in the field next to the house – a view to better learning some common things in 'normal' habitats for a change – *Ramalina lacera* almost straight away (4th VC record I think) swiftly followed by *Schismatomma graphidioides*! The *Schismatomma* is a second record for the VC, but pretty rare in Wales and listed on Section 7 of the Environment Act. Now got it on at least 6 sycamores and an ash, pretty frequent on a number of them. I've got another 6 sycamores and 3 ash to look at, wouldn't be surprised if it turns out to be a pretty significant population in Welsh terms. Anyway, guess it goes to show the value of concentrating a little more on one's doorstep! I've been quite enjoying this element of lockdown to be honest.

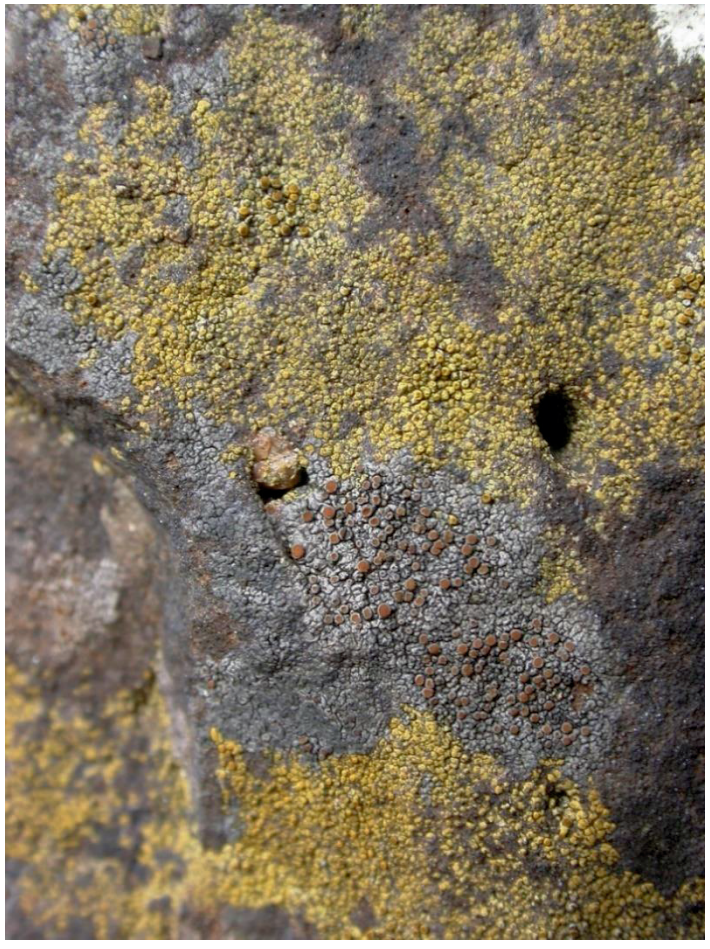
Well, those records are certainly "of interest" in fact they are excellent! As Dave says, the value of looking on one's doorstep (so to speak). But perhaps the most surprisingly fruitful and fascinating results from the lockdown came from not stepping out the door:

- Vince Giavarini (Poole): (Vince has been going back through his old lichen collections, re-examining them to see if he can spot any hitherto overlooked lichenicolous fungi) …… He said: You will be very, very surprised. For example I've had *Pyrenidium actinellum* from *Collema glebulentum* collected from Ben Hope in 1984; *Muellerella lichenicola* on *Solenopsora liparina* from Kynance Cove in April 1986; an *Arthonia* sp. on *Cliostomum flavidulum* from Holne Chase, Dartmoor, Sept 2000 and *Endococcus fusiger* on *Rhizocarpon lavatum* from the Langdale Pikes, June 1989.



- From Sam Bosanquet: Seeking out lichenicolous fungi sounds like a great idea Vince, and I have been enjoying your Twitter sketches. (See example on the previous page). I've been using the time to get through a backlog of data submissions for general insects via iRecord (I send all my lichens to BLS anyway), but I am busy with desk-bound NRW work so have been continuing my review of Welsh Lichen SSSI Features. I hope I'll be able to consult a few of you on this subject soon…

- John Douglass (South Lanarkshire): I was sorting through some old boxes of specimens… and came across some *Caloplaca aractina* collected from a coastal rock face on Muck. I have checked it against my collections from the Lizard and the spores etc. check out good for this species. At the time I was not aware of *C. aractina* and thought it was *C. chlorina*.



Caloplaca aractina from coastal rock on Muck, Inner Hebrides.

Apart from John's Muck revelation, *C. aractina* is confined in the British Isles to coastal rocks at The Lizard, in Cornwall (Edwards 2001) so this find is a lovely disjunct extension. John visited Muck with the BLS in 2012. He later carried out lichen work in Cornwall, including visiting the sites for *C. aractina* in 2015 and 2017. Would the lichen sample collected from rocks on Muck have seen the light of day and allowed John to make the connection except for the lockdown? What else will emerge?

So some really good stuff, and in fact, quite a bit from people rummaging around, looking at collections that had been set aside for "one day" and of course, lockdown amply provided that necessary time. Quite a lot of new records have thus far resulted from lockdown.

This all shows the value of making and keeping collections, but, importantly, ensuring the date and locality are on the packets, awaiting a time when these 'unknowns' can be brought out and given new consideration. Lockdown for lichenologists has been quite revealing, not least because of these 'old collections'.

- And Brian? What's he been up to? Brian has relished the time – at last – to settle down and delve into catching up with specimens that had been awaiting such a "one day" opportunity. It was a very productive and satisfying time, with over 800 specimens sorted, re-determined and curated. The spare bed became a repository for laying out the neatly mounted lichens and packets. As an interim step to getting these all entered on the accessions database of the Herbarium at the Royal Botanic Garden Edinburgh, Brian took boxes across to Heleen Plaisier at her home in Fife. Heleen made a start on entering these additions via 'home working'. When access to RBGE herbarium allows, she will lay these away, though one wonders if extra shelf space will be needed.

- Brian is also working on drawing up 'A checklist of British Epiphytic Lichens', with a supplementary list on worked timber. This is another project that has been languishing for many years, but a request from Jan Vondrák to get some idea of the comparison with lichens in the Czech Republic has galvanised activity.

- And there is the on-going work with colleagues towards the third edition of the Lichens of Great Britain and Ireland (LGBI3). This is hugely satisfying as taxonomy is a fundamental curiosity, like a beautiful detective story, with clues not only amongst colleagues in Britain, but exciting contributions from lichenologists abroad. The only handicap has been getting access into herbaria to seek out problem specimens – but it seems it is amazing what lichenologists keep in their fridges! But of course, as with most others, Brian is fretting that exploration further afield, and in company of good friends is curtailed.

- Simon Davey made a video, released onto Facebook. It is a lovely half hour, showing Simon comfortably in his home environment, gently imbibing a glass of red wine, whilst he reads sections from his book *The Lichens of Jersey*. And there are some useful comments about lichens in churchyards. And Simon and his wife Amanda, make a lively production team, as Simon has also made another video, where he reads extracts from his forthcoming biography of Francis Rose - *Force for Nature*. For those of us old enough to remember, it did bring to mind the celebrity chef Keith Floyd, who would take 'another slurp' to let the proceedings flow. Well worth a watch. The readings are called *Wine and a Book*. And I should perhaps also make mention that Amanda too has made a video, with extracts from a book she has written '*Freckles and Friends*', no, not about lichens that look like freckles, but a gentle tale about a young robin in their Sussex garden.
- https://www.facebook.com/TiliaPublishingUK/videos/979573409165008/?vh=e&d=n

- And Sandy? I have been trawling back through hundreds of My Photos, and loving every minute, recalling all the places visited, the friends, and the lichens although it did induce a yearning to be out, away and looking. But being at home did lead to perhaps what may count as the most unusual new record; on the evening of 20th May, sitting on the settee watching TV on BBC 4, we watched the blind climber, Jesse Dufton lead an ascent of the Old Man of Hoy, a 449-foot sea stack off the coast of Orkney. It was stunning, and inspirational, but, at one point we noticed on the rocks beside him - there were lichens! The Old Red Sandstone of this stack, it's maritime location, and the way the lichens were forming a grey-green 'furry' coat on the rocks, suggested it could be no other than **Sea Ivory**, *Ramalina siliquosa*. A check on the BLS database, and not only was this a new site for this lichen, but there are no records at all from the Old Man of Hoy. Not surprising perhaps, given the locality…. But maybe a challenge? https://www.bbc.co.uk/iplayer/episode/m000jb7t/climbing-blind

No doubt more stories from lichenologists in lockdown will emerge as it seems we are unlikely to be free of fighting the COVID-19 virus for some time yet. Yet there will always be lichens and lichenologists, and one day we will again be able to meet up in the field, across the microscope and exchange ideas, in companionship with friends who share a passion for these enigmatic organisms.

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2020 Workshop on genomics

In January 2020, thanks to a generous grant from the BLS Wallace-Burnet-Gilbert Fund, I was able to represent the BLS at the 2020 Workshop on Genomics in Český Krumlov, Czech Republic. The workshop is a biennial event that provides researchers with an intensive, two-week course on how to accurately work with DNA data and analyse genomes. Eighty researchers studying all sorts of organisms, from humans to seagrasses to viruses, attended and there was even another lichenologist!

Český Krumlov

The first week of the course covered broad themes in genomics. We started by studying how genome sequencing works and how it has advanced over the past 30 years. This included learning about exciting new technological developments such as long-read sequencers which are capable of sequencing entire chromosomes in one go. The rest of the week consisted of computer-based practical workshops which covered how to assemble whole genomes from DNA sequences, align genomes to each other to look for variation between species and analyse metagenomes which are the genomes of entire communities that have been sequenced all at the same time.

The second week drilled down into more specific applications of genomics. We learnt how to use RNA data to study gene expression, how to compare the genomes of individuals of the same species to study population structure and how genomics can be used to study interactions between microbes at the scale of a single cell.

The course also featured inspiring guest lectures from distinguished scientists such as Evan Eichler (University of Washington), Kelly Wrighton (Colorado State University) and Christa Schleper (University of Vienna). These showed us the huge breadth of applications for genomics and touched on various themes including the genomics of human health, metabolism of microbes in extreme ecosystems and how genomics has been used to discover entire new phyla.

Whilst the workshop was intense, we did have a bit of time over the weekend to explore the town of Český Krumlov, a UNESCO world heritage site, known for its exceptionally well-preserved medieval town centre and traditional Czech cuisine. The town is still relatively unknown to tourists and its vicinity close to the alps makes it a perfect holiday destination for a lichenologist!

This workshop forms an essential part of my PhD which is investigating the evolution of pigment production in lichens. This is a NERC-funded project, supervised by Dr. Ester Gaya, Professor Tim Barraclough and Dr. Thomas Prescott, and based at Royal Botanic Gardens, Kew and Imperial College London. The project will focus on anthraquinone pigments, a group of bright orange, yellow and red compounds which are most commonly known from lichens in the Teloschistaceae family. Despite being quite toxic to other fungi, these pigments are widespread in the Teloschistaceae and appear to have helped them succeed in colonising harsh, new ecosystems such as high-altitude mountain ranges and deserts.

Very little is known about how lichens evolved to produce these pigments and we still know almost nothing about the genetics of anthraquinone biosynthesis. In order to address this, I am sequencing the genomes of many lichens in the Teloschistaceae and its sister groups and will use new methods in genomics and biochemistry to look for regions that may be involved in pigment production.

I have already been able to apply what I learnt in Český Krumlov to my lichen data and am currently working on a method that will allow us to sequence the entire lichen metagenome and then separate the DNA of the mycobiont, photobiont and microbial communities computationally. This data will also be used to reconstruct the first phylogenomic tree of the Teloschistaceae. I look forward to being able to share these results at a future BLS meeting and would also like to present them at the next IAL meeting.

We are aiming to cover as much of the diversity of anthraquinone-producing lichens as possible and would greatly appreciate help from the BLS community with sampling UK Teloschistales species. If you are interested or have any questions, please contact me at my address at the end of this article and we can discuss the species I am searching for and also arrange for any collections to be sent to Kew Gardens. Also, I'd be more than happy to join you in the field.

Finally, I would like to extend my thanks to the BLS for awarding me the grant and I hope that the data I generate through my work will be beneficial to the British lichenology community.

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The influence of sea water at a *Lobaria* site

During the British Lichen Society visit to Skye in 2016 a rainwater sample was collected and analysed for sodium. The collection was made using a large polythene funnel pushed into a bottle near a sessile oak covered in *Lobaria pulmonaria* about 50m from the sea. The sample was collected over a period of three days, 13-16th June 2016 at the Gaelic Centre, Sabhal Mor Ostaig, Kilbeg on the southern coast of Sleat (18/648059). The collection was made to test the feasibility of obtaining data on the calcium, base-content and pH of the rainwater and discover how much carbon dioxide

was contributed by the marine aerosol. This could be important for lichens, many of which respond significantly to changes in base content of the substratum.

This exercise describes a 'proxy' method often used by ecologists, to gain insights into the general environment based upon a limited data set, in this case a single sodium analysis. Naturally, several assumptions are made, for example it is assumed that atmospheric pollutants aside from fossil fuel carbon dioxide were negligible. The method is used to illustrate how a few simple chemical calculations can be made to estimate some ecologically important quantities.

The sample was analysed by flame-emission photometry and contained 17 parts per million (ppm) sodium. In this location, the sodium would have originated from sea water whose virtually constant chemistry allows a direct estimate of both the calcium and alkalinity (base content) of the sample. These were determined as 0.6 and 0.22 ppm respectively. Rainwater in contact with the atmosphere will also absorb atmospheric gases including carbon dioxide. In this case there is a fixed relationship between the carbon dioxide content of the atmosphere and the water – at a given temperature and pressure that is defined by the Henry's Law constant. Using the current carbon dioxide level in the atmosphere of 415 ppm and employing the appropriate Henry's Law constant, the concentration in a raindrop works out at around 0.6 ppm. From these figures a knowledge of the total carbon dioxide content of the water can be determined, but first of all, the pH of the water needs to be estimated. For undiluted sea water this is easy to estimate as it is practically constant at around 7.8. To find the pH of pure rainwater falling through the atmosphere, advantage can be taken of the 'pure solutions' graphs presented in the classic study of water chemistry by Werner Stumm and James Morgan. From these, rainwater pH is estimated as 5.7. To determine the influence of the sea water on the rainwater, a Deffeyes chart is used. This allows the pH of a water to be estimated providing the alkalinity and total carbon dioxide content of the sample is known. The alkalinity of pure rainwater is very close to zero. The alkalinity of sea water is to all intents and purposes a fixed value (the *alkalinity* of a water is to a good approximation the bicarbonate content, the *total carbon dioxide* content is the sum of the bicarbonate, carbonate and dissolved carbon dioxide gas). Armed with a knowledge of these four quantities it is possible to proceed. This is done by calculating the average alkalinity of the water, bearing in mind that the sea water content of the rain was low (around one part sea water in 630 parts rain water) so a weighted average is required. Looking up the averaged value on a Deffeyes chart gives a pH of around 5.9 so it is clear that the sea water has made the rain slightly more alkaline, increasing the base content. The total carbon dioxide of this water is sourced around 80% by the atmosphere and 20% by the sea.

The above estimates have assumed that a sea water droplet acquires sufficient atmospheric water to form rain. Suppose instead that it slowly releases water instead? It is unlikely to dry out completely because salt is hygroscopic and the Atlantic atmosphere is moist. Nevertheless it could lose water and in the process it would lose some carbon dioxide as a result of 'salting out'. If most of the water is lost, the remaining carbon dioxide reacts with the calcium to form calcium carbonate which would then precipitate out of the remaining water. When these droplets land on vegetation, the carbonate would tend to stick to the vegetation surface and again raise the pH. This time, the pH is raised further, to values of 8 or more even though much of the carbon dioxide has been lost. The deposition of calcium carbonate on exposed Atlantic coasts can be significant. In parts of Shetland, houses near the coast can have their gutters and even their windows coated with a layer of calcium carbonate from the sea.

Climate is widely accepted as exerting the greatest control over plant distributions on the planet, and this most likely applies to lichens as well. But other local factors are important. The influence of sea spray on lichens is particularly evident on rocky shores. *Lobaria pulmonaria* is often well-developed along the Atlantic coasts and although climate will play a significant part, base-enrichment may well be significant. This lichen tends to grow on the more basic-barked trees away from the coast, and in Cumbria at least, it appears to be more evident on soils derived from base-rich rocks, so any process increasing the base-content of the water is of interest. It can be seen that water analysis combined with 'proxy' methods could be a useful tool for the lichenologist and need not require sophisticated equipment.

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Lichens of igneous outcrops in the limestones of the Peak District of Derbyshire

Brian W. Fox and Mark J. Higginbottom
(*edited by Steve Price*)

(*Editor's note*: The surveys on which this paper is based were carried out in the mid-to-late 1980s and the 1990s. The paper is a slightly edited version of an undated typed manuscript discovered in a folder of Oliver Gilbert's marked 'Basalt'. The editing includes the addition of more up-to-date lichen names, the completion of the references, the completion of geology information in the list of sites visited, minor typos and spelling errors, and the provision of a couple of photos. Thanks to Mark Higginbottom for permission for the manuscript to be edited and published.)

Introduction

The county of Derbyshire is divided into two main geological zones, the so-called Dark and White Peaks, characterised by sandstone to the west and north, and limestones in the central and south and eastern parts, flanked by a series of apron reefs in places, all of the Carboniferous period, 280 million to 350 million years old.

Lower Miller's Dale lava outcrop above the apron reef limestones at the top of Cave Dale, Castleton. Photo © Steve Price.

The saxicolous lichen flora of such a region therefore will consist predominantly of that typical of these two substrates [1,2]. However, a characteristic feature of the county is the large numbers of basic igneous intrusions and extrusions, resulting from volcanic activity in the region at a later period within the depositional history of the limestones and which provided the county with several of its principal sources of economic development dating from pre-Roman times (e.g. lead mining, fluorspar).

A characteristic legacy of this volcanic activity are the numerous sills and dykes and lava and ash beds which intersect predominantly limestone country. In many cases these have outcropped and have been exploited not so much for their igneous rocks as for the hydrothermal minerals associated with them. The early miners recognised the basaltic rocks as the termination of the commercially interesting "rakes" and the description of these rocks as *toadstones* may have been a corruption of the similar "todstein" used by German miners, to describe the worthless stone encountered during the excavations. Nowadays, where the basalt occurs in quantity, as in Green Fairfield near Buxton, exploitation of the basalt as road metal is a commercially viable activity.

The composition and crystalline texture of the basaltic material in Derbyshire varies in relation to the rate of cooling, those with the larger crystals, (2—5 mm), having cooled slowest allowing crystal formation are mainly olivine and plagioclase felspar,

referred to as dolerite. This freshly cut rock is black in colour but the mineral oxidises on long exposure to the atmosphere to form a thick orange-brown crust of oxides which provides a unique substrate in an otherwise predominantly limestone countryside. Mineralogically, basalt is the same composition as dolerite but with a grain size less than 2 mm. Due to the localised nature of these outcrops, they could be easily overlooked in the compilation of a county flora, no reference being made to them in the County Flora [1] published in 1969.

The dolerites of Derbyshire were carefully recorded in a series of geological surveys carried out principally by Arnold-Bemrose around the turn of the century [4]. By means of the crystalline and general field relations of the basalt, he attempted to determine whether the different outcrops were from different eruptions or from a single volcanic event. He tried by means of comparing the crystallinity of the rock to determine how the different outcrops were in fact related.

There are clearly four main geographical areas where such igneous rock outcrops have been recognised [4];

1. The Miller's Dale area
2. The Matlock area
3. The Ashover area
4. The Tissington area

In most of these areas, more than one lava flow can be recognised, and in the Miller's Dale area in particular, these were called by Arnold-Bemrose the Upper and Lower Miller's Dale lavas, each of which are now considered to be the result of several lava flows occurring in distinct conformation with the limestone beds. The Upper lava, for example, delimits the base of the so-called D2 limestones, otherwise known as the Monsal Dale beds. Both beds of lava in this series can be quite thick, often reaching some 100 feet in places as in Tideswell Quarry.

Knot Low, a quarried Upper Miller's Dale lava outcrop in the shelf limestones of Miller's Dale. Photo © Steve Price.

All the igneous rocks, whether extrusive represented by lava flows, bedded pyroclastics and tuffs, or intrusive, represented by sills, dykes, vent agglomerates and vent intrusions, are considered to be alkaline by the geologists. It would therefore be expected that the surface lichen flora of these rocks should differ little from the surrounding limestone, except for the special ingredients of the rock which characterise them as of igneous origin.

The following survey was therefore conducted with two purposes in mind.
1) To determine if the characteristic alkalinity from a geological point of view was reflected in the nature of the surface lichen flora and 2) whether the study of the lichen flora could contribute to our knowledge of the relationship of the flows by recognising subtle differences in the floral composition.

Methods

Each site identified by Arnold-Bemrose in his several papers between 1894 and 1910 was revisited during several visits in the 1980s. The discovery of a site was facilitated by the markedly darker colour of the rock against the light grey limestones, especially in the north regional group of limestones. It is often initially easiest to search for the dark stones in the stone walls which interlace the county, since the local farmers did not carry the rocks any further than they needed to build the wall, and they offered a good indicator of the outcrop, which in many cases was obscured by overlying soil and debris.

A detailed record and approximate frequency were recorded from each site. Difficult species were checked with referees and the advice and help of Drs. B. J. Coppins and O.L. Gilbert are gratefully acknowledged.

Results and Discussion

The most common facies of limestone deposited in Derbyshire are shelf limestone, deposited as a lime-rich mud in a shallow tropical sea, an environment comparable to that of the Bahamas today and basin facies in deeper waters in, for example, Dovedale.

At intervals during the deposition of the limestone, volcanoes were active in the Peak District. Molten lava and ash erupted from several vents. The lava flows are easily identified by their dark colour, however, specimens of basalt from different flows may differ markedly in their visual appearance. Preserved gas bubbles often elongated in the direction of flow within the rocks give them a vesicular texture. If, at a later stage, these holes become infilled with minerals, they are called amygdales. A good example is the amygdaloidal basalt at the foot of Ravenstor in Miller's Dale, where the secondary mineral (occurring after the intrusive event) is chlorite, giving the rock a distinct green colour.

Basalt is very susceptible to chemical weathering when it is exposed at the surface. The iron-rich silicates undergo oxidation and hydration. Felspars are leached of their sodium and calcium, and ferromagnesium minerals change from blue green, black or grey when fresh to rusty yellows, reds and browns. Partly decomposed basalt is a soft crumbly, mottled greenish-grey and brown rock, known as toadstone.

Not all volcanic activity was confined to surface eruptions of lava and ash. At depth, molten magma forced its way between some of the limestone beds to form intrusive sills. The magma cooled slower than the lava flows at the surface and solidified to form dolerite, a slightly coarser basic igneous rock, but with a composition mineralogically the same as basalt.

In geological terms, "basic" infers that the rock contains no “free” quartz and the felspars are more calcium than sodium rich. There was more than one volcanic vent in Derbyshire at this time, but it is doubtful if all were in action simultaneously. It is generally considered that none of the volcanoes ever emerged above sea level as full-bodied volcanic islands and therefore the activity was neither very extensive or especially violent.

The doleritic intrusions may post-date the volcanics, but the relationship between the volcanic rocks and the sills is not fully understood. These rocks, due to the weathering of the limestone are now exposed, but a less obvious sign of their presence are the famous thermal springs around Buxton and the less well known freely flowing springs at Stoney Middleton.

The volcanic rocks in the sequence may be divided into two groups; tuffs and lavas. The tuffs are composed of volcanic ash and in Derbyshire account for over half the volcanic assemblage. The lavas are mainly olivine basalt with crystals of a variety of minerals, of two distinct sizes, related to cooling. In Derbyshire, it is possible to locate some of the vents responsible for the volcanic rocks which may be identified by the presence of coarse breccias (agglomerates) often found sealing the volcanic vent.

It soon became clear that the flora of the dolerites was most prolific on the well oxidised brown-ochre rocks and that the unoxidised rock, easily recognised by the steel grey-green colour, did not usually support any lichen growth. This could be due to the rate of oxidation following cutting of the rock surface, and in view of the fact that this could clearly take several years, judging from the colour of the dolerite debris surrounding the commercial dolerite exploitation industries (e.g. Tarmacadam manufacturers), it is surprising that no grey green dolerite surfaces were found which sustained even a small quantity of lichen growth.

The oxidised brown-ochre surface of exposed dolerite however was in some cases richly covered with lichen growth and rendered even more conspicuous by the very frequent occurrence of *Candelaria vitellina* f. *vitellina* which often highlighted the stones in yellow. It was clear that those stones which were used as coping stones in the walls were the most richly covered with this species, and was also associated with the other characteristic species of nutrient-enriched, bird perching (avicoprophilous) assemblages such as *Physcia adscendens*, *Physcia caesia*, *Xanthoria parietina* and *Phaeophyscia orbicularis* (*Physcietum caesiae* Mot).

However, in addition to the species of this latter community, a characteristic association was present consisting of *Porpidia soredizodes*, *Lecanora soralifera*, *Aspicilia caesiocinerea* and *Lecidella scabra* occasionally associated with *Stereocaulon pileatum*, *Porpidia crustulosa* and *Lecanora polytropa*. This closely resembles, but is not identical to, the exposed siliceous rock alliance of *Huilietum crustulatae* (Klem) described by James *et al* [6]. It probably represents however an assemblage intermediate between this and the more mineral rich siliceous alliance represented by *Lecanoretum epanorae* Wirth. It

is considered that this association represents a new alliance within the mineral-rich siliceous community, and *Aspicilietum soredizodetum* comb-nov is now proposed.

The full list of species found at different sites is given in Table 1. (*Editor's note*: the table in this paper is modified from that in the typed manuscript to be in alignment with an accompanying A2 size hand-written paper spreadsheet).

It can be seen that there is a very similar species distribution in different sites in the northern part of the county, amongst the Miller's Dale group. On the other hand, Ible Sill represents an outcrop of ophitic olivine-dolerite which has suffered some hydrothermal alteration and situated within the Bee Low limestones. The present outcrop is heavily shaded by sallow in the small quarry, now unworked.

Sites visited

1. Mill Cottage, Peak Forest (SK116788) (dolerite)
2. Speedwell Vent (SK145825) (tuff)
3. Potluck Sill (SK141782) (dolerite)
4. Waterswallows, Green Fairfield (SK088748) (dolerite)
5. Old Dam, Peak Forest (SK116796) (dolerite)
6. Tideswell Dale Quarry (SK 155738) (dolerite)
7. Litton Dale outcrop (SK156748) (Upper Millers Dale b2-lava)
8. Station Quarry, Miller's Dale (SK135738) (Upper Millers Dale b2-lava)
9. Knot Low (SK134735) (Upper Miller's Dale b2-lava)
10. Masson SE side (upper quarry) (SK287590) (Matlock Upper lava)
11. Ible Sill (SK253568) (olivine-dolerite)
12. Newhouses Farm (SK11107854) (olivine-dolerite)
13. Peter Rock (SK175753) (Cressbrook Dale b4-lava)
14. Calton Hill (SK114708) (Upper Millers Dale b2-lava)
15. Cave Dale (SK148821) (Lower Millers Dale b1-lava)
16. Sherbrook Lodge, Buxton, (SK064723) (Lower Millers Dale b1-lava)
17. Lees Bottom, Taddington Dale (SK169705) (Lees Bottom b3-Lava)
18. Shaklow Wood, Taddington Dale (SK179697) (Shaklow Wood b5-Lava).

(*Editor's note*: entries on the afore mentioned paper spreadsheet indicate that after this manuscript was prepared an additional 14 sites were visited and recorded. Records from these visits were not reflected in the manuscript and are not in this paper.)

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Brian W. Fox and Mark J. Higginbottom

Biographical note by Steve Price

Prof. Brian W. Fox was President of the British Lichen Society from 1994—1996. He died suddenly at home in 1999 aged 69. Away from his day job as Deputy Director of the Patterson Institute of the Christie Hospital in Manchester he spent time engaged in a wide variety of activities: social, cultural and natural history related. I knew him through the New Mills Natural History Society, of which he was President, and witnessed his enthusiasm for everything in which he became involved. This included fossil hunting on geology trips to Whitby, bird watching on Skokholm, chasing up old and rare plant records nearer home in Derbyshire, and delivering lectures on perfumery. In the field Brian's enthusiasm for lichens could not have done anything but rub off on all who were with him.

He spent much time in Cheshire monitoring what he regarded as the most impoverished lichen flora in Britain. His recording in Cheshire was brought to publication by Jonathan Guest in 2003 in '*The lichen Flora of Cheshire and Wirral*'. He embarked upon lichen hunting trips in the Scottish mountains, many of these being documented in *The Lichenologist.* Brian had his own particular standards of dress, his own indulgences and loved trying out new ideas. It was whilst camping on high-level field trips that these were particularly noteworthy, e.g. emerging from his mountain tent wearing a dressing gown or kimono; carrying his meths stove throughout the day to regularly make that essential fresh brew of china tea; and packing an altimeter, a pedometer, etc. etc. Much of this is fondly and well described in the Oliver Gilbert book, *The Lichen Hunters*.

Brian spent a significant amount of time in the Derbyshire Peak District and together with a young Mark Higginbottom he embarked upon studying the lichens of the igneous rocks of the limestone area of the White Peak.

This paper is a result of those studies. They were summarised in a presentation to the BLS AGM in 1996 (see *Brit. Lichen Soc. Bull.* **78**, Summer 1996).

Brian Fox on Skokholm, Pembrokeshire in 1995.

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Tables of taxa found at each site

Current taxon name	Mill Cottage	Speedwell Vent	Pot-luck Sill	Waterswallows	Old Dam	Tideswell Dale	Litton Dale	Station Quarry	Knot Low	Masson Hill	Ible Sill	Newhouses Farm	Peter Rock	Calton Hill	Cave Dale	Sherbrook Lodge	Lees Bottom	Shaklow Wood
Myriospora smaragdula			●									●		●			●	
Amygdalaria pelobotryon									●									
Aspicilia caesiocinerea	●		●	●		●						●	●	●	●	●	●	
Baeomyces rufus						●				●				●	●	●		●
Amandinea punctata																	●	
Caloplaca citrina s. lat.																		
Candelariella vitellina f. *vitellina*	●		●		●				●	●	●	●	●	●	●		●	●
Clauzadea immersa											●							
Fuscidea praeruptorum			●												●			
Ionaspis lacustris															●			
Hypogymnia physodes												●						
Lecania erysibe s. lat.		●																
Tephromela atra var. *atra*			●															●
Protoparmelia badia			●												●			
Lecanora campestris subsp. *campestris*					●									●				
Myriolecis (Lecanora) dispersa									●	●					●			
Lecanora gangaleoides							●											
Lecanora intricata	●		●	●		●									●			
Lecanora polytropa	●	●	●			●			●	●	●	●	●		●		●	●
Lecanora soralifera	●		●	●										●	●			
Lecidea fuscoatra s. lat.			●												●			
Lecidea lithophila	●									●							●	
Lecidella scabra	●		●		●						●	●	●		●			●
Lepraria crassissima											●							

Current taxon name	Mill Cottage	Speedwell Vent	Pot-luck Sill	Waterswallows	Old Dam	Tideswell Dale	Litton Dale	Station Quarry	Knot Low	Masson Hill	Ible Sill	Newhouses Farm	Peter Rock	Calton Hill	Cave Dale	Sherbrook Lodge	Lees Bottom	Shaklow Wood
Lepraria incana s. lat.				●		●		●	●				●		●		●	
Micarea lignaria var. *lignaria*														●	●			
Ochrolechia androgyna				●	●		●				●							
Melanelixia fuliginosa													●		●			
Pertusaria corallina					●									●				
[most likely] *Porpidia cinereoatra*							●						●		●			●
Porpidia crustulata	●		●		●	●	●			●	●		●	●	●			●
Porpidia macrocarpa f. *macrocarpa*			●	●			●				●			●	●			
Porpidia soredizodes	●			●		●	●	●					●		●			
Porpidia tuberculosa			●		●		●					●	●	●	●		●	●
Psilolechia lucida															●			
Rhizocarpon reductum			●		●	●	●	●	●	●		●		●	●			●
Scoliciosporum umbrinum	●			●		●	●			●	●	●	●	●	●	●		
Stereocaulon nanodes			●															
Stereocaulon pileatum			●	●		●	●							●				
Toninia aromatica													●					
Trapelia coarctata		●					●		●	●								
Trapelia glebulosa			●		●	●									●			
Trapelia obtegens					●	●			●									
Trapelia placodioides						●				●	●				●		●	●
Verrucaria hochstetteri																	●	
Xanthoria parietina	●											●			●			

Nitrophilous Species

Acarospora fuscata	●		●		●							●		●	●		●	
Lecanora muralis			●					●							●			

Current taxon name	Mill Cottage	Speedwell Vent	Pot-luck Sill	Waterswallows	Old Dam	Tideswell Dale	Litton Dale	Station Quarry	Knot Low	Masson Hill	Ible Sill	Newhouses Farm	Peter Rock	Calton Hill	Cave Dale	Sherbrook Lodge	Lees Bottom	Shaklow Wood
Parmelia saxatilis s. lat.			●												●			
Phaeophyscia orbicularis															●			
Physcia adscendens												●		●				
Physcia caesia			●	●					●					●	●			
Physcia dubia														●				
Physconia grisea			●															
Physcia tenella	●																	

Associated Soil Species

Agonimia tristicula							●											
Buellia ocellata										●								
Cladonia chlorophaea s. lat.	●						●								●			
Cladonia fimbriata				●													●	
Cladonia rangiformis	●																	
Cladonia squamosa s. *l*at.														●				
Peltigera horizontalis																	●	
Peltigera membranacea	●																	
Peltigera polydactylon	●			●					●									

The New Forest Design Plan

One especially exciting piece of news in July was that Forestry England's (FE) Forest Design Plan (FDP) for the New Forest has been approved by Natural England, subject to a few clarifications of how the plan will be carried out in some specific areas[1]. This plan covers the Inclosures, areas of common land in which the various predecessors of FE back to the Office of Woods could, by right of acts of parliament, plant trees on parts of the Forest common land. Surviving statutory Inclosures date back to 1700, but most date from 1808 to 1870 (Stagg 1990 & 1992).

Burley Old Inclosure, enclosed in about 1700, this area shows lichen rich 18th century beeches, some 20th century regeneration filling a glade and a conifer plantation behind. The latter was created by felling old growth woodland in the 20th century. The plan is for it to be restored to pasture woodland as the conifer crops are removed. Photo © N.A. Sanderson.

Earlier Inclosures were small and had limited impact on the complex of heathlands and pasture woodlands of the New Forest commons and all of the 18th century

[1] The submitted FDP can be downloaded from this link: <https://www.forestryengland.uk/sites/default/files/documents/1%20New%20Forest%20Forest%20Plan%20Oct%202019.pdf>.

Inclosures were abandoned back to pasture woodland or heath. The post 1808 Inclosures were more efficiently maintained and after 1850, they were created at a much larger scale. The latter plantings were intended to devalue the New Forest common rights and hence facilitate the wholesale enclosure of the New Forest for tree growing. This strategy failed in the face of public campaigning resulting in the New Forest Act 1877, which stopped the creation of any more Inclosures (Tubbs, 2001). This act preserved the nearly 3000ha of surviving lichen rich pasture woodland that survives now, mostly outside of the Inclosures, but also some within. This habitat is among the richest lowland woods for lichens in Europe (Rose & James, 1974, Sanderson, 2010 and Vondrák *et al*, 2019). It is however, in a far more fragmented and broken up condition than it had been in 1808 (Sanderson, 2007).

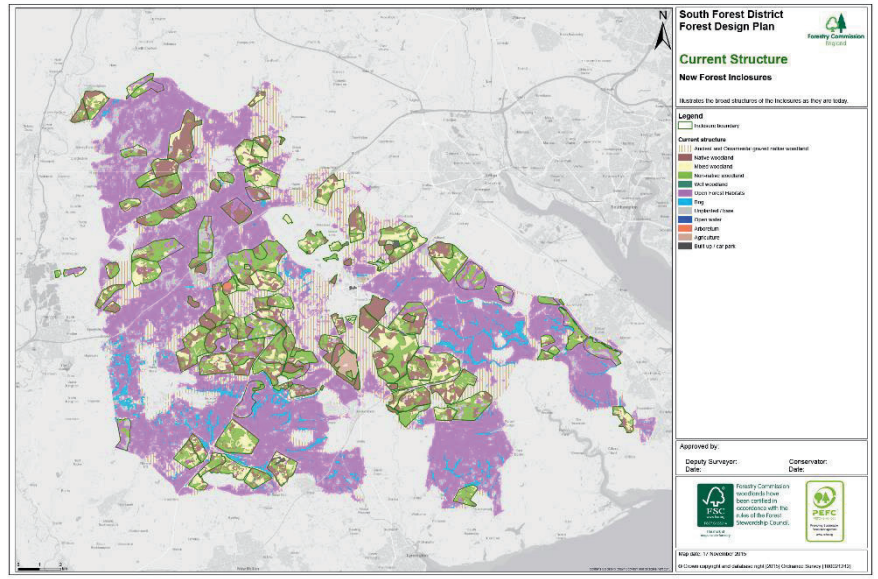
The New Forest FDP aims to reverse a great deal of the last 200 years of damage and this aspiration can be seen by comparing the Current Structure map with the Long Term Vision map from the FDP. There is significant expansion and consolidation of heathland but the major feature is the large scale and long term programme of relinking the fragmented old growth pasture woodlands (Ancient and Ornamental grazed native woodland in the Current Structure map, called Grazed Native Woodland in the Long Term Vision map). This is a massive undertaking and will take up to 300 years to be fully completed!! Planning for 300 years is ambitious, but woodland sown (not planted) in 1700 as oak woodland in South Bentley Inclosure, but little managed since, is now lichen rich old growth woodland, so we know this can work. Also, in many areas the restoration is not starting from ground zero; there are substantial areas of early 19th century oak plantations which are already well colonised by more mobile old woodland lichens (Wolseley *et al*, 2016). There are also occasional instances of rare and less mobile lichens appearing in these younger stands where they are close to undisturbed old growth woodland. The example of the abandoned 18th century Inclosures suggests that large scale colonisation by less mobile species can be expected over the next century in the 19th century stands.

The Inclosures within the plan cover 8536ha, of which 26% each (2,220ha) is indicated for restoration to heathland or pasture woodland. There is about 3000ha of old growth woodland in the New Forest, some of which is already within the Inclosures, so this would represent an increase to about 5000ha of pasture woodland, which is likely to be about the medieval area of pasture woodland. The 2,220ha of heathland will be added to about 15,000ha of heathland, so not quite so radical, but still important. The remaining 3,500ha of enclosed woodland includes large areas of conifer plantation but these will be phased out and the whole area will become managed native woodland (called Managed Native Woodland in the Long Term Vision map). This habitat is less likely to be very interesting for lichens but should become a major habitat for more grazing-sensitive wildlife, while also being productive woodlands.

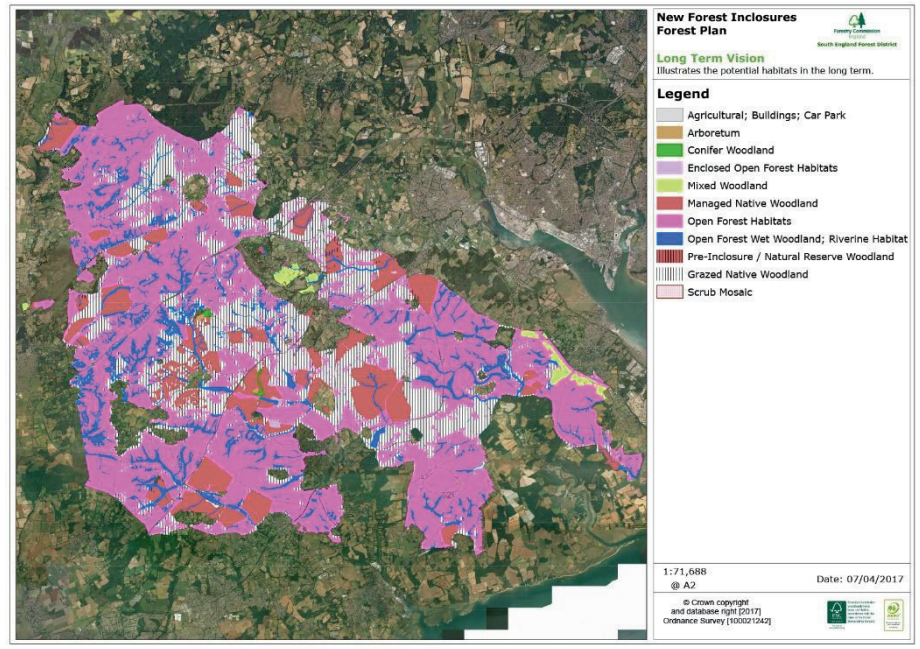
It is a shame Francis Rose did not live to see this; such a change from the 1960s when the then Forestry Commission was felling the old growth woodlands, something he witnessed and campaigned against.

Maps reproduced with the permission of Forestry England. (NB there is an error in the Long term vision key: "Open Forest Wet Woodland" also includes treeless bogs & other wetlands).)

Current Structure



Long Term Vision



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Lichenicolous fungi

Wondrous, tiny – and hard to get to know.

There appears to be quite a lot of interest in the fungi that grow on lichens – despite all the drawbacks of studying such a specialist group. Not only are the vast majority of these fungi really small so that they require a hand lens to spot them and a microscope to look at their features, but you can't go out and buy an identification guide to help you. They do seem to inspire fascination, though. Every Bulletin lists more species that have been added to the British Isles list – including this one.

Some of the species listed in this edition as 'new, rare and interesting' could be considered 'lockdown specialists'. They've quietly hidden away on lichens in collections, biding their time until circumstances offered their collectors time to catalogue and evaluate. Records have also turned up in gardens where the enforced presence of naturalists at home has led to the biggest ever cataloguing of garden wildlife. For example, *Didymocyrtis ramalinae* has been confirmed on *Ramalina farinacea* on a garden apple tree in Ceredigion. It's also present on the same tree on *Ramalina fastigiata* so, although this is the first known site for Wales, the species is probably widespread.

A very small number of lichenicolous fungi are identifiable with the naked eye *Illosporiopsis christiansenii* is one of them.

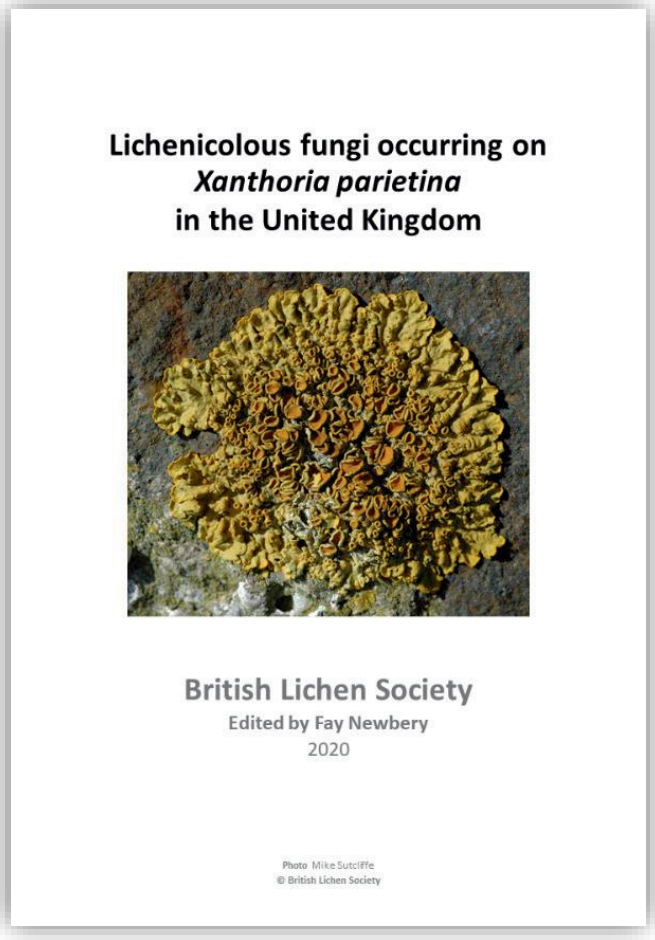
Illosporiopsis christiansenii forming pink 'blobs' packed with conidia and *Laetisaria lichenicola* producing a pink sheen, on *Physcia adscendens.* Photo © M.Powell

For those in-the-know, the exact shade of pink is distinctive but it does change after rain becoming more red and more translucent. There's a simple test, though. Add a drop of water to one of the fungus's pink blobs and it will appear to dissolve as the spores disperse into the water. There are a number of pink fungal structures that appear on lichens but this dispersal in water is unique amongst them. It's fun to use a microscope to look at the coiled spores of this fungus but, actually, it's not necessary for a reliable identification.

Members who were able to attend the AGM at the Royal Botanic Garden Edinburgh this February will have had the chance to look at a series of A4 sheets

describing a few of the UK's lichenicolous fungi. These were displayed to accompany specimens laid out by Heather Paul. There are now over 50 of these sheets prepared and work is underway to make them available via the BLS website. As a first 'taster', some of the descriptions have been pulled together into a small guide to the fungi on *Xanthoria parietina*. This will be available soon on the BLS website as a pdf download for use in file format or for home printing into a 20-page booklet. You can find a preview of the guide at:
https://drive.google.com/file/d/1k3Or3_oF7uNx2XmRWaS6vf9wQUWI1SzX/view?usp=sharing

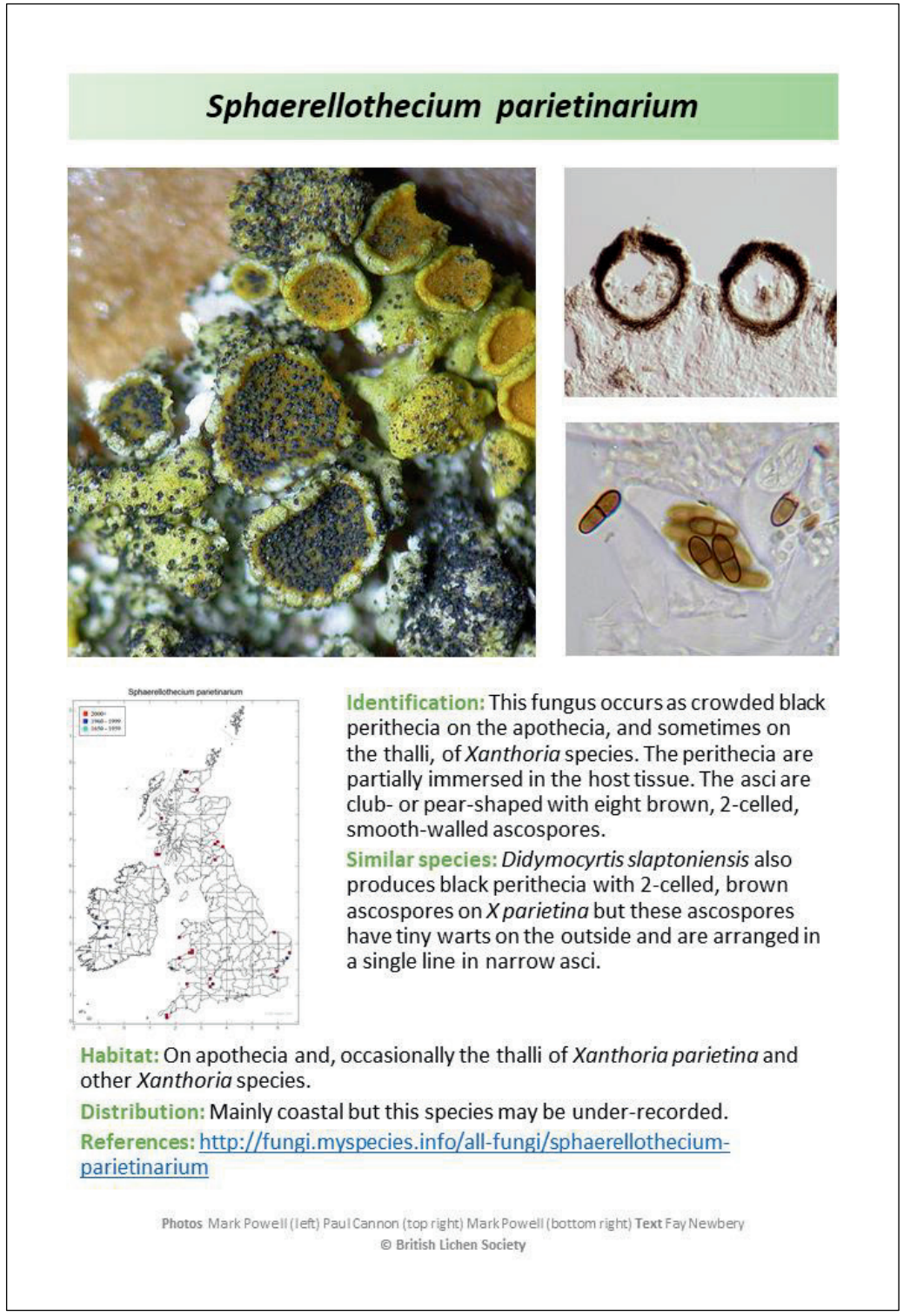
The guide includes a brief introduction, a key to lichenicolous fungi on this host and thirteen species descriptions.



Each species description includes:

- Photographs.
- A distribution map.
- Habitat notes, including a list of lichens the fungus grows on.
- A description written in language that avoids technical terms as often as possible.
- Notes on look-a-like species that may cause confusion.
- References for full scientific descriptions.

The description given should be enough to give a reliable identification but the references will enable lichenologists and mycologists to check all the features of a specimen.



Hopefully, this guide will encourage more people to look for, and record, these tiny examples of our country's biodiversity.

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Fissurina alboscripta

How did a couple of lichen novices come to record the most northerly instances of two uncommon lichens? We like exploring interesting habitats and Assynt in Sutherland, NW Scotland, has an abundance of these, many visited only infrequently. Although flawed, the NBN Atlas interactive maps (which include periodic data input from the BLS) give an idea of what to expect, including areas showing no records at all. One of these was a strip of coastal woodland growing on a SE facing slope overlooking a sea loch near Nedd which we visited in October 2019. It is close to the main Glen Leraig woods which are better recorded and which we'd visited several times. The steep vegetated boulders and outcrops at this new site made for tough going in places but this may have allowed the woods to survive over the years, deterring people and perhaps deer.

Rich lichen community on hazel. Photo © G. Richards.

We were impressed by the mature aspens and a few oaks, as well as old hazels some of which were huge and covered in *Pyrenula* species amongst other crustose lichens. Having read the Coppins' Atlantic hazel book and absorbed the photos a few years before, we knew to look closely at these trees and soon found lichen which looked

Fissurina alboscripta. Photo © C.Walker.

suspiciously like *Fissurina alboscripta* - lirellate with a white margin to the narrow apothecia and the thallus testing P+yellow. It was growing alongside lirellate *Melaspilea atroides* (looking like dense black scribblings) and *Thelotrema petractoides* (now *Crutarndina petractoides*). We took some bark slivers which Brian Coppins kindly examined and confirmed. He also found a few black apothecia of *Bactrospora homalotropa* which we'd not spotted. This and the *F. alboscripta* are new to Sutherland.

When Ian Evans, of the Assynt Field Club, visited the site with colleagues earlier this year further examples of *F. alboscripta* were found on other veteran hazels. He commented: "This must be one of the richest areas of native woodland in Assynt". We certainly found a lot of lichen interest there including *Sticta*, *Pseudocyphellaria*, *Pectenia* (*Degelia*) etc.

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Sycamore *Acer pseudoplatanus* as a host for lichens – especially in relation to ash dieback

1st Jan 2020: Brian Coppins pulled together from the BLS database, the number of lichen species recorded from sycamore:

Lichens 488
Lichenicolous fungi 52
'Honorary' lichens 9

For comparison, the BLS database found 550 lichens (excluding lichenicolous fungi) recorded from ash. To some extent, perhaps, these data may be a little skewed, as ash trees tend to be targeted and recorded more than sycamore.

Lichens of Conservation Importance (EN, VU) recorded from Sycamore, 1st Jan 2020 (update 2nd Feb, after *Lecanographa amylacea* was confirmed from sycamore at Arniston, during BLS Field Meeting following the AGM)

	No. times recorded on sycamore	status	UK
Anaptychia ciliaris subsp. *ciliaris*	116	EN, A2, NS, P	Eng, Wa
Bacidia incompta	16	VU, A, P	Eng, Sco, Wa
Bacidia subincompta	1	VU, C, D1, NS, P	Eng, Sco
Caloplaca flavorubescens	2	EN, A, NS, P	Eng, Sco, Wa
Caloplaca herbidella s.str.	1	VU, C, D1, NR, P	Eng, Wa
Caloplaca luteoalba	15	EN, A2, C1, NS, P	Eng, Sco, Wa, S8
Caloplaca virescens	2	EN, A, C, D, NS, P	Eng, Sco
Chaenotheca gracilenta	1	EN, D, NR, P	Eng, Sco
Collema fragrans	2	EN, A, C, NR, P	Sco, Wa, IR
Cryptolechia carneolutea	4	EN, A2, C1+2, D, NS, P	Eng, IR
Lecanographa amylacea	1	VU, C2, NS, P	Eng, Sco, Wa, IR
Lecanora quercicola	1	VU, D1, NS, P	Eng, Sco, Wa, IR
Leptogium saturninum	9	VU, C2, NS, P	Eng, Sco
Parmelia carporrhizans	14	VU, A, C1, NS, P	Eng, Wa
Physcia tribacioides	19	VU, C1, D1, NS, P	Eng, Wa, S8
Pyrenula nitida	2	VU, D2, NR, P	Eng
Schismatomma graphidioides	6	VU, B, D1, NS, P	Eng, Sco, Wa, IR
Sclerophora pallida	7	VU, C2, D1, NS, P	Eng, Sco
Teloschistes flavicans	30	VU A NS P	Eng, Sco, Wa
Varicellaria velata	6	VU B2, D2, NS, P	Eng, Sco, Wa, IR
20 lichens		EN = 7; VU = 13	

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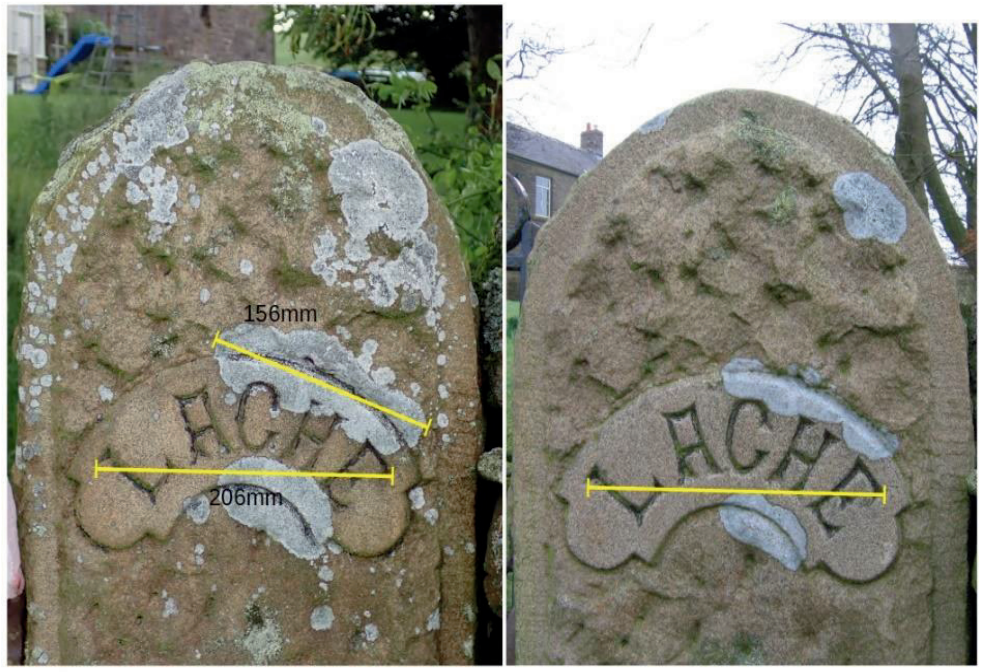
How does your Porp tube grow?

Whilst on one of my local lockdown dog walks in the Peak District I recalled that a few years ago I had taken a photograph of the lichen coverage on a pair of roadside stone gateposts and thought it would be interesting to see what growth had since occurred.

The gate posts are of a rough textured siliceous sandstone of the local millstone grit series of the Carboniferous period. They are the posts of a little-used pedestrian entrance to a remote upland farmstead situated on a narrow back-road that was once the old coaching road from Manchester to Buxton, and for those with the stamina, onwards to London. The posts are in a situation where they suffer little if any nitrification and in our nearly 40 years living here I do not recall the posts having been cleaned or otherwise doctored. Records of the farm name go back to the 1720s (Bellhouse, 1968) but there is no record of when the current house was built. By the appearance of the house it was probably built in the early-to-mid 1800s and it seems likely that the gate posts date from the same time. Since erection they will have been heavily impacted by atmospheric and particulate pollution from the industries of the Potteries and Manchester regions so much of the lichen growth may have occurred only in more recent decades.

The posts are at an altitude of 374 metres and face due west overlooking the Goyt Valley and are fully exposed to all the prevailing weather that can be thrown at them. The town of Buxton, 5.21 km (3.24 miles) away, annually records on average 171 rainfall days, and 1329.4mm (52.3") of precipitation (source www.weather-gb.com). The posts are slightly overhung by, but not shaded by, a mature sycamore (*Acer pseudoplatanus*).



8 July 2020 15 March 2008

2020 and 2008 scaled photographs of lichen coverage on the gate post used for measurement and comparison. Photos © Steve Price

After some searching I found the old photographs, taken 12 years ago in March 2008. New photographs were taken and several measurements of the front faces of the posts were made. The old photo of the right-hand post and the new one from July 2020 were set side-by-side to the same scale. Significant growth of *Porpidia tuberculosa* is obvious and the large number of small thalli that have developed in the 12 years is quite impressive. The increase in coverage of *Lecanora soralifera* is also noticeable but would be very difficult to measure from the photographs.

The left-hand post did not support the same obvious patches of lichen and those photos did not show enough detail to allow meaningful comparison.

Using a one-off free trial of Microsoft's 'sketchandcalc' the four distinct patches of *P. tuberculosa* were compared. The circumference, length, width and area of the obviously contiguous areas of thallus were measured. Measurements were also made of the contiguous areas plus the nearby 'satellite' thalli.

The results presented in the table below show increases in the contiguous areas of between 93% and 740% and of the contiguous areas plus satellite thalli of between 86% and 1427%. Interesting perhaps, and that was my hypothesis, but without data from other years not many conclusions can be drawn. Perhaps I will not wait another 12 years to re-photo and re-measure.

Porp tube patch		2008 contiguous patch	2008 contiguous patch	2020 contig. plus satellite	% increase in contiguous patch	% increase in contig. plus satellite
top left	circumf. (mm)	70	232	451	231%	544%
	length (mm)	33	73	105	121%	218%
	width (mm)	10	40	52	300%	420%
	area (mm^2)	192	1612	2931	**740%**	**1427%**
top right	circumf.	162	271	689.93	67%	326%
	length	58	79	131	36%	126%
	width	41	57	95	39%	132%
	area	1778	3550	6041	**100%**	**240%**
above 'Lache'	circumf.	330	407	496	23%	50%
	length	131	154	156	18%	19%
	width	35	58	56	66%	60%
	area	3086	6556	6657	**112%**	**116%**
below 'Lache'	circumf.	187	244	255	30%	36%
	length	70	89	88	27%	26%
	width	30	45	48	50%	60%
	area	1987	3825	3701	**93%**	**86%**

Reference

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Report on social media

What a year! We gather that there are plans to make 2020 a swearword, but we think this has happened already…

At the time of writing we can report good figures for followers on the social media accounts, with 3,738 followers on Twitter and 1,123/1,250 likes/follows on Facebook. Since the previous report of course we have had the imposition of lockdown and the resulting brain fog and frustration that this has led to. In early March, Simon lost his glasses as they were swept off his face in the winds of Storm Ciara and as yet he has

not been in a position to replace them. This with the brain fog has rather inhibited our input and response to IDs – although as of this week we have backup for this in place.

So what has this meant for lichens? It will be interesting if there have been changes in recording. What we have noticed is that, in spite of the figures, interaction has been well down. Excitement is not a word often used in this year. In March and April Mark Powell suggested a good challenge getting people to look for lichens close to their back door. Brain fog muted the response a bit but we did get some interest. There was a great deal of frustration in the days where travel was restricted.

Twitter used to be 'the place' for interaction, but it has been a tricky space to be in with a great deal of unwanted information spinning around. As the weeks have passed this has meant fewer actual responses. Facebook has, on the other hand, become quite chatty! My thoughts on this are that Facebook allows you to mute someone for 30 days so any settings aren't permanent and stressful, but just allow a breather.

Rich lichen community on rock at St David's Head, Pembrokeshire Sept 2020. © Sue Amos on Twitter.

In June we would have been roaming around looking for #30DaysWild lichens. Rebecca Yahr suggested we fill the void by sharing some of the photographs from Mike Sutcliffe's collection of British Lichens and this was well received, with some good responses. It may also have triggered some new records, we can but hope!

In July a new Facebook group started up for Scottish Lichens. This is independent of the society but is another positive addition to the list and we have been involved from the beginning. Some beautiful Scottish lichen photos have been a feature.

In September we have been running the second year of #lichenstory, focusing on stories about lichens instead of the stories that lichens can tell us. It turns out to have been easier to plan than to pull off, as we tiptoed around the subjects that cause rather widespread collection; the research was sobering to see how much collecting is done outside of conservation organisations! All part of education .....

We always like to hear from members about lichens they have found or stories they would like to share. Any lichen related announcements are always gratefully received, as are the good jokes!

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You have to admire their tenacity!

Members of the Cumbria Wildlife Trust were so inspired by April Windle's enthusiasm for lichens that they braved the wintry weather on a workshop she led last winter.

Verrucaria squamulosa

The garden of my friend, the Dutch painter, Cornelis le Mair, is quite overgrown and neglected and just the way he likes it. On the moss-covered terrace stands a set of metal garden furniture, the table-top being of concrete.

Table-top with *Verrucaria squamulosa* (below) Photo © P. van den Boom.

Verrucaria squamulosa, a species poorly understood, grows on the old concrete table-top. Some people in my country, The Netherlands, think that it is synonymous with *V. macrostoma*, but that is certainly wrong. In the UK it is accepted as a good species.

Another interesting feature in the famous painter's garden is an old iron bench which gives a home to several common lichens such as *Phaeophyscia orbicularis*, *Physcia adscendens*, *P. caesia*, *P. tenella* and *Xanthoria parietina.*

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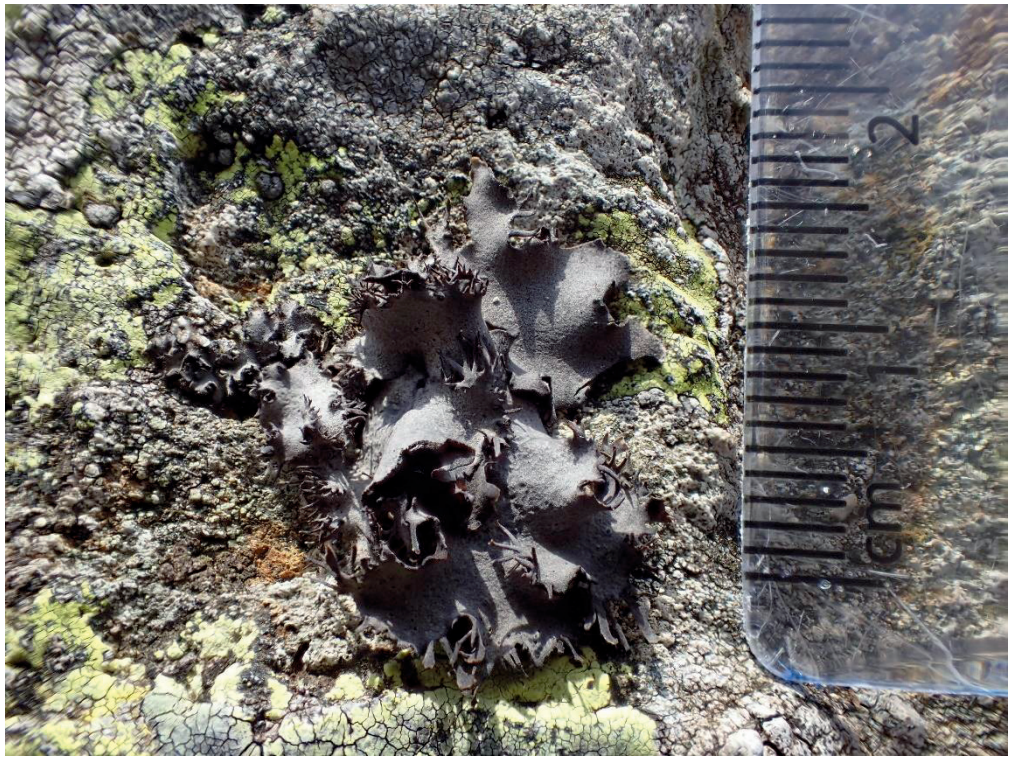
Growth of *Umbilicaria cylindrica* in the Cumbrian Fells

Umbilicaria cylindrica is but one of a number of arctic-alpine lichens occurring high (>450 m) in the Cumbrian Fells. There are currently over 100 sites for this lichen making it a widespread, and occasionally common member of the upland lichen flora of Cumbria. It is easy to find and identify, making it potentially useful for monitoring work. With this in mind, a convenient site was chosen to observe the growth rate of the lichen over a period of three years, 2017-2020.

The monitoring site was on St. Raven's Edge, standing above Kirkstone Pass (NY 406085). It was chosen for ease of access, being close to a fell path leading up from the Pass car park. The lichen was found on small crags of weathered andesite. The chosen

location was about 1 m above soil level with a north-easterly aspect and a slope of 20°. Associated lichens were *Lecanora intricata*, *Parmelia saxatilis*, *Pertusaria corallina*, *Tephromela atra* and *Rhizocarpon geographicum* agg. The altitude was close to 590 m.

Photographs of five thalli were taken in March 2017 and again in August 2020 with an adjacent transparent ruler for scale. In retrospect this was too long a period since



colony morphology changed substantially. Thalli were photographed dry and areas compared using tracings. Measuring the growth of this lichen is tricky and the main aim of this study was to test its feasibility. The thalli cannot be taken as plane surfaces and any estimates based on area are bound to include a considerable error. Nevertheless lessons can be learned by making approximations leading it is hoped to a more satisfactory way of undertaking measurements in the future. Results from three of the thalli are shown in the table below.

Thallus no.	Area cm^2 2017	Area cm^2 2020	Equivalent radial growth rate mm/year
1	0.87	1.00	0.11
2	0.66	1.31	0.56
3	1.61	1.79	0.11

Taken at face value, these rates are low for a lichen with a foliose morphology, approaching those of crustose lichens such as *Rhizocarpon geographicum*. The higher

estimate however is similar to that of the arctic-alpine *Allantoparmelia alpicola* measured by R. Corner on the North Pennines (Corner, 2001).

As previously mentioned, the morphology of the *Umbilicaria* changed significantly during the period of study. Several lobes or sections of thallus disappeared often to be replaced by others. Some of the resulting bare areas became colonized by an abundance of small lobular outgrowths, no doubt the early stages of fully developed lobes. It can therefore be assumed that individual lobe growth is more rapid than the overall radial growth estimates suggest, hence the need for more regular monitoring. Several thalli disappeared altogether over the period although the total population at this site remained about the same. This turnover of thalli reflects in part the harsh environment, with snow, ice and strong winds to contend with during winter. It is noteworthy that the lichen is uncommon on some of the Cumbrian summits where the rock type appears to be unsuitable. Summits of slate and shale in particular are not favourable for its development presumably due to physical factors. Perhaps the thalli cannot establish a firm footing on these softer/smoother rocks. The lichen does particularly well on granite where it can be abundantly fertile. The St. Raven's Edge population was sterile and andesite lavas do not appear to be particularly favoured.

There is much interest in the monitoring of the montane flora in Cumbria to assess the effects of climate change. For example, there was a detailed survey of the Cumbrian *Salix herbacea* sites a few years ago. Among the Cumbrian lichens, *Umbilicaria cylindrica* would appear to be admirably suitable and could supplement other biological monitoring programs.

Reference

Corner, R.W.M. (2001). Distribution of *Allantoparmelia alpicola*. *Bull. Brit. Lichen Soc.* **89**, 18-21.

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Aspicilia calcarea under attack

The photo overleaf I took a few years ago at Sand Point of *Heteroplacidium fusculum* with *Placopyrenium canellum* on *Aspicilia calcarea*. The poor old *A. calcarea* thallus is really struggling and a *Caloplaca* seems to have got in on the act too. It is quite a surprising image for the combination of such well-developed, unusual, lichenicolous lichens.

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The dying Gaul

A statue of "the dying Gaul" at Rousham Park, Oxfordshire - nudity decently clothed in lichens - with a view of a sizeable thallus of *Caloplaca aurantia* on its pedestal (see inset top right): diameter measurement suggests it probably started growing shortly after erection sometime around 1740. A suitable topic for some lichenometry?

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Post-AGM excursion to Arniston House, Midlothian, 2nd February 2020

The weather forecast for the 2020 post-AGM meeting was dreadful – heavy rain predicted all day. However, we were blessed: it rained on our journey to the site, stopped on our arrival, not to re-start until we were back at the cars preparing to leave. Unfortunately, a 45-minute delay in the appearance of a taxi, meant some standing around under brollies, but we used the time to chat about our finds of the day.

From left to right: Brian Coppins, Paul Cannon, Sandy Coppins, Janet Simkin, Pat Wolseley, Graham Boswell, Steve Price, Frances Stoakley, Jo Kruk, Margaret Chapman, Becky Williamson, Klara Scharnagl, Rebecca Yahr, Neil Sanderson, Carol Papion, Judith Allison, John Douglass. Photo © Judith Allison.

Our venue was Arniston House (NT3259) in Midlothian (VC 83), about 15 km south of Edinburgh city centre. The Arniston Estate has a long history. In medieval times it formed part of a royal hunting park and was at one time owned by the Knights Templar. In 1571 the estate was purchased by the Dundas family, who have been the owners ever since. Although there was an original house built in *c.* 1620, the present Arniston House was designed by William Adam and building carried out between 1726 and 1756. Adam also designed a rather formal park around the house, but this was made less formal by the landscape architect Thomas White in the 1790s, but with later tree plantings into the 19th century. To the west of the house and parkland, running in a roughly north-south direction, is the valley of the River South Esk, with most of its sides being wooded. The woodlands have been much modified, and partly

coniferised, but are certainly of ancient origin, and woodland is depicted here on the early maps, such as that of William Roy (1747–1755). Indeed, Arniston figures largely in the early history of landscape surveying (Hewitt 2010).

There are few records of Arniston lichens from earlier times, the first being that of *Caloplaca flavorubescens* by George Don in about 1805 (specimens in BM & E). Later, in 1856, William Lauder Lindsay collected *Megalaria grossa* and *Phlyctis argena* (specimens in E). Apart from a collection in 1956 of *Caloplaca luteoalba* by Douglas Henderson, there is a long break in records before local naturalist Adrian Sumner visited Arniston in 1985. Our 2020 visit refound all of Adrian's recorded species, apart from the often elusive *Tuckermannopsis chlorophylla* (on *Fagus*).

The lichens at Arniston, and the Lothians in general, would have quite seriously suffered the effects of industrial pollution between the late 19th to late 20th centuries. However, recovery for many species is evidenced today by the clothing of tree branches by *Usnea* spp. (mostly *U. wasmuthii* and *U. subfloridana,* but also some *U. dasopoga* and *U. hirta*), *Evernia prunastri* and other lichens.

Usnea subfloridana. Photo © J. Allinson.

The open parkland trees near the house had the expected range of species of *Physcia*, *Physconia* (a full set!) and *Pertusaria* species, etc., but also single occurrences of *Ochrolechia subviridis* and *Varicellaria hemisphaerica* on oak (*Quercus*), frequent *Bacidia rubella*, especially on oak and sycamore (*Acer pseudoplatanus*), and richly fertile *Caloplaca ulcerosa* on sycamores. Tree branches in the parkland had in addition to the very common species, abundant *Melanohalea elegantula* and *M. exasperata*, but curiously *M. exasperatula* and *M. laciniatula* were not to be found. While considering the 'parmelioids', *Punctelia* species were very scarce overall, but Steve Price found *P. subrudecta* on limes (*Tilia*) in an avenue. The two expected *Hypotrachyna* species (*H. afrorevoluta* and *H. revoluta*) were not seen at all, and *Parmotrema perlatum* only once on a fallen oak on the track down to the valley.

"*Buellia violaceofusca*" (green-algal morph of *Lecanographa amylacea*) on oak.
Photo © J. Allinson.

The most unexpected find of the day was made on an old sycamore in an area of woodland with mature trees just north of the house. This surprise was the *Trentepohlia*-containing morph of the normally regarded 'old oak specialist', **Lecanographa amylacea* showing as whiter thalli amongst abundant *Dendrographa decolorans* and *Opegrapha varia*. Interestingly, the green alga-containing morph of *L. amylacea*, **Buellia violaceofusca* (Ertz *et al*. 2018), was seen on two nearby oaks (photo previous page). The sycamore in question also hosted **Gyalecta truncigena*, *Chaenotheca hispidula* (also seen on a nearby oak), and *C. trichialis*. This last species was the commonest 'pin-head' found at Arniston, on several oaks, sycamores and larch (*Larix*), the next commonest being *C. ferruginea* on oaks. *Chaenotheca stemonea* was found (but without apothecia) on oak and sweet chestnut in this area, and on an oak on the slope down to the river, where fertile *C. furfuracea* was also encountered on two oaks.

Bactrospora corticola on oak. Photo © J. Allinson.

Other notable finds in this woodland around the north side of the house were: **Bactrospora corticola* (with abundant apothecia) on oak, while on a sweet chestnut (*Castanea*), an often disappointing tree lichenologically, Neil Sanderson recorded the only occurrences of *Chrysothrix flavovirens* and *Parmeliopsis hyperopta*, as well as *Lecidea nylanderi* (seen later on lignum). *Buellia disciformis* and *Graphis scripta* were seen for the only time on an old beech (*Fagus*) near the top of the slope down to the river.

Only a short section of the valley bottom was examined, and the wooded part was mainly of young trees and a few hazel (*Corylus*) stools as well as groups of supposedly planted yews (*Taxus*).

The hazels were rather disappointing, their stems dominated by *Arthonia didyma*, *Arthopyrenia salicis* and *Pertusaria leioplaca*, and a study of alders (*Alnus*) added **Lecanora hybocarpa* (seen elsewhere also on ash and beech), *Lepraria rigidula*, *Pertusaria pupillaris*, *Rinodina efflorescens* and *Stenocybe pullatula*. Near the sharp bend in the river (not quite in spate), John Douglass bravely extracted some small boulders from the river to reveal the aquatic pyrenocarpous lichens **Verrucaria aquatilis*, *V. hydrophila*, *V. praetermissa*

and **Hydropunctaria rheitrophila*: the two new VC records giving testament to how poorly studied this habitat is in Midlothian, and indeed in many other counties.

Moving downstream (north) a few of us came to a large, flat, open alluvial area with a few scattered trees and a largely silted up duck pond, with two close-by old shooting butts. The butts were luxuriantly colonised with, for example, *Bryoria fuscescens*, *Pseudevernia furfuracea*, *Hypogymnia physodes* (parasitised by *Pronectria anisospora*), *Hypocenomyce scalaris* (parasitised by *Clypeococcum hypocenomycis*), *Lecanora conizaeoides*, *Lecidea nylanderi*, *Ochrolechia microstictoides*, *Scoliciosporum umbrinum*, *Violella fucata*, and the pin-head *Calicium glaucellum*. Of special note was a single thallus of *Acolium* (*Cyphelium*) *inquinans*, a species much declined in southern Scotland owing to an increasing dearth of old timberwork. Corticolous and lignicolous *Cladonia* species were not very evident on the day, but the butts had abundant *C. polydactyla*, along with *C. macilenta*, a clump of *C. cornuta* and a single 'sprig' of *C. portentosa*.

Contemplating a monument – already given the once over by John Douglass. Photo © Carol Papion.

Stonework of the house, walls and of a small monument in a ride is mainly of sandstone. This was little studied, although a 'starter' list of 24 species was made.

The total list for the excursion was 177 taxa. Our tally of 19 lichenicolous fungi included many of the usual suspects, but new to Midlothian were **Lichenodiplis lecanorae* (in apothecia of *Rinodina sophodes*), **Kalchbrenneriella cyanescens* (on *Usnea wasmuthii*) and **Xenonectriella subimperspicua* (on moribund *Parmelia sulcata* on a beech trunk). Much is left to explore in the parkland and even more so in the valley woodland, such that many more species can be expected to be found here.

Acknowledgement

We are most grateful to Henrietta Dundas-Bekker for allowing us to park by the house and for giving us almost free-rein around the parkland and the woods. And thanks of course to our new President Becky Yahr for organizing what turned out to be a such splendid day.

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Species list for Arniston Park & Woods (Codes as in BLS recording spreadsheet)

* - Species new to VC 83, Midlothian

Taxon name	Status	Substrate	Small scale habitats
Acrocordia gemmata	LC L*	Cort	CAp
Agonimia tristicula	LC	Cort	CAp
Amandinea punctata	LC	Cort	CQ
Anisomeridium biforme	LC	Cort	CAp
Arthonia didyma	LC	Cort	Cal,CAp,Cco,CFg
Arthonia punctiformis	LC	Cort	CFg,CTw
Arthonia radiata	LC	Cort	CFg,CFx,Cix,CQ,CTw
Arthonia spadicea	LC	Cort	CQ
Arthopyrenia analepta	LC	Cort	CCt,CTw
Arthopyrenia salicis	LC	Cort	CCo,CFx
Bacidia rubella	LC	Cort+Bry	CAp,CFg,CQ
Bactrospora corticola	LC NS	Cort	CQ
Baeomyces rufus	LC	Sax	
Bilimbia sabuletorum	LC	Sax+Bry	PW
Bryoria fuscescens	LC	Cort+Lig	CAp,CQ,CTb,LWT

Buellia disciformis	LC	Cort	CFg
Buellia griseovirens	LC	Cort	CFg
**Buellia violaceofusca*	NT NR P Eng Sc IR	Cort	CQ
Calicium glaucellum	LC	Lig	LWT
Calicium viride	LC	Cort	CQ
Caloplaca cerinella	LC	Cort	CAp
Caloplaca citrina s. lat.	LC	Sax	PB
Caloplaca limonia	LC	Sax	PW
Caloplaca ulcerosa	LC	Cort	CAp
Candelariella xanthostigma	LC	Cort	CAp
Candelariella vitellina f. *vitellina*	LC	Sax	SSd,PB
Chaenotheca ferruginea	LC	Cort	CQ
Chaenotheca furfuracea	LC	Cort	CQ
Chaenotheca hispidula	LC NS	Cort	CAp,CQ
Chaenotheca stemonea	LC NS	Cort	CCs,CQ
Chaenotheca trichialis	LC	Cort	CAp,CLx,CQ
Chrysothrix candelaris	LC	Cort	CAp,CCs,CQ,CCf
Chrysothrix flavovirens	LC	Cort	CCs
Cladonia coniocraea	LC	Cort	CQ
Cladonia cornuta	LC	Lig	LWT
Cladonia humilis	LC	Sax	PW
Cladonia macilenta	LC	Lig	LWT
Cladonia polydactyla var. *polydactyla*	LC	Cort+Lig	CQ,LWT,LTx
Cladonia portentosa	LC	Lig	LWT
Cladonia pyxidata	LC	Cort+Sax	CAl,PW
Cliostomum griffithii	LC	Cort	CQ,CCs
Cyphelium inquinans	LC	Lig	LWT
Dendrographa decolorans	LC	Cort	CAp,CFg,CQ
Diploicia canescens	LC	Cort	CAp,CQ
Diplotomma alboatrum	LC	Sax	PB,SSd

Evernia prunastri	LC	Cort	CAl,CAp,CFg,CCf,CQ,CTi
Fuscidea lightfootii	LC	Cort+Lig	CAl,PGt,CTi,CTw
Graphis scripta	LC	Cort	CFg
Gyalecta truncigena	LC	Cort	CAp
**Hydropunctaria rheitrophila*	LC NS	Sax	Aq
Hypocenomyce scalaris	LC	Cort+Lig	CQ,LWT,LTx
Hypogymnia physodes	LC	Cort+Lig	CFg,CQ,CCf,CTi,LWT
Hypogymnia tubulosa	LC	Cort	CFg,CTw
Jamesiella anastomosans	LC	Lig	LTs
Lecanactis abietina	LC	Cort	CQ
Lecania cyrtella	LC	Cort	CAp
Lecania cyrtellina	LC	Cort	CAp
Lecania hutchinsiae	LC	Sax	SSd
Lecania naegelii	LC	Cort	CAp
**Lecanographa amylacea*	VU C2 NS P Eng Sc Wa IR	Cort	CAp
Lecanora albescens	LC	Sax	PW
Lecanora argentata	LC NS	Cort	CFx
Lecanora campestris subsp. *campestris*	LC	Sax	PB,PWs,SSd
Lecanora carpinea	LC	Cort	CAp,CFg,CTw
Lecanora chlarotera	LC	Cort	CAp,CFg,CFx,CQ,CTi
Lecanora compallens	LC NS	Cort	CAp
Lecanora conizaeoides f. *conizaeoides*	LC	Lig	LWT
Lecanora expallens	LC	Cort+Lig	CAp,CFg,CQ
Lecanora hagenii	NE	Cort	CAp,CTi,CTw
**Lecanora hybocarpa*	NE NR	Cort	CFg
Lecanora intricata	LC	Sax	SSd
Lecanora persimilis	LC	Cort	CTw
Lecanora polytropa	LC	Sax	SSd
Lecanora pulicaris	LC	Cort+Lig	CAl,CTb,CLx,CTw,PGt,
Lecanora symmicta	LC	Cort	CTb

Lecidea nylanderi	LC NS	Cort+Lig	LWT, CCs
Lecidella elaeochroma f. *elaeochroma*	LC	Cort	CFg,CTi,CFx
Lecidella stigmatea	LC	Sax	PB,PWs,SSd
Lepraria finkii	LC	Cort+Sax	CFx,PB
Lepraria incana s. str.	LC	Cort+Sax	CCs,CLx,CQ,SSd,PB
Lepraria rigidula	LC	Cort	CAl
Leptogium teretiusculum	LC L*	Sax+Bry	PW
Melanelixia glabratula	LC	Cort+Lig	Cal,CAp,CBt,CFg,CQ,LFp
Melanelixia subaurifera	LC	Cort+Lig	CAp,CCf,CFg,Cti,CTw,LWT,PFr
Melanohalea elegantula	LC	Cort	CFg,CCf,CTb,CQ
Melanohalea exasperata	LC	Cort+Lig	CFg,CQ,CTb,PFr,Cti
Micarea denigrata	LC	Lig	PFr
Micarea peliocarpa	LC	Lig	PFr
Micarea prasina s. lat.		Lig	LQ,LTr
Ochrolechia microstictoides	LC	Lig	LWT
Ochrolechia subviridis	LC	Cort	CQ
Ochrolechia turneri s. str.	LC	Cort	CAp
Opegrapha atra	LC	Cort	CAp
Opegrapha herbarum	LC	Cort	CAp,CFx
Opegrapha multipuncta	LC	Cort	CQ
Opegrapha niveoatra	LC	Cort	CFg
Opegrapha ochrocheila	LC	Cort	CAp
Opegrapha rufescens	LC	Cort	CAp
Opegrapha varia	LC	Cort	CAp,CTi,CSm
Opegrapha vulgata	LC	Cort	CAp,CFg,CFx
Opegrapha vermicellifera	LC	Cort	CAp
Parmelia saxatilis s. lat.	LC	Sax	SSd,PB
Parmelia sulcata	LC	Cort+Lig	CAl,CAp,CCs,CFg,CQ,CTi
Parmeliopsis hyperopta	LC	Cort	CCs
Parmotrema perlatum	LC	Cort	CQ,CTb

Peltigera hymenina	LC	Bry+Lig	
Peltigera praetextata	LC	Cort+Bry+Lig	CAp
Pertusaria albescens var. *albescens*	LC	Cort	CAp,CQ,CTb
Pertusaria albescens var. *corallina*	LC	Cort+Sax	CQ,SSd
Pertusaria amara f. *amara*	LC	Cort	CAl,CAp,CQ,CFg
Pertusaria hymenea	LC	Cort	CQ
Pertusaria lactescens	LC	Sax	SSd
Pertusaria leioplaca	LC	Cort	CCo,CFg,CFx
Pertusaria pertusa	LC	Cort+Sax	CAp,CFg,CQ,CTi,SSd
Pertusaria pupillaris	LC	Cort	CAl,CAp,CQ
Phaeophyscia orbicularis	LC	Cort	CAp,CTi
Phlyctis argena	LC	Cort	CAp,CCo,CFg,CQ
Phylloblastia inexpectata	LC NS	Fol	FRh
Physcia adscendens	LC	Cort	CAp,CTw,CTi
Physcia aipolia	LC	Cort	CAp,CFg,CTw
Physcia stellaris	LC	Cort	CFg,CTw,CTi
Physcia tenella	LC	Cort	CAp,CFg,CTw
Physconia distorta	LC	Cort	CAp,CTi
Physconia enteroxantha	LC	Cort	CAp
Physconia grisea	LC	Cort	CAp
Physconia perisidiosa	LC	Cort	CQ
Platismatia glauca	LC	Cort	CAl,CAp,CFg,CTb,CQ
Porina aenea	LC	Cort	CFg,CTw
Porpidia tuberculosa	LC	Sax	CFg,CTw
Pseudevernia furfuracea var. *ceratea*	LC	Cort+Lig	LWT
Psilolechia lucida	LC	Sax	SSd,PB
Punctelia subrudecta s. str.	LC	Cort	CTi,CTb
Pyrrhospora quernea	LC	Cort	CCs,CFg,CQ
Ramalina farinacea	LC	Cort	CAp,CFg,CQ,CTi
Ramalina fastigiata	LC	Cort	

Ramalina fraxinea	LC Sc IR	Cort	CAp
Rinodina efflorescens	LC NS	Cort	CAl,CTb
Rinodina sophodes	LC	Cort	CFg,CTw,CTi
Scoliciosporum umbrinum	LC	Lig	PFr
Stenocybe pullatula	LC	Cort	CAl,CTw
Tephromela atra var. *atra*	LC	Sax	PB,SSd
Trapelia coarctata	LC	Sax	SPe
Trapelia placodioides	LC	Sax	SSd,PB
Trapeliopsis flexuosa	LC	Lig	PFr,PGt,LTs
Usnea dasopoga	LC	Cort	CFx
Usnea hirta	LC	Cort	CTw
Usnea subfloridana	LC	Cort	CAp,CFg,CCf,CTb,CQ
Usnea wasmuthii	LC NS	Cort	CAp,CFg,CCf,CTb
Varicellaria hemisphaerica	LC L*	Cort	CQ
**Verrucaria aquatilis*	LC	Sax	Aq
Verrucaria hydrophila	LC	Sax	Aq
Verrucaria nigrescens f. *tectorum*	LC	Sax	PB
Verrucaria praetermissa	LC	Sax	Aq
Verrucaria viridula	LC	Sax	PW,SMo
Violella fucata	LC	Cort+Lig	CAl,LWT,PGt
Xanthoria parietina	LC	Cort	CAp,CFg,CTw,CTi
Xanthoria polycarpa	LC	Cort	CFg,CQ,CTw,CTi
Xylographa vitiligo	LC	Lig	CTx
Lichenicolous fungi			
Biatoropsis usnearum	LC	Lic	Z1540
Briancoppinsia cytospora	LC NR	Lic	Z0511,Z0582,CFg
Clypeococcum hypocenomycis	LC	Lic	Z0578,LWT,CCs
Cornutispora lichenicola	LC	Lic	Z0511
Erythricium aurantiacum	LC	Lic	Z1120,CFg,CTw

Heterocephalacria physciacearum	LC NS	Lic	Z1120,CFg,CTw
**Kalchbrenneriella cyanescens*	LC	Lic	Z1540
Lichenochora obscuroides	LC NR	Lic	Z1107,CAp
Lichenoconium erodens	LC	Lic	Z0511,Z0852,Z1022,Z1298
**Lichenodiplis lichenicola*	NE NR	Lic	Z1298
Lichenostigma maureri	LC NR	Lic	Z0511,Z1540
Marchandiomyces corallinus	LC	Lic	Z1022,CFg,CTb
Muellerella lichenicola	LC	Lic	Z0614,CAp
Pronectria anisospora	LC NS	Lic	Z0582,LWT
Taeniolella phaeophysciae	LC	Lic	Z1107,CAp
Unguiculariopsis thallophila	LC NS	Lic	Z0639,CTi,CTw
Vouauxiella lichenicola	LC	Lic	Z0639,CAp
Xanthoriicola physciae	LC	Lic	Z1530,CFg,CTb
**Xenonectriella subimperspicua*	NE	Lic	X1022,CFg,CTr

Ben Alder: the inaugural meeting of the Montane Lichen Group

How the Montane Lichen Group came about; a bit of history

In 2015 Peter & Jill Lambley hosted a Lost & Found Fungi meeting in Cornwall. Maxine Putnam, Paul Cannon and I were present. Over dinner one night Paul was going through things he would like to see happen in the Society when he became President. One of his ideas was the setting up of specialist groups. I said I liked the idea of a Mountain Lichen Group and Paul indicated that I should get on with it.

Why a Montane Lichen Group?

The mountain regions of the UK are unique in a number of respects; because of the latitude they have an arctic element and their height although modest gives them a montane element too. These attributes, combined with a high degree of oceanicity, make the lichens of the UK special even on a world stage. For details of the above see Ratcliffe & Thompson (1988), Barry (1992) & the excellent account by Fryday (1997) in his thesis.

The unique climatic conditions for lichens make the mountains of the UK equally difficult to work and record in; the wind can be ferocious, precipitation intense and unpredictable and the temperatures extreme. The topography is very variable due to the great diversity of bedrock, the surface of which has been modified by glacial, periglacial and fluvial processes, and in many areas topped off by a covering of peat.

The Ben Alder Expedition Team

The team members from left to right: Richard Brinklow, Caz Walker, Raymond Griffith, Graham Boswell, Rebecca Yahr and Oliver Moore. Andy Acton & John Douglass were part of the original team but were unable to join us.
Photo © G. Bowman.

Why Ben Alder?

Ben Alder is a remote range of mountains with few lichen records other than for the immediate area round Corrie Cheap and in particular Sron Gharbh (Rough Nose) where the Kinlochlagan limestone and epidiorite outcrop.

Venue and Location

Our venue was Culra Lodge, remotely set in Allt a' Chaoil-reidhe Glen (NN 521761) at an altitude of 470m in the Ben Alder Forest, a forest with only one lone mature rowan and a few saplings of the same species! The Lodge is situated only 200m from but well hidden from the better known but much less salubrious Culra Bothy, used by previous visiting lichenologists; there is an excellent image of Culra Bothy in the *Lichen Hunters* (Gilbert 2004).

The Lodge is only accessible on foot/bike unless you have access to a 'high-off-the-ground' vehicle or flight mode! The inaccessibility is caused by the sometimes impassable ford where the Allt a' Chaoil-reidhe meets Loch Pattack. Luckily for us Ginnie the property manager and Ross the head keeper ferried us and all our supplies in and out with the estate's high specification vehicles. The Lodge is well appointed with 3 bedrooms, an IKEA kitchen, 3 toilets, 2 showers, a lounge/microscope room, a dining hall/meeting room and of course a drying room. Outside there is a 15KW wind turbine and a back-up generator. We were really roughing it!

Objectives

Our objectives were fourfold:

Culra Bothy, looking west on to Knife Edge (Sgur Luthern); our accommodation Culra Lodge is hidden behind the mound, roof just in view with the wind turbine to the right. Photo © R. Griffith.

1. Relocate and assess the population viability of some iconic species
2. Record in previously unrecorded locations (most previous efforts have been concentrated on Corrie Cheap)
3. Seek out other limestone outcrops in the area
4. Educate a new generation of lichenologists through trickling down knowledge and best practice

The above objectives were agreed with The Lost & Found Fungi project which partly funded the expedition.

Methodology

Each day we planned an intended route which had to be flexible in order to accommodate the unpredictable weather, the nature of the terrain, deer stalking activities, unexpected incidents and varying levels of physical capability.

We decided not to collect in the well recorded area around Rough Nose in Corrie Cheap. Limited collecting was undertaken in all other areas, with well known and iconic species not being collected even when abundant. GPS locations were taken for all locations where we spent some time recording and for all interesting finds. Care was taken when entering a new monad to make sure it was recorded. Specimens requiring microscopic investigation or verification were collected.

Surveying in such a remote location requires a little forward planning. We would be on-site for a week without access to further supplies. A menu was agreed beforehand and quantities calculated! In addition to our nutritional requirements we had to consider the equipment required for the collection and identification of specimens along with the mountaineering kit to protect us from the elements.

Permission for access and collection were agreed with the estate via Ginnie Bowman and Ross Dakers and with Scottish Natural Heritage (SNH) via Dave Genney. Andy Acton had carried out the last survey of the area for SNH and provided copies of his excellent report. Janet Simkin and Brian Coppins provided the up-to-date lists for the area. Other information was gleaned from the literature.

Day by day summary

Day 1 (7th September) involved meeting up and getting to the site as well as some introduction of those members who knew names but not faces. We also had to get to grips with the working of the Lodge; most of us were not familiar with the working of wind turbines and generators but luckily once up and running no further tweaking was required.

Day 2 (8th September) The five of us (Becky was arriving later in the day) set out to explore Carn Dearg (1034m), Diollaid a' Chairn (925m) and then up on to Gael Charn (1107m) via the East ridge of Corrie Cheap. Our first serious stop was just over 700m on an area of wind-clipped heath. The terricolous species included *Ochrolechia frigida, Thamnolia vermicularis, Pycnothelia papillaria* and a good number of *Cladonias.* The few boulders in the area had a good covering of *Parmelia omphalodes, P. saxatilis* as well as a number of *Porpidias* and of course *Rhizocarpon geographicum.*

Next stop was the summit area of Carn Dearg, well in to *Umbilicaria* territory. *U. cylindrica* and *U. proboscidea* were in abundance, and other mountain lovers on these siliceous rocks included *Allantoparmelia alpicola, Pseudephebe pubescens, Melanelia hepatizon, Lecidoma demissum* and *Fuscidea kochiana*; all would become common finds over the coming week. We then headed on to the steeper ground of the east ridge of Corrie Cheap, where we had our first encounter of the week with *Solorina crocea.* Twenty or more patches were present on the damp areas where snow hangs on late in the season. *Placopsis gelida* agg. was also in abundance.

The weather closed in as we headed on to the plateau of Meal Gharn, a featureless place to navigate when the mist comes down. The mist did not deter us from some

hands and knees work; *Schaereria cinereorufa* and *S. fuscocinerea, Ephebe lanata* and *Miriquidica leucophaea* were all added to the list. As the mist clung on we decided to head for home via Sgor Lutharn (Curved Knife, 1028m). Unfortunately the team got separated in the mist due to a spot of impromptu lichenising, and we eventually found each other on the slopes of Sgor Lutharn. As we headed east the ridge of the said peak got steep and even steeper. Oliver had spoken of 'white knuckle' lichenising! A discussion ensued and we decided to find another route; unfortunately Raymond had gone ahead down a slab that some did not fancy so it was agreed that the team should split and we later met up again in Bealach Dubh. Back at the Lodge Becky had arrived and had already made some progress towards feeding the hungry intrepids! The evening was typical of most evenings to follow, consumed by ID, drying specimens, domestics and preparations for an early start the following day and, ho yes, a tipple.

Day 3 (9th September) We headed back up Allt a' Chaoil-reidhe and then stomped the soggy ground up to Lochan Sgoir. The wet peaty ground and boulders on the north side of the loch were rich in most of the species we had found on the previous day. This site was however a stronghold for *Umbilicaria deusta* which we had not seen before and which Andy Acton had recorded in Loch Corrie Cheap in 2013.

There were also good populations of *Pycnothelia papillaria, Cetraria islandica, Cladonia strepsilis* and *Protoparmelia badia.* From here we headed up the steep heathery slope and over Dioilaid a' Chain to access Corrie Cheap, where Becky quickly spotted *Stereocaulon leaucophaeopsis* and *Rhizocarpon alpicola* as well as *Bryobilimbia hypnorum.*

Catolechia wahlenbergii, a spectacular but rare species, mostly above 900m, here flourishing in Corrie Cheap. Photo © G. Boswell.

We lunched in full view of Rough Nose, our prize for the day. Our first encounter with the Dalradian limestone was the boulder-strewn gully south and east of the main cliff. The boulders were a soft pink with *Hymenelia epulotica* and *Sagiolechia protuberans.* The limestone is highly metamorphosed and better known as sugar limestone. The boulders also had good populations of *Protoblastenia rupestris* and *P. incrustans. Peltigera canina* was plentiful between the boulders.

We moved on to the main cliff where we agreed not to collect from the limestone or epidiorite but rather to dash from place to place with our eyes wide open, cameras pinging. *Fulgensia bracteata* was unmistakably abundant and the other 'yellow star' was *Catolechia wahlenbergii* with dark as opposed to orange fruits. *C. wahlenbergii* was also found on the ridge on the opposite side of the gully, both previously recorded by Andy in 2013.

Catapyrenium and three *Solorinas* were also found at this site. A much more detailed account of this site is given in Gilbert (1982) and in two more recent reports compiled by Andy for SNH. It would be amiss of me not to mention other botanical interests of the site. The broad ledges were covered in four dwarf willow species and the narrower ledges supported abundant communities of bryophytes.

Day 4 (10th September) We intended to search for further limestone. The Dalradian limestone on the geological map stretches 12 kms from Aonach Beag north and east to the exposure at Rough Nose and then through Loch a' Bhealaich Leanhain up on to Geal Charn. We decided to search the cliffs around Loch a' Bhealaich Leanhain hoping to spot the distinctive pink colour we had observed at Rough Nose against the more characteristic grey colour of the siliceous rocks. In the event we did not find a calcareous outcrop. Oliver did however spot extensive patches of Curled Hook Moss, *Palustriella commutata,* an indication of calcareous flushing, but this was not convincingly backed up by the lichen community although we did find *Caloplaca luteoalba*. This area did throw up other interesting species*, Psoroma hypnorum, Toninia squalescens, Parmelia discordans* and *Pertusaria oculata* and was the only area where we found *Peltigera polydactylon* and *Rhizocarpon infernulum.*

Our activities were a little restricted for part of the day because of a deer shoot on the southern slopes of Beinn a' Chlair and on the advice of the ghillie we headed to the ridge staying to its north side to avoid close encounters with the guns! We took in several other sites including the summit enabling Raymond and me to bag another Munro!

Day 5 (11th September) The day turned out to be very wet as predicted so provided a good opportunity to stay home and consolidate. Caz and Raymond were on a steep learning curve and Becky delivered some excellent teaching. During the drier spells we emerged to top up the lists for the local monads, being only 65m from the boundary of the 2 squares.

Day 6 (12th September) We intended to head back in the region of Corrie Cheap and to take in Aonach Beag en route but unfortunately Richard lost his sole (luckily it was

only the sole of his boot!) Richard had to return to Glen Alder Lodge to fetch his spare pair of boots and on his way back made some records in another four 1km squares. We changed our plans and turned south to Ben Alder and her sister summit Beinn Bheoil.

Our change of heart turned out to be a good plan although we did not think so at the time as we trudged uphill in wind, rain and mist. Within a couple of hours we reached a snow bed at about 900m and the mood changed. Becky and Oliver went into overdrive with a whole list of new names; *Lecanora formosa, L. leptacina, L. frustulosa, Catillaria contristans, Lecidea phaeops, Lithographa tesserata, Miriquidica pycnocarpa* f. *sorediata* and *Cladonia trassii*. In addition to the rarities and snow bed specialists there were the usual mountain lichens that we were becoming more familiar with. From the snow bed we headed towards the summit finding more patches of *Solorina crocea* and good *Stereocaulon spathulitherum* along with an abundance of *Lichenomphalia alpina* and *L. hudsoniana.* On reaching the trig point the clouds dispersed and we found *Lecanora dispersa* on the concrete at 1148m, its only location all week.

Stereocaulon spathuliferum, a Nationally Scarce species with globular terminal soralia on the lateral branches, found on Aonach Beag & Corrie Cheap. Photo © R. Yahr.

From here on it was 'plain-sailing' with no more micro navigation required to avoid steep drops. We continued recording in cool but sunny conditions. On reaching

Bealach Breabag we decided to split, Oliver and I taking in Sron Coire na Hlolaire and Beinn Bheoil while Becky, Caz and Raymond recorded squares down Bealach Beithe on the way back to the Lodge. Both groups compiled good lists without coming up with new findings.

Day 7(13th September) Our objective on this our final day in the field was Beinn Eibhinn and Aonach Beag hoping to return via Corrie Cheap and give Richard a close

Cladonia trassii in the snow bed community on Ben Alder. Photo © R. Yahr

encounter with the rarities on Rough Nose. Becky, Caz and Raymond stayed at the Lodge catching up with ID, some more learning and local recording. Oliver, Richard and I headed back up the now familiar track of Bealach Dubh over the col and then a long tedious traverse in to Coire a' Charra Bhig. I headed west to record the top of Beinn Eibhinn while Oliver and Richard followed the ridge to the summit of Aonach Bearg. The summit rocks and turf of Beinn Eibhinn yielded the usual mountain community for siliceous rocks including good populations of *Melanelia hepatizon.* The ridge back to Aonach Bearg had wonderful orange patches of *Solorina crocea* all along the recently melted cornice line at the head of the corrie. I met up with Richard and Oliver on the top of Aonach Bearg, where the list was more extensive and included *Micarea turfosa, Lecidoma demissum, Protomicarea limosa* and the much rarer *Stereocaulon alpinum* plus more *Solorina crocea.* While on Aoach Bearg we had a good search for the limestone reported by Oliver Gilbert in his paper of 1986 but found none.

We headed to our final objective and tracked north back to the top of Rough Nose. It is here that the Kinlochlaggan limestone transitions to the epidiorite and then acid schists. Richard was not disappointed with his first visit to this iconic site in spite of the very strong winds. *Fulgensia bracteata* was just as abundant as on the main cliff below us. In addition was the attractive *Lecanora epibryon* on the dwarf willow stems and close by *Pannaria hookeri* along with *Pertusaria glomerata* and *P. oculata.* Oliver then introduced us to *Brigantiaea fuscolutea* with its golden fruits. There were many other species of interest at this site but the fact that we were not collecting made critical ID impossible.

Fulgensia bracteata, although a rare species nationally, the egg-yellow rosettes are abundant at this site. Photo © C.Walker.

Previous Recording

The botanical interest of the site was discovered by Derek Ratcliffe in the late 1950s. The first lichens were collected by David Walkinshaw in 1964 most of which were identified by Peter James. In 1974 Oliver Gilbert made a brief visit. In 1980 Pauline Topham visited the area and extended the list. The first thorough survey was undertaken by Oliver Gilbert, William Purvis and Brian Fox in 1981. Vince Giavarini paid visits in 1985 and 1995, and Alan Fryday and Steve Chambers in 1994. Dave Genney added a few records in 2010 and Jenny Ford added records for the area in 2015, which did not include the limestone outcrop at Rough Nose. For a history of recording in the UK mountains in general see Fryday (1997) and Hawksworth and Seaward (1977).

A Site Condition Assessment was commissioned by SNH in 2010 and the work was undertaken by Andy Acton and Anna Griffith. The report of 2011 is comprehensive and includes some base line monitoring sites. We are sure that SNH will find funding to continue monitoring this iconic site.

Additional Records

Some specimens collected are still in the freezer at RBGE waiting critical identification. This is work in progress for our new President who I am sure will report all interesting findings via the Bulletin.

Acknowledgements

A huge thanks to the Ben Alder Estate and in particular to Ginnie Bowman, the accommodation manager and Ross Dakers, the head keeper who transported us in and out of this remote location with all our kit. Thanks to the Esmée Fairbairn Foundation for providing funding and to Paul Cannon for administering that. A big thanks to Andy Acton for providing information about the site and for providing copies of his previous reports, to Dave Genney for arranging collection permissions and Brian Coppins for providing previous records for the area.

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Some Results

The total number of species identified was 168, 43 of which had a conservation status higher than Least Concern. The table below shows the total number of areas and monads in which they were found. Areas are broadly based on peaks and associated corries and valleys.

Taxa having conservation status higher than Least Concern (43)

Least Concern & Nationally Scarce (LC NS) = 28
Near Threatened & Nationally Scarce (NT NS) = 1
Near Threatened & Nationally Rare (NT NR) = 6
Vulnerable & Nationally Rare (VU NR) = 5
Data Deficient & Nationally Rare (DD NR) = 1
Deficient & Nationally Scarce (DD NS) = 1
Least Concern & Nationally Rare (LC NR) = 1

Species	Status	Areas (11)	Monads (28)
Allantoparmelia alpicola	LC NS	6	15
Brigantiaea fuscolutea	NT NR	1	1
Buellia erubescens	LC NS	1	2
Calvitimela aglaea	LC NS	4	9
Catillaria contristans	LC NS	1	2
Cetrariella commixta	LC NS	2	6
Cladonia trassii	VU D2 NR Sc S8	1	3
Frutidella caesioatra	LC NS	3	6
Fulgensia bracteata	VU D2 NR Sc	1	1
Hymenelia epulotica	LC NS	1	1
Immersaria athroocarpa	LC NS	4	7
Lecanora epibryon	VU NR D2 Sc	1	1
Lecanora formosa	NT NR Sc	1	2
Lecanora frustulosa	VU D2 NR Sc	1	2
Lecanora leptacina	LC NS	1	2
Lecidoma demissum	LC NS	4	9
Lithographa tesserata	LC NS	1	1
Megaspora verrucosa	LC NS	1	1
Melanelia hepatizon	LC NS	8	17
Micarea turfosa	LC NS	2	3
Miriquidica griseoatra	LC NS	2	3
Miriquidica pycnocarpa f. *pycnocarpa*	LC NS	2	2
Miriquidica pycnocarpa f. *sorediata*	LC NS	1	1
Pannaria hookeri	NT NS	1	1
Peltigera polydactylon	LC NS	1	1
Pertusaria oculata	LC NS	2	4
Pertusaria glomerata	VU NR D2 Sc	1	1
Porpidia contraponenda	LC NS	3	5
Porpidia flavocruenta	LC NS	2	2
Porpidia melinodes	LC NS	9	15
Protomicarea limosa	LC NS	4	6
Psoroma hypnorum	LC NS	1	1
Rhizocarpon alpicola	LC NS	2	3
Rhizocarpon infernulum f. *infernulum*	DD NR	1	1
Sagiolechia protuberans	NT NR	1	1
Solorina crocea	LC NS	5	9
Solorina spongiosa	LC NS	1	1
Stereocaulon alpinum	NT NR Sc	2	2
Stereocaulon leucophaeopsis	LC NS M'	1	1
Stereocaulon spathuliferum	NT NR Sc	1	1
Stereocaulon tornense	NT NR Sc	2	2
Stereocaulon vesuvianum var. *nodulosum*	LC NS	1	1
Toninia squalescens	LC NR Sc	2	2

Ben Alder Site Records

Species	Carn Dearg	Diollaid a' Chairn	Corrie Cheap	Gael Charn	Aonach Beag	Beinn Eibhinn	Sgor Lutharn	Ben Alder	Beinn Bheoil	Beinna Chlachair	Culra Lodge
Acarospora fuscata	●				●						
Alectoria nigricans			●							●	
Allantoparmelia alpicola	●	●					●		●	●	●
Arthrorhaphis citrinella							●			●	
Aspicilia caesiocinerea					●						
Baeomyces rufus	●		●				●	●			●
Brigantiaea fuscolutea			●								
Bryoria fuscescens							●				
Bryobilimbia hypnorum			●								
Buellia aethalea										●	●
Buellia erubescens							●				
Buellia ocellata										●	
Caloplaca citrina											●
Caloplaca luteoalba											
Calvitimela aglaea			●				●			●	●
Candelariella coralliza											●
Catillaria contristans								●			
Cetrariella commixta			●							●	
Cetraria aculeata	●	●	●				●			●	●
Cetraria islandica subsp. *islandica*	●	●	●	●	●			●	●		
Cetraria muricata					●			●		●	●
Cladonia arbuscula subsp. *squarrosa*	●	●	●	●	●	●	●	●	●	●	
Cladonia bellidiflora	●		●	●	●		●	●	●	●	●

Species	Carn Dearg	Diollaid a' Chairn	Corrie Cheap	Gael Charn	Aonach Beag	Beinn Eibhinn	Sgor Lutharn	Ben Alder	Beinn Bheoil	Beinna Chlachair	Culra Lodge
Cladonia cervicornis subsp. *cervicornis*	●	●	●								
Cladonia cervicornis subsp. *verticillata*								●		●	
Cladonia chlorophaea s. lat.				●	●						
Cladonia ciliata var. *tenuis*	●		●							●	●
Cladonia crispata var. *cetrariiformis*									●		
Cladonia diversa	●	●	●	●	●	●	●	●	●	●	●
Cladonia fimbriata											●
Cladonia floerkeana							●			●	●
Cladonia furcata subsp. *furcata*	●	●		●	●		●			●	●
Cladonia gracilis	●						●				●
Cladonia luteoalba	●		●							●	
Cladonia portentosa	●	●					●			●	●
Cladonia pyxidata										●	●
Cladonia rangiferina	●	●	●		●		●		●	●	
Cladonia ramulosa							●				
Cladonia squamosa var. *squamosa*			●		●		●	●			
Cladonia squamosa s. lat.	●									●	●
Cladonia strepsilis	●	●	●				●				●
Cladonia subcervicornis	●	●	●		●	●	●	●	●	●	●
Cladonia uncialis subsp. *biuncialis*	●	●	●	●	●	●	●	●	●	●	●
Cladonia trassii								●			
Cornicularia normoerica	●	●	●	●	●		●			●	●
Dibaeis baeomyces			●		●		●	●	●	●	●
Diploschistes muscorum											●
Diploschistes scruposus								●			●
Ephebe lanata										●	
Evernia prunastri	●										
Fulgensia bracteata			●								
Fuscidea cyathoides var. *cyathoides*	●	●					●			●	●
Fuscidea kochiana	●	●	●		●		●	●		●	
Fuscidea lygaea	●	●									
Frutidella caesioatra				●	●			●			
Hymenelia epulotica			●								
Hypogymnia physodes							●			●	●
Hypogymnia tubulosa											●
Icmadophila ericetorum	●	●	●			●	●			●	●
Immersaria athroocarpa	●						●			●	●
Ionaspis lacustris							●			●	●
Lecanora campestris subsp. *campestris*								●			

Species	Carn Dearg	Diollaid a' Chairn	Corrie Cheap	Gael Charn	Aonach Beag	Beinn Eibhinn	Sgor Lutharn	Ben Alder	Beinn Bheoil	Beinna Chlachair	Culra Lodge
Lecanora epibryon			●								
Lecanora formosa								●			
Lecanora frustulosa								●			
Lecanora gangaleoides							●				●
Lecanora intricata	●		●	●	●	●	●	●		●	●
Lecanora leptacina								●			
Lecanora polytropa	●	●	●	●	●	●	●	●	●	●	●
Lecidea grisella											●
Lecidea lactea s. lat.										●	
Lecidea lapicida										●	
Lecidea lithophila	●	●	●					●	●		
Lecidea phaeops								●			
Lecidella elaeochroma f. *elaeochroma*							●				
Lecidella scabra										●	
Lecidella stigmatea										●	
Lecidoma demissum	●				●	●		●			
Lepraria caesioalba				●	●			●	●		
Lepraria incana s. lat											●
Lepraria rigidula							●				
Lichenomphalia alpina		●	●				●		●	●	●
Lichenomphalia hudsoniana								●			
Lithographa tesserata								●			
Megaspora verrucosa			●								
Melanelia hepatizon	●	●	●		●	●	●	●		●	
Melanelixia fuliginosa											●
Micarea leprosula										●	●
Micarea lignaria var. *lignaria*			●		●		●	●		●	
Micarea turfosa					●				●		
Miriquidica griseoatra								●			
Miriquidica leucophaea					●			●		●	●
Miriquidica pycnocarpa f. *pycnocarpa*			●								
Miriquidica pycnocarpa f. *sorediata*			●					●			
Mycoblastus sanguinarius f. *sanguinarius*							●				
Ochrolechia androgyna	●	●	●	●	●		●	●	●	●	●
Ochrolechia frigida f. *frigida*	●	●	●				●	●	●	●	●
Ochrolechia tartarea	●		●				●		●	●	●
Ophioparma ventosa	●		●				●	●	●	●	●
Pannaria hookeri			●								
Parmelia discordans										●	
Parmelia omphalodes	●	●	●				●	●	●	●	●
Parmelia saxatilis s. lat.	●	●					●			●	●

Species	Carn Dearg	Diollaid a' Chairn	Corrie Cheap	Gael Charn	Aonach Beag	Beinn Eibhinn	Sgor Lutharn	Ben Alder	Beinn Bheoil	Beinna Chlachair	Culra Lodge
Parmelia sulcata	●	●				●	●			●	●
Peltigera canina			●								
Peltigera hymenina							●				
Peltigera membranacea					●						
Peltigera polydactylon										●	
Pertusaria aspergilla										●	
Pertusaria corallina	●	●	●		●	●	●	●	●	●	●
Pertusaria glomerata			●								
Pertusaria oculata			●							●	
Physcia aipolia											●
Physcia tenella											●
Pilophorus strumaticus							●	●			
Placopsis lambii			●			●	●			●	●
Platismatia glauca			●				●			●	●
Polyblastia cruenta										●	
Porpidia cinereoatra	●	●	●						●		
Porpidia contraponenda			●					●		●	
Porpidia flavocruenta				●	●						
Porpidia macrocarpa f. *macrocarpa*	●		●			●	●			●	●
Porpidia melinodes	●	●	●		●		●	●	●	●	●
Porpidia platycarpoides	●		●					●		●	
Porpidia tuberculosa	●	●	●		●		●	●	●	●	●
Protomicarea limosa	●				●		●	●			
Protopannaria pezizoides							●			●	
Protoparmelia badia	●	●					●			●	●
Pseudephebe pubescens	●	●	●	●	●		●	●	●	●	
Pseudevernia furfuracea s. lat.							●				●
Psoroma hypnorum										●	
Pycnothelia papillaria	●	●	●					●			
Rhizocarpon alpicola								●		●	
Rhizocarpon geographicum	●	●	●	●	●	●	●	●	●	●	●
Rhizocarpon infernulum f. *infernulum*										●	
Rhizocarpon lecanorinum								●		●	
Rhizocarpon oederi	●	●									
Rhizocarpon reductum	●	●					●	●		●	●
Rimularia furvella										●	
Sagiolechia protuberans			●								
Schaereria cinereorufa	●			●	●		●	●		●	●
Schaereria fuscocinerea var. *fuscocinerea*					●		●			●	●
Solorina crocea			●	●	●	●		●			
Solorina saccata			●								
Solorina spongiosa			●								

Species	Carn Dearg	Diollaid a' Chairn	Corrie Cheap	Gael Charn	Aonach Beag	Beinn Eibhinn	Sgor Lutharn	Ben Alder	Beinn Bheoil	Beinna Chlachair	Culra Lodge
Sphaerophorus fragilis	●	●	●				●	●	●	●	●
Sphaerophorus globosus			●				●			●	●
Stereocaulon alpinum				●	●						
Stereocaulon evolutum	●									●	
Stereocaulon leucophaeopsis			●								
Stereocaulon spathuliferum								●			
Stereocaulon tornense	●	●									
Stereocaulon vesuvianum var. *vesuvianum*	●	●	●	●	●	●	●	●	●	●	●
Stereocaulon vesuvianum var. *nodulosum*								●			
Tephromela atra					●						
Thamnolia vermicularis	●		●		●	●		●	●		
Toninia squalescens								●		●	
Trapelia glebulosa	●	●								●	●
Trapelia placodioides										●	
Trapeliopsis granulosa	●	●					●			●	●
Trapeliopsis pseudogranulosa							●			●	●
Tremolecia atrata	●		●		●	●	●	●		●	●
Tuckermanopsis chlorophylla											●
Umbilicaria cylindrica	●	●	●	●	●	●	●	●		●	●
Umbilicaria deusta	●	●									
Umbilicaria polyphylla	●	●			●		●	●		●	●
Umbilicaria polyrrhiza							●				●
Umbilicaria proboscidea	●		●				●	●		●	●
Umbilicaria torrefacta	●	●	●	●	●		●			●	●
Xanthoparmelia mougeotii											●

British Lichen Society
Field Meetings & Workshops Programme 2021

Field Meetings Secretary:
Steve Price, Woodlands, Combs Road, Combs, High Peak, Derbyshire SK23 9UP
email fieldmeetings@britishlichensociety.org.uk

note: Most BLS meetings and workshops are open to all members and prospective members, regardless of level of experience. All that is required is enthusiasm about lichens! Occasionally a meeting is targeted to a particular, more specialised group, but that will be made clear in the information provided for that event.

COVID19 – The safety and well-being of our members and their communities is our utmost priority. All face-to-face meetings, including Council, Committee and Field Meetings and excursions are temporarily suspended.
The re-instatement of meetings will be dependent upon: government advice; the willingness of the accommodation to accept groups; and the ability and willingness of leaders to organise field sites and to attend meetings.
Planning ahead for meetings in 2021 is difficult. Dates in 2021 have been pencilled in for the 2020 meetings that were cancelled. The latest information will be posted on the BLS website.

Below are the provisional dates for meetings. Please note that there will be no further detailed planning of these meetings nor will bookings be taken until the COVID-19 situation has stabilised.

BLS EARLY SPRING MEETING 2021 – North Harris, Outer Hebrides
Provisional dates: Saturday 17 to Saturday 24 April 2021

JUBILEE SPRING MEETING 2021 Dutch Bryological and Lichenological Society
Meeting cancelled.

BLS SUMMER MEETING 2021 – Aberdare, Rhondda Cynon Taf, Wales
Provisional dates: Saturday 3 to Saturday 10 July 2021

BLS AUTUMN MEETING 2021 – Dingestow Court, Monmouthshire
Provisional date: October 2021

BLS WINTER WORKSHOP 2022 – Cloughton, Scarborough
Lichenicolous fungi
Workshop leader: **Paul Diederich**
Provisional dates: Monday 28 February to Sunday 6 March 2022

Although it is extremely rare for anything to go wrong with the arrangements for our field meetings and workshops, it has happened. In 2015 the hotel we had booked for accommodation cancelled without warning and at short notice. The BLS is not liable for such actions, and will not reimburse participants for losses out of the Society's control. Attendees on our meetings are advised to at least consider holiday insurance (note that for insurance purposes our meetings are best classified as themed holidays). The Society does not arrange such cover although it does of course have Public Liability Insurance.
In the unfortunate event of an unforeseen cancellation, participants should be diligent in keeping receipts of all expenditure they incur as a result of such action. The case for re-imbursement may depend on the production of receipts.

British Isles List of Lichens and Lichenicolous Fungi

September 2020 update to list
The fully corrected list is available on the BLS web site, www.britishlichensociety.org.uk

Please note that a copy of the current Taxon Dictionary can be obtained as a spreadsheet by clicking on the "csv" tab in the bottom left-hand corner of the Lichen Taxon Dictionary page: http://www.britishlichensociety.org.uk/resources/lichen-taxon-database . It sometimes takes a minute or two to respond. To obtain a list of currently accepted names filter for "Y" in column D – "Is current name?".

Synonyms. In the downloaded csv file, the most encountered synonyms for a given species are provided in Column F – "Synonyms". However, to obtain a full list of synonyms for a species, filter for its BLS number in Column G – "BLS Number".

We are indebted to Paul Cannon, Steve Chambers, George Crieff, David Genney, Heather Paul, Alan Orange, Zdeneck Palice, Neil Sanderson, Jenny Seawright, Vince Giavarini and other checklist users, for bringing several of the required changes to our notice. Anyone encountering difficulties or errors regarding nomenclature or BLS code numbers, please contact one of us, as below.
E-mail contacts (with main responsibilities):
Brian Coppins (nomenclature, BLS and NBN species dictionaries, spelling, authorities, dates of publication) <lichensel@btinternet.com>
Mark Seaward (allocation of BLS numbers and abbreviations) <m.r.d.seaward@bradford.ac.uk>

Janet Simkin (Recorder and spreadsheet species dictionaries) <records@britishlichensociety.org.uk>

Add:			
2750	Asteroglobulus giselae #	Aster gise #	
2769	Anisomeridium macropycnidiatum	Anis macr	
2782	Bellamyces quercus #	Bellam quer #	
2754	Clypeococcum hemiamyloideum #	Clyp hemi #	
2760	Coniocarpon fallax	Conioc fall	
2770	Feltgeniomyces luxemburgensis #	Felt luxe #	
2756	Gabura insignis	Gabu insi	
2768	Graphis handelii	Graphis hand	
2774	Halecania giraltiae	Halec gira	
2771	Merismatium heterophractum #	Meri hete #	
2780	Micarea angulosa	Mica angu	2
2776	Micarea fallax	Mica fall	
2752	Minutoexcipula tuckerae #	Minutoex tuck #	
2749	Mixtoconidium insidens #	Mixt insi #	
2772	Muellerella trisepta #	Muell tris #	
2755	Multiclavula corynoides	Multi cory	
2778	Opegrapha sawyeriana #	Opeg sawy #	
2766	Porina collina	Porina coll	
2751	Protothelenella petri	Prototh petr	
2777	Protoparmelia hypotremella	Protoparm hypo	
2779	Psammina filamentosa #	Psam fila #	
2775	Rinodina freyi	Rino frey	
2767	Skyttea megalosporae #	Skyttea mega #	
2764	Spirographa pyramidalis #	Spirog pyra #	
2758	Sporormiella intermedia #	Spororm inte #	
2761	Stigmidium placynthii #	Stig plac #	
2763	Stigmidium tetrasporum #	Stig tetra #	
2757	Taeniolella arthoniae #	Taeniolel arth #	
2762	Tremella macrobasidiata #	Tremel macr #	
2759	Verrucula helvetica	Verrucula helv	
2783	Verrucaria pallidomurina	Verrucar pall	
2784	Verrucaria tephromela	Verrucar teph	
2773	Xenonectriella leptaleoides #	Xeno leptaleoid #	
2765	Xenonectriella septemseptata #	Xeno sept #	
2753	Xenonectriella subimperspicua #	Xeno subi #	

Change of genus (sometimes also species epithet):						
Change from:			Replace with:			Notes
1588	Arthonia anombrophila	Arthon anom	1588	Reichlingia anombrophila	Reich anom	
53	Arthonia atlantica	Arthon atla	53	Reichlingia dendritica	Reich dend	
72	Arthonia cinnabarina	Arthon cinn	72	Coniocarpon cinnabarina	Conioca cinn	
58	Arthonia elegans	Arthon eleg	58	Coniocarpon cuspidans	Conioca cusp	
68	Arthonia punctiformis ##	Arthon punctif ##	68	Naevia punctiformis ##	Naev punct ##	
70	Arthonia spadicea	Arthon spad	70	Diarthonis spadicea	Diar spad	
74	Arthonia zwackhii	Arthon zwac	74	Reichlingia zwackhii	Reich zwac	
134	Bacidia auerswaldii	Baci auer	134	Scutula effusa	Scut effu	
142	Bacidia circumspecta	Baci circums	142	Scutula circumspecta	Scut circum	
153	Bacidia incompta	Baci inco	153	Bellicidia incompta	Bellic inco	
1651	Bacidia subcircumspecta	Baci subcir	1651	Bibbya subcircumspecta	Bibb subcir	
168	Bacidia subincompta	Baci subin	168	Toniniopsis subincompta	Toninio p subin	
149	Bacidia vermifera	Baci verm	149	Bibbya vermifera	Bibb verm	
1623	Bacidia viridescens	Baci virides	1623	Bacidina indigens	Bacidin a indi	
437	Collema ceraniscum	Collema cera	437	Rostania ceranisca	Rost cera	
444	Collema fasciculare	Collema fasc	444	Gabura fascicularis	Gabu fasc	
454	Collema occultatum	Collema occu	454	Rostania occultata	Rost occu	
490	Dimerella lutea	Dime lute	490	Coenogonium luteum	Coen lute	
489	Dimerella pineti	Dime pine	489	Coenogonium pineti	Coen pine	

2695	Dimerella taveresiana	Dime tave	2695	Coenogonium taveresianum	Coen tave	
2075	Kalaallia reactiva #	Kala reac #	2075	Opegrapha reactiva #	Opeg reac #	
596	Lecanographa dilleniana	Lecanogr dill	596	Psoronactis dilleniana	Psorona c dill	
2391	Lecidea alpestris	Lecidea alpe	2391	Protomicarea alpe	Protomi c alpe	
868	Melaspilea granitophila	Melasp gran	868	Arthonia granitophila	Arthon gran	
938	Opegrapha atra	Opeg atra	938	Arthonia atra	Arthon atra	
959	Opegrapha calcarea	Opeg calc	959	Arthonia calcarea	Arthon calc	
1976	Opegrapha glaucomaria #	Opeg glau #	1976	Phacographa glaucomaria #	Phacogr glau #	
947	Opegrapha gyrocarpa	Opeg gyro	947	Gyrographa gyrocarpa	Gyro gyro	
948	Opegrapha herbarum	Opeg herb	948	Alyxoria culmigena	Alyx culm	
952	Opegrapha mougeotii	Opeg moug	952	Alyxoria mougeotii	Alyx moug	
1636	Opegrapha multipuncta	Opeg mult	1636	Porina multipuncta	Porina mult	
954	Opegrapha ochrocheila	Opeg ochr	954	Alyxoria ochrocheila	Alyx ochr	
955	Opegrapha paraxanthodes	Opeg parax	955	Alyxoria paraxanthodes	Alyx parax	
1953	Opegrapha physciaria #	Opeg phys #	1953	Phacothecium varium #	Phacoth vari #	
956	Opegrapha prosodea	Opeg pros	956	Zwackhia prosodea	Zwackh ia pros	
961	Opegrapha saxigena	Opeg saxig	961	Gyrographa saxigena	Gyro saxig	
962	Opegrapha sorediifera	Opeg sore	962	Zwackhia sorediifera	Zwackh ia sore	
963	Opegrapha subelevata	Opeg sube	963	Alyxoria subelevata	Alyx sube	
964	Opegrapha varia	Opeg vari	964	Alyxoria varia	Alyx vari	

2441	Opegrapha viridipruinosa	Opeg viridip	2441	Alyxoria viridipruinosa	Alyx viridip	
966	Opegrapha viridis	Opeg viridis	966	Zwackhia viridis	Zwackh ia viridis	
1722	Opegrapha xerica	Opeg xeri	1722	Alyxoria xerica	Alyx xeri	
2133	Opegrapha zwackhii #	Opeg zwac #	2133	Phacographa zwackhii #	Phacogr zwac #	
923	Pertusaria geminipara	Pert gemi	923	Toensbergia geminipara	Toens gemi	
2172	Pronectria fissuriprodiens #	Pronectria fiss #	2172	Xenonectriella fissuriprodiens #	Xeno fiss #	
2409	Pronectria leptaleae	Pronectria lept #	2409	Xenonectriella leptaleae #	Xeno leptalea e #	
1585	Schismatomma quercicola	Schis quer	1585	Schizotrema quercicola	Schiz querc	
2199	Scutula epicladonia #	Scut epiclad #	2199	Zhurbenkoa epicladonia #	Zhur epiclad #	
1415	Toninia aromatica	Toni arom	1415	Toniniopsis aromatica	Toninio p arom	
1424	Toninia coelestina	Toni coel	1424	Toniniopsis coelestina	Toninio p coel	
1903	Toninia diffracta	Toni diff	1903	Thalloidima diffractum	Thall diff	
1904	Toninia episema #	Toni epis #	1904	Kiliasia episema	Kili epis #	
1423	Toninia mesoidea	Toni meso	1423	Toniniopsis mesoidea	Toninio p meso	
1905	Toninia opuntioides	Toni opun	1905	Thalloidima opuntioides	Thall opun	
1906	Toninia physaroides	Toni phys	1906	Thalloidima physaroides	Thall phys	
1814	Toninia rosulata	Toni rosu	1814	Thalloidima rosulatum	Thall rosu	
1416	Toninia sedifolia	Toni sedi	1416	Thalloidima sedifolium	Thall sedi	
1418	Toninia verrucarioides	Toni verrucarioid	1418	Toniniopsis verrucarioides	Toninio p verr	

2603	Tubeufia heterodermiae #	Tube hete #	2603	Lichenotubeufia heterodermiae #	Licheno tu hete #	
1620	Verrucaria latericola	Verrucar lateri	1620	Verrucula latericola	Verrucu la late	

Change of specific epithet:						
Change from:			Replace with:			Notes
2502	Bacidina sulphurella	Bacidin a sulph	2502	Bacidina modesta	Bacidina mode	
1473	Verrucaria aethiobola	Verruca r aeth	1473	Verrucaria latebrosa	Verrucar lateb	3

Change of number and/or abbreviation:						
Change from:			Replace with:			Notes
101	Bellemerea alpina	Bell alpi	1011	Bellemerea alpina	Bellem alpi	
2146	Briancoppinsia cytospora #	Brian cyto #	2146	Briancoppinsia cytospora #	Briancop cyto #	
873	Brianaria bauschiana	Brian baus	873	Brianaria bauschiana	Brianar bausch	
882	Brianaria lutulata	Brian lutu	882	Brianaria lutulata	Brianar lutu	
893	Brianaria sylvicola	Brian sylv	893	Brianaria sylvicola	Brianar sylv	
896	Brianaria tuberculata	Brian tube	896	Brianaria tuberculata	Brianar tube	
	Zwackhiomyces	Zwac		Zwackhiomyces	Zwackhiomy	1

Moved into synonymy:						
Change from:			Replace with:			Notes
2196	Scutula aggregata #	Scut aggr #	2198	Scutula epiblastematica #	Scut epiblast #	

Notes

1 – this change of abbreviation to the generic name applies to all species of *Zwackhiomyces*.

2 – an unpublished name to appear in a future chapter of LGBI3.

3 – *Verrucaria aethiobola* s. str. has not been correctly reported from Britain & Ireland.

Literature pertaining to British lichens – 67

Lichenologist **52**(3) was published on 3 May 2020, **52**(4) on 29 July 2020 and **52**(5) on 11 November 2020.

Taxa prefixed by * are additions to the checklists of lichens and lichenicolous fungi for Britain and Ireland. Aside comments in square brackets are by the author of this compilation.

CANNON, P.F. *et al*. 2020. Arthoniales: Arthoniaceae. *Revisions of British and Irish Lichens* **1:** 1–48. ISSN 2634-7768. Downloadable from https://www.britishlichensociety.org.uk/content/lgbi3.

This the first instalment of the new 'Flora', which treats the genera *Arthonia*, *Arthothelium*, *Briancoppinsia*, *Bryostigma*, *Coniocarpon*, *Diarthonis*, *Inoderma*, *Naevia*, *Pachnolepia*, *Reichlingia*, *Snippocia*, *Sporodophoron*, *Synarthonia* and *Tylophoron*. The genus *Diarthonis* Clem. (1909) is resurrected to accommodate *Arthonia spadicea* as *Diarthonis spadicea* (Leight.) Frisch, Ertz, Coppins & P.F. Cannon.

EKMAN, S., SVENSSON, M., WESTBERG, M. & ZAMORA, J.C. 2019. Additions to the lichen flora of Fennoscandia III. *Graphis scripta* **31**(5): 34–46. The new combination *Bacidina modesta* (Zwackh ex Vain.) S. Ekman replaces *B. sulphurella* and following the lectotypification of *Raphiospora viridescens* A. Massal. on a specimen of *Bacidia* (*Toniniopsis*) *bagliettoana*, *Bacidina indigens* (Vain.) S. Ekman & J. Gerasimova (2017) is shown to be the correct name for *Bacidia viridescens* auct. brit. Notes on several other species are of interest to British readers.

ERTZ, D., APTROOT, A., SANDERSON, N., COPPINS, B., VAN DEN BROECK, D. & DIEDERICH, P. 2020. A new species of *Synarthonia* from Luxembourg, and a new combination in the genus *Reichlingia* (*Arthoniaceae*). *Lichenologist* **52:** 261–266. *Arthonia atlantica* is transferred to *Reichlingia* as *R. dendritica* (Leight.) Ertz & Sanderson. Phylogenetic analyses confirm the generic placements of *Reichlingia anombrophila* and *Synarthonia astroidestera*.

FLAKUS, A., ETAYO, J., PÉREZ-ORTEGA, S., KUKWA, M., PALICE, Z. & RODRIGUEZ-FLAKUS, P. 2019. A new genus, *Zhurbenkoa*, and a novel nutritional mode revealed in the family *Malmideaceae* (Lecanoromycetes, Ascomycota), *Mycologia* **111:** 593–611. The genus *Zhurbenkoa* Flakus, Etayo, Pérez-Ortega & Rodr. Flakus is introduced for *Z. epicladonia* (Nyl.) Flakus, Etayo, Pérez-Ortega & Rodr. Flakus (syn. *Scutula epicladonia*) and two related species from South America.

KONDRATYUK, K., LŐKÖS, L., HALDA, J., LEE, B.G., JANG, S.-H., WOO, J.-J., PARK, J.S., OH, S.-O., HAN, S.-K & HUR, J.-S. 2019. *Arthonia dokdoensis*

and *Rufoplaca toktoana* – two new taxa from Dokdo Islands (South Korea). *Mycobiology* **47**(4): 355–367.

This paper provides information on *Arthonia* and *Bryostigma* pertinent to actions [and my remarks] in the following paper.

KONDRATYUK, S.Y., UPRET, D.K, MISHRA, G.K., NAYAKA, S., INGLE, K.K, ORLOV, O.O., KONDRATIUK, A.S., LŐKÖS, L., FARKAS, E., WOO, J.-J. & HUR, J.-S. 2020. New and noteworthy lichen-forming and lichenicolous fungi 10. *Acta Botanica Hungarica* **62:** 69–108. The species of the *Bryostigma* clade of *Arthonia* [cf. Frisch *et al*. 2014] are formally transferred to the genus *Bryostigma*. British and Irish species are: *Bryostigma apotheciorum* (A. Massal.) S.Y. Kondr. & J.-S. Hur (syn. *Arthonia apotheciorum*); *B. epiphyscium* S.Y. Kondr. & J.-S. Hur (syn. *A. epiphyscia*); *B. lapidicola* (Taylor) S.Y. Kondr. & J.-S. Hur (syn. *A. lapidicola*); *B. molendoi* (Heufl. ex Frauenf.) S.Y. Kondr. & J.-S. Hur (syn. *Arthonia molendoi*); *B. neglectulum* (Nyl.) S.Y. Kondr. & J.-S. Hur (syn. *A. neglectula*); *B. parietinarium* (Hafellner & A. Fleischhaker) S.Y. Kondr. & J.-S. Hur (syn. *A. parietinaria*); *B. phaeophysciae* (Grube & Matzer) S.Y. Kondr. & J.-S. Hur (syn. *A. phaeophysciae*); *B. stereocaulinum* (Ohlert) S.Y. Kondr. & J.-S. Hur (syn. *A. stereocaulina*). Further combinations into *Polyozosia* for the *Lecanora dispersa* group [*Myriolecis*] are made: *Polyozosia actophila* (Wedd) S.Y. Kondr., L. Lőkös & Farkas (syn. *Lecanora actophila*); *P. agardhiana* (Wedd.) S.Y. Kondr., L. Lőkös & Farkas (syn. *L. agardhiana*); *P. antiqua* (J.R. Laundon) S.Y. Kondr., L. Lőkös & Farkas; *P. congesta* (Clauzade & Vězda) S.Y. Kondr., L. Lőkös & Farkas (syn. *L. congesta*); *P. fugiens* (Nyl.) S.Y. Kondr., L. Lőkös & Farkas (syn. *L. fugiens*); *P. invadens* (H. Magn.) S.Y. Kondr., L. Lőkös & Farkas (syn. *L. invadens*); *P. massei* (M. Bertrand & J.Y. Monnat) S.Y. Kondr., L. Lőkös & Farkas (syn. *Myriolecis massei*); *P. persimilis* (Th. Fr.) S.Y. Kondr., L. Lőkös & Farkas (syn. *L. persimilis*); *P. salina* (H. Magn.) S.Y. Kondr., L. Lőkös & Farkas (syn. *L. salina*); *P. zosterae* (Ach.) S.Y. Kondr., L. Lőkös & Farkas (syn. *L. zosterae*).

[This paper has several regrettable aspects. Firstly, the adoption of *Bryostigma* is mainly based on the *Bryostigma*-clade as demonstrated in the phylogenetic tree of Frisch *et al.* (*Taxon* **63:** 727–744, 2014), disgracefully not referenced in this paper). A formal acceptance of *Bryostigma* for all of this clade was not adopted by Frisch *et al*. because the tree was not fully resolved and more sequence and morphological data from untreated species was required. – no such additional data is provided in this current paper. Indeed, this was supported by Kondratyuk *et al*. (2019, see above) a few months earlier in the statement "We agree with previous authors [9] that there is probably more than one generic group within the *Bryostigma* clade". Note that the "[9]" should be [7]. The new combination into *Bryostigma* of *Arthonia apotheciorum* is puzzling as this species belongs in the *Arthonia* s. str. clade, not far removed from the type species of *Arthonia*, *A. radiata*. Presumably, this combination should have been made with

Arthonia apatetica, which is in the *Bryostigma*-clade, but mis-spelled as *A*. "*apotehica*" in Fig. 1 of the 2019 paper.

There is also the nomenclatural point that from the statement (p. 71) "The former *Arthonia molendoi* group is suggested to be kept under *Bryostigma* name until additional/sufficient molecular data will be accumulated for each species of this group.", it could be argued that these new combinations into *Bryostigma* are considered as provisional by the authors, and hence not validly published (International Code for Nomenclature (ICN), Art. 36.1).

Furthermore, there are two or three older generic names that pre-date *Bryostigma* if a broader concept is adopted. It should also be pointed out that the combination *B. lapidicola* in this paper is based on the position of "*A. lapidicola*" in the tree of Frisch *et al*., but the specimen concerned was actually one of *Arthonia fusca* (A. Massal.) Hepp (Frisch, pers. comm.), the name to which most records of *A. lapidicola* should be referred. More by luck than judgement, the combination *Bryostigma lapidicola* is correct because the type of *Lecidea lapidicola* Taylor actually represents saxicolous material of what has hitherto been known as *Bryostigma muscigenum* (syn. *Arthonia muscigena*) (Fryday, pers. comm.), the type of the genus.

Lastly, I would ask why the possibility of conserving *Myriolecis* over *Polyozosia* was not considered? – and it is quite reprehensible that it was not even discussed. This is contrary to the spirit of the ICN, where "Next in importance is the avoidance of the useless creation of names."(from ICN Preamble 1) These comments on inconsiderate and shoddy workmanship highlight the problems of not having papers effectively peer-reviewed. Additional to this, is that if *Polyozosia* is to be widely accepted, and not rejected, then the specific epithet of a very common lichen, *Myriolecis* (*Lecanora*) *crenulata* will be 'lost' and a new epithet required to be found or introduced. This is because the combination *Polyozosia crenulata* (Ach.) S.Y. Kondr. *et al*. was based on *Lecanora hagenii* var. *crenulata* Ach. and not as it should have been on *Lecanora crenulata* Hook. The former name has not been typified, but probably refers to *Myriolecis hagenii* or *M. sambucii*.]

LAGRECA, S. 2020. Two unusual secondary products new to *Ramalina*. *Graphis Scripta* **32:** 48–51. The lactone homoheveadride, and a similar, fatty-acid-like substance (informally called pseudoconhomoheveadride), are reported for the first time from *Ramalina siliquosa*.

LAUNIS, A., MALIČEK, J., SVENSSON, M., TSURYKAU, A., SÉRUSIAUX, E. & MYLLYS, L. (2019). Sharpening boundaries in the *Micarea prasina* group with notes on the type species *M. prasina*. *Mycologia* **111:** 574–592. Includes description of **M. fallax* Launis & Myllys from Finland, Belarus, Czech Republic, Scotland and Sweden.

ORANGE, A. 2020. The *Verrucaria aethiobola* group (lichenised Ascomycota, Verrucariaceae) in North-west Europe. *Phytotaxa* **459**(1): 1–15. *Verrucaria aethiobola* as understood in NW Europe is shown to comprise three cryptic taxa: *V. aethiobola* Wahlenb., *V. latebrosa* Körb. and the newly described **V. tephromela* Wahlenb. ex Orange. So far, *V. aethiobola* is confirmed only from

north Norway and most recent British records are referable to *V. latebrosa*, whereas *V. tephromela* is known only from north Norway and a single collection from the Shiant Islands (Outer Hebrides). *Verrucaria anziana* Garov. is lectotypified, and the species can be clearly separated from *V. aethiobola* and *V. latabrosa* by sequence data and in most cases morphologically. Based on sequence data, another species belonging to this group is the newly described **V. pallidomurina* Orange, but this has smaller perithecia and ascospores and grows on stones of calcareous or slightly calcareous siliceous rock. It belongs to a taxonomically challenging complex of morphologically (but not necessarily phylogenetically) similar species with small perithecia, small to medium-sized ascospores and thin or discontinuous thalli.

ORANGE, A., PALICE, Z. & KLEPSLAND, J. 2020. A new isidiate saxicolous species of *Porina* (Ascomycota, *Ostropales*, *Porinaceae*). *Lichenologist* **52:** 267–277. **Porina collina* Orange, Palice & Klepsland is described from England, Czech Republic and Norway.

SHEN, M., ZHANG, J.Q., ZHAO, L.L., GROENWALD, J.Z., CROUS, P.W. & ZHANG, Y. 2020. Venturiales. *Studies in Mycology*. **96:** 185–308. The genus *Bellamyces* Crous, Coppins & U. Braun is introduced for **B. quercus* Crous, Coppins & U. Braun, isolated from apothecia of *Lecanora chlarotera*. This species produces brown, transversely septate conidia in culture.

THIYAGARAJA, V., LÜCKING, R., ERTZ, D., WANASINGHE, D.N., KARUNARATHNA, S.C., COMPORESI, E. & HYDE, K.D. 2020. Evolution of non-lichenized, saprotrophic species of *Arthonia* (Ascomycota, *Arthoniales*) and resurrection of *Naevia*, with notes on *Mycoporum*. *Fungal Diversity* **102:** 205–224. Phylogenetic analyses resolve a separate clade involving *Arthonia punctiformis* along with (the non-British) *A. dispersa* and *A. pinastri*. For this clade the generic name *Naevia* Fr. (1824) has been resurrected, with the type species *Naevia punctiformis* (Ach.) A. Massal. (1855).

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New, rare and interesting lichens

Contributions to this section are always welcome. Submit entries to Chris Hitch, Orchella Lodge, 14, Hawthorn Close, Knodishall, Saxmundham, Suffolk, IP17 1XW, in the form of species, habitat, locality, VC no, VC name, (from 1997, nomenclature to follow that given in the appendix, see BLS Bulletin 79, which is based on the Biological Record Centre for instructions for Recorders, ITE, Monks Wood Experimental Station, Abbots Ripton, PE17 2LS, 1974). Grid Ref (GR) (please add letters for the 100km squares to aid BioBase and Recorder 2000, as these are used in the database and on the NBN Gateway), altitude (alt), where applicable in metres (m), date (month and year). NRI records should now include details of what the entry

represents, e.g. specimen in Herb. E, Hitch etc., with accession number where applicable, field record or photograph, to allow for future verification if necessary or to aid paper/report writing. Determined/confirmed by, Comments, New to the, Finally recorder. An authority with date after species is only required when the species is new to the British Isles. Records of lichens listed in the RDB are particularly welcome, even from previously known localities. In the interests of accuracy, the data should be sent to me by e-mail, my address is cjbh.orchldge@freeuk.com, or if not, then typescript. Copy should reach the subeditor at least a fortnight before the deadline for the Bulletin. Please read these instructions carefully.

New to the British Isles

Anisomeridium macropycnidiatum van den Boom (2015): all on bryophytes on *Quercus,* VC H2, North Kerry, Killarney; (i) Cromaglan Bridge, GR V92-82-, 1982. Herb. P.M. Jørgensen 9132 (**E**); (ii) Brickeen Island, GR V93-85-, April 1996. Herb. Coppins 25845 (**E**); (iii) Uragh Wood, GR V83-62, May 1996. Herb. Coppins 25929 (**E**, **K**); (iv) Ullauns Wood, GR V91-79-, May 1996. Herb. Coppins 25886 (**E**). VC H3, West Cork, (v) Glengarriff Woods, GR, V9--5--, 1982. Herb. P.M. Jørgensen 9162 (**E**). This species has been previously reported in connection with *A. robustum* in Coppins & Aptroot, *Lichenologist* **40:** 363–374 (2008). It is distinguished by its sessile and sometimes stalked, bottle-shaped (ampulliform) pycnidia, overall, up to 1 mm high. Its conidia are produced in globose to ovoid packets, and not in a narrow cylindrical cirrus as in *A. polypori* and *A. robustum*. Perithecia have so far not been detected in the Irish collections, but in the Macaronesian (Madeira and Azores) collections they have large, 1-septate ascospores, 40–55 x 10–12 µm. For a full description and photos see van den Boom in *Phytotaxa* **205:** 65–70 (2015). **BLS no. 2769.** *B.J. & A.M. Coppins*

Bellamyces quercus Crous, Coppins & U. Braun (2020): isolated from the hymenium of moribund *Lecanora chlarotera,* also infected by *Tremella macrobasidiata*, growing on trunk of young *Quercus*, The Brunt, Spott, VC 82, East Lothian, GR NT680.735, alt 140 m, August 2015. Herb. Coppins 24965 (**CBS** H-23838). So far known only from cultured isolates, which produce solitary conidia that are brown, smooth, subcylindrical, straight, widest in middle to lower third, apex subobtuse, transversely 3–8-euseptate, rarely with 1–2 oblique septa, (13–)18–22(–25) × (4–)5–6(–6.5) µm; hila (point of attachment) truncate, neither thickened, nor darkened, 3–4 µm diam. Phylogenetically, *Bellamyces* is positioned in the family *Sympoventuriaceae* of the order Venturiales. It remains to be seen if *B. quercus* is truly lichenicolous. For full description and illustrations see Shen *et al.* in *Studies in Mycology* **96:** 185–308. **BLS no. 2782.**
B.J. Coppins

Feltgeniomyces luxemburgensis Diederich (1990): on thallus of *Lecidella elaeochroma* on *Fraxinus* branch, Muckross Park, Killarney, VC H2, GR V96-86-, April 1996, Herb. Coppins 25880 (**E**). Seen as numerous, scattered black dots on the thallus. The dots are tiny sporodochia, *c.* 50–110 µm diam., producing smooth, brown, non-septate conidia, 6–9 × 5 µm. The conidiogenous cells are pale brown, *c.* 11 × 4 µm, with an

apical collarette [reminiscent of *Xanthoriicola*]. The species is elsewhere known from Luxembourg, Norway and Poland, also on *Lecidella scabra*. For description and illustrations see Diederich in *Mycotaxon* **37:** 297–330 (1990). **BLS No. 2770.**

B.J. Coppins

Halecania giraltiae Van den Boom & Etayo (2001): overgrowing other crustose lichens on overhanging siliceous (schist) rock face, associated with *Protoparmelia badia*, *Lecanora* and *Rhizocarpon* spp., below the Queen's View, Loch Tummel, Tay Forest Park, VC 88 Mid-Perthshire, GR NN86-59-, 2004, Herb. Palice 10282 (**PRA**, **E**). An easily overlooked sorediate crust originally described from Portugal and Spain, but subsequently found in Sweden (Värmland). The Scottish voucher is sterile and was identified as late as in 2015. The characteristic compound (argopsin) was revealed by TLC. A full description with illustrations is given by Van den Boom & Etayo in *Lichenologist* **33:** 103–110 (2001). **BLS No**. **2774**. *Z. Palice*

Merismatium heterophractum (Nyl.) Vouaux (1913): on *Bacidia herbarum,* on limestone soil of quarry near Lochan an Dáim, VC 88, Mid Perthshire, GR NN715.575, alt 339 m, specimen collected in 1985. In LF Herb. Giavarini 208, confirmed by B.J. Coppins. Perithecia black, minute, semi-immersed; spores (in this specimen) 10-13 × 5-6.5 µm, ovoid, mostly 3-septate (more rarely 4 or 5) with 1 or 2 additional longitudinal (occasionally oblique) septa. The two outer cells are conspicuously paler than the two inner cells and have thinner walls. The related *M. decolorans* has larger spores: 13.5–16.5 µm long. The comparison table drawn up by Hafellner (2011) is a useful guide. A good description of this species is provided by von Brackel in *Acta Botanica Islandica* **15**: 51–60 (2011). **BLS No. 2771.** *V.J. Giavarini*

Micarea fallax Launis & Myllys (2019): on lignum of old *Quercus*, Church Wood, Humbie, VC 82, East Lothian, GR NT46-63-, January 2014, Herb. Launis 171143 & Coppins (**H**). A semi-cryptic species in the *M. prasina* group. Like *M. prasina* it contains micareic acid but has a less well-developed thallus and different distribution of crystals in apothecial sections as viewed in polarised light. See Launis *et al*. in *Mycologia* **111:** 574–592 (2019) for full description, illustrations and discussion. **BLS No. 2776**.

Launis & B.J. Coppins

Muellerella triseptata Diederich (1986) (syn. *Capronia triseptata* (Diederich) Etayo): parasymbiotic on *Buellia griseovirens* on *Betula* near Target Centre, Center Parcs, Longleat, VC 8 South Wiltshire, GR ST839.425, alt 165 m, December 2019. In LF Herb. Giavarini 210, confirmed B.J. Coppins. This species has the field appearance of a *Capronia* with hairy perithecia, multispored asci, and 1–3-septate green-brown spores: 7–11(–13) × 2–3 µm. A full description has been provided by Diederich in *Lejeunia: Revue De Botanique* **119**: 10–12 (1986). The species was combined into *Capronia* by Etayo (1996) but continues to be retained in *Muellerella* in lichenicolous.net (2020). **BLS No. 2772.** *V. Giavarini*

Porina collina Orange, Palice & Klepsland (2020): on slightly flushed rocks, alt 810 m, Water Crag, Brown Cove, Helvellyn, VC 69, Westmorland, GR NY3390.1544, July 2018. Herb. *A. Orange* 24073 (**NMW**). Thallus orange-brown, with masses of fragile, very ill-defined isidia that resemble finely granular soralia, masses disintegrating in water mounts. Perithecia occasionally present, black, mostly dark purplish brown in section, ascospores 3-septate, 24–43 × 5.5–6 µm. See Orange *et al*. (2020) *Lichenologist* 52: 267–277. **BLS No. 2766**. *A. Orange*

Protoparmelia hypotremella van Herk, Spier & Wirth (1997): (i) on trunk of mature (non-veteran) *Quercus,* within defunct hedgerow with intensive arable agriculture on both sides, Bourne End, VC 30, Bedfordshire, GR TL024.608, April 2020; (ii) abundant on moist bark on former hedgerow *Quercus*, now a parkland tree in late 18th century landscape park, Knepp Castle Park, VC 13, West Sussex, TQ1591.2222, alt 10m, July 2020, Coll. N. A. Sanderson, Determined by A. Aptroot. The first find was growing in a species-poor community dominated by a green algal crust, with *Amandinea punctata*, *Lecidella elaeochroma* and a small number of other common nitrophiles. The material was entirely sterile. Arriving at a definite identification was not easy, the start of the process was a hunch based on the 'look' of the lichen, similar to a pale version of *P. oleagina*. Microscopic examination revealed a similar structure and photobiont cells to *P. oleagina.* The thallus lacked the deep olive colour of *P. oleagina* and no 'K+ oily' reaction was observed on adding K to a microscope section of thallus. Reference to available information on the internet (including photographs) provided sufficient confidence to report *P. hypotremella*, formerly unknown in the British Isles, but present on the near Continent. When the opportunity arises, it would be useful further confirmation to compare the new English material with named specimens from the Continent. The second find was on a rather different tree, a post mature parkland tree with a quite varied and interesting lichen assemblage, with *Pertusaria pertusa* the main associated species. The resemblance to *P. oleagina* was also noted in the field, along with the markedly paler colour. With close examination *P. hypotremella* differs from *P. oleagina* in the presence of small squamule like granules as well as the isidiate granules typical of *P. oleagina* and in the lack of the 'K+ oily' reaction.

See <https://twitter.com/obfuscans3/status/1246187041634779142> and <https://www.fungi.org.uk/viewtopic.php?f=16&t=2913>. **BLS No. 2777.**

M. Powell & N.A Sanderson

Rinodina freyi H. Magn. (1947): on smooth bark of twigs and branches. (i) Glenuig, woods near Glenuig Hall, VC 97, Westerness, GR NM669.774, alt 5–30 m, October 2009 ; (ii) on *Corylus*, Glen Stockdale, VC 98, Argyll Main, GR NM936 .474, alt 85–90 m, June 2018. B.J. Coppins, A. Acton & A. Griffith, (Coppins 23152, **E**). (iii) on *Sorbus aucuparia* within hazelwood on steep, west-facing slope, Croig, Tigh an Fhasgaidh, Mull, VC 103, Mid Ebudes, GR NM4027.5348, alt 10 m, September 2016. Z. Palice *et al*. (Palice 25696, **E**, **PRA**). (iv) on *Corylus* in the open, Sanday, VC 104, North Ebudes, GR NG271.045,), April 2015. B.J. & A.M. Coppins 25276 (**E);** (v) on

Acer pseudoplatanus by cottage, Torridon, lower part of Abhainn Alligin, VC 105, West Ross, GR NG83-57-, June 1994. B.J. Coppins 24896 (**E**); (vi) on *Corylus*, *Fraxinus* and *Sorbus*, south of Dundonnell House, VC 105 West Ross GR NH11.85, alt 50 m, November 2007. B.J. & A.M. Coppins, 16390–16392 (**E**); (vii) on *Fraxinus*, Strathcarron, NE of Ribhuachan, NG93–43–, alt 10 m, September 2010, B.J. & A.M. Coppins 22459, 22463 (**E); (**viii) on *Fraxinus*, Scourie, Loch a'Mhuilinn NNR, VC 108, West Sutherland, GR NC163.391, alt 15 m, May 2002. B.J. & A.M. Coppins 23131 (**E**); (ix) on *Corylus*, *ibid*., alt 20 m, May 2004. B.J. & A.M. Coppins 20558 (**E**); (x) on *Salix*, B.J. & A.M. Coppins and J. Hope (Coppins 21258, **E**). Although recognised as a distinct species occurring in the Western Highlands and Islands, I had struggled for many years to find a name for it with collections being filed as *R*. cf. *exigua* or *R*. aff. *septentrionalis*. The closest I got was R. *septentrionalis*, and indeed in fact it is a close relative, *R. freyi* (syn. *R. glauca* Ropin). I am much indebted to Zdenek Palice for alerting me to his, and in turn to Helmut Mayrhofer for confirming the identity of Zdenek's above-cited collection from Argyll. With its almost exclusive occurrence on twigs, it can be confused with *R. sophodes*, but that species has *Milvina*-type spores with thin apical walls, whereas *R. freyi* has *Physcia*-type spores with distinctly thickened apical walls, 16.5–20 × 7–9(–10) µm. Furthermore, *R. freyi* has a very thin greenish grey thallus, with thin flat areoles and a thinner thalline margin. It is apparently widely occurring in the Northern Hemisphere: in Central Europe and Norway, northeast Asia and North America (see Sheard *et al*. in *Lichenologist* **49:** 617–672. **BLS No. 2775.** *B.J. Coppins*

Sporormiella intermedia (Auersw.) S.I. Ahmed, Cain & Kobayasi (1969): on very moribund, white thallus of *Peltigera malacea*, Findhorn Dunes, VC 95, Morayshire, NJ049.638, February 2020, specimen in Herb. H. Paul. Determined by B.J. Coppins & P.F. Cannon. Considered to be facultatively or incidentally lichenicolous as this is a common fungus on dung and rotting vegetation. **BLS No. 2758.** *H. Paul*

Verrucaria pallidomurina Orange (2020): on limestone chippings on grave in churchyard, alt 70 m, St. Augustine's Church, Penarth, VC 41, Glamorgan, GR ST/18866.72035, August 2015. Herb. A. Orange 22835 (**NMW**). Related to *V. aethiobola*, but morphologically similar to some other 'small' species of disturbed terrestrial habitats; thallus at least partly epilithic, dirty white to grey-brown, but cortex at most dilute brown; perithecia forming low mounds 180–300(–360) µm diameter, ascospores (19.5–)21.5–25.5(–28.5) µm. Known from limestone and calcareous siliceous stones in Wales, England and Ireland. See Orange (2020) *Phytotaxa* **491** (1): 1–15. **BLS No. 2783**. *A. Orange*

Verrucaria tephromela G. Wahlenberg ex A. Orange (2020): on west-facing flushed rocks of slope above shore, with *Hydropunctaria maura*, Eilean an Taighe, northwest coast, Shiant Islands, VC 110, Outer Hebrides, GR NG41870.97214, August 2014. Herb. B.J. Coppins 24915 (**NMW** C.2015.005.64). A cryptic species that currently cannot be distinguished from *Verrucaria aethiobola* and *V. latebrosa* by morphology;

otherwise known from northern Norway. See Orange (2020) *Phytotaxa* **491** (1): 1–15. **BLS No. 2784**. A. *Orange*

Xenonectriella leptaleoides (Etayo) Etayo (2008): on thallus of *Leptogium cyanescens* on *Corylus*, Leitir Fura, Kinloch & Kyleakin Hills SSSI, Skye, VC 104, North Ebudes, NG73–15–, December 2007, Coppins 22884 (**E**). Collected as a *Pronectria* sp. but has a K+ purple perithecial wall. It has 8-spored asci, with 1-septate, hyaline to pale brown, verrucose-warted ascospores, 9.5–10(–12) × 4.5–5 µm. It was originally described as a *Pronectria* from Colombia by Etayo in *Bibliotheca Lichenologica* **84:** 97–99 (2002) and later transferred to *Xenonectriella*. It has since been recorded from Guatemala, Ecuador and Peru, on several species of *Leptogium* s. str. It is apparently new to Europe. **BLS No. 2773.** *B.J. Coppins*

Other Records

Abrothallus* aff.*parmeliarum: parasitising *Punctelia borreri* on fallen beech twig, Chapel Wood RSPB reserve, Braunton, VC 4, North Devon, GR SS483.414, alt 108 m, May 2020. Herb. Putnam. First occurrence on *P. borreri* in the county. Previously found on *Parmelia saxatilis* on Q*uercus.* *M. Putnam & J. Skinner*

Arthonia anglica: three larger thalli plus a scatter of smaller thalli less than 1cm across, on mesic bark, associated with *Buellia griseovirens*, *Graphis elegans*, *Lecanora argentata*, *Lecanora jamesii*, *Mycoporum antecellens*, *Pertusaria pertusa*, *Pertusaria pustulata* and *Pyrrhospora quernea,* on a veteran *Fagus* within grove of old *Fagus* in heathland, Bratley Water, New Forest, VC 11, South Hampshire, GR SU2332.0897, alt 65 m, June 2020. The second modern record of the species from the New Forest and England and the first record on beech in Europe, since Borrer's collection from Sussex in the early 19th century. These thalli looked disconcerting like large *Arthonia radiata* thalli but the combination of the spores having an enlarged end cell and the fleeting C + red reaction in apothecia cross sections are distinctive. *N.A Sanderson*

Arthonia graphidicola: on *Graphis scripta* on large old *Corylus avellana* trunk in wet woodland, Coed Nantyronnen, *c*. 0.5 km north-east of Pisgah, VC 46, Cardiganshire, GR SN680.781, alt *c*. 150 m, April 2020. Field record. The fourth record for the species and sixth for Wales and a new hectad. *S.P. Chambers*

Arthopyrenia cinereopruinosa: on young *Fraxinus,* Knockchree Hill, Mourne Park, VC H38 Co. Down, J272166, January 2020, Herb: A.J. Hotchkiss. New to the Vice-county. *A.J. Hotchkiss*

Arthopyrenia salicis: on younger stem of old *Corylus* bush, on redundant boundary bank between formerly enclosed pasture woodland and hay meadow in former lodge grounds, currently the area is being restored from plantation, Pitts Wood Inclosure,

New Forest, VC 11, South. Hampshire, GR SU1975.1459, alt 70 m, May 2020. New to the county. *N.A Sanderson*

Arthothelium ruanum: scattered on old *Corylus* bushes in early 19th century *Quercus* plantation, Ironshill Inclosure, New Forest, VC 11, South Hampshire, GR SU314.099, SU314.100, SU315.100 & SU316.099, alt 25–30 m, April 2020. First recent record of the species for Hampshire *N.A Sanderson*

Bacidia absistens: on *Corylus* in old hazel stand, Keelhilla & Eagle's Rock Nature Reserve, Slievecarran, The Burren, VC H9, Clare, GR M329.041, alt 160 m, October 2008. Coppins 25765 (**E**). New to the Vice-county. *B.J. & A.M. Coppins*

Bacidia assulata: in small wound tracks on veteran *Fagus* within pasture woodland in floodplain, Mallard Wood, New Forest, VC 11, South Hampshire, GR SU3146.0894, alt 25 m, May 2020. A new 10 km record for what appears to be a rare and threated taxon, which is probably not *Bacidia assulata* s. str. *N.A Sanderson*

Bellicidia incompta: (*Bacidia incompta*): on broken *Ilex*, growing in wound on exposed lignum, inside a wood within parkland, Charlwood, Knepp Castle Park, VC13, West Sussex, GR TQ1520.21727, alt 10 m, July 2020. A new site for this Vulnerable Section 41 lichen. *N.A Sanderson*

Bellicidia incompta: on bark of ancient field maple, Bredon Hill NNR, VC 37, Worcestershire, GR SO940.398, December 2019. Herb. Lamacraft. First record for the species from VC 37 since the 1920s. *D.M. Lamacraft*

Bacidia subturgidula: on lignum on dead snag of ancient oak pollard, Hawkcombe NNR, VC 5, South Somerset, GR SS875.458, Dec 2019. Herb. Lamacraft. New record for VC 5 of this rare near-endemic. *D.M. Lamacraft*

Bryoria bicolor: three colonies containing a total of *c.* 17 small tufts on sheltered east-facing sides of three large siliceous boulders within riverside stand of wet *Juncus effusus* vegetation in upland valley, beside Afon Hengwm, *c.* 1 km west of Fuwch-wen-a-llo, VC 46, Cardiganshire, GR SN800.901, alt 425 m, August 2020. Field record. The third Vice-county record for the species. *S.P. Chambers*

Buellia leptocline: on iron-rich sandstone boulder in upland grassland by Afon Gwngu, *c.* 1.25 km east of Llyn Gwngu, VC 46, Cardiganshire, GR SN853.727, alt 414 m, June 2020. Herb. SPC. The second extant Vice-county location for the species. S*.P. Chambers*

Calicium trachylioides: locally abundant on west-facing, pine panel fence, opposite car park, Dryburgh Abbey, VC 81 Berwickshire, GR NT5928.3185, alt 80 m,

September 2020. Coppins 25965 (**E**). Second British record of the Critically Endangered species. *A.M. & B.J. Coppins*

Caloplaca asserigena: one thallus on south side of softwood fencepost in fence line crossing moorland, Cripiau Eisteddfa-fach, VC 47, Montgomeryshire, GR SN800.845, alt 490 m, July 2020. Field record. New to the Vice-county. *S.P. Chambers*

Carbonea supersparsa: on both *Lecanora intricata* and *L. polytropa* on top of an Ordovician siliceous boulder, Hengwm valley, *c.* 2 km north-northwest of Pumlumon Fawr, VC 46, Cardiganshire, GR SN782.890, alt 365 m, August 2020. Field record. New to the Vice-county on the first of the host lichens. *S.P. Chambers*

Catillaria aphana: on west wall of church, Meshaw, VC 4, North Devon, GR SS758.196, alt 168 m, August 2020. New to the Vice-county. *N.G. Bacciu & M. Putnam*

Catillaria nigroclavata: on *Crataegus* twigs, opposite Mount Talbot Cemetery, Suck Valley Way, VC H25, Roscommon, M8--5--, November 2008. Specimen not retained. New to the Vice-county. *B.J. & A.M. Coppins*

Chaenotheca trichialis: locally frequent in craggy dry bark crevices on trunk of veteran *Quercus* on interface of stream dingle woodland and sheep pasture, south side of Coed Nantyronnen, *c.* 1 km south-west of Aberffrwd, VC 46, Cardiganshire, GR SN678.780, alt *c.* 100 m, April 2020. Herb. SPC. The third Vice-county record and last seen in 1996. *S.P. Chambers*

Chaenotheca hispidula: on ancient holly, Coed Crafnant, VC 48, Merionethshire, GR SH6172.2864, July 2020. Herb. Lamacraft. New to the Vice-county. *D.M. Lamacraft*

Chaenothecopsis pusilla: on dry sawn timber of small wooden shelter, Dolforwyn Wood, Abermule, VC 47, Montgomeryshire, GR SO16–97–, September 2018. Herb. A.J. Hotchkiss. Determined by *N.A. Sanderson*, New to the Vice-County. *A.J. Hotchkiss*

Chaenothecopsis pusilla: on well-lit lignum of dry fallen *Quercus* trunk, Coed Crafnant, VC 48, Meirionethshire, GR SH61772.28775, July 2020. Herb. Lamacraft. Also present *Chaenotheca brunneola*, *Hypocenomyce scalaris* (fertile), *Cladonia incrassata* and *C. parasitica.* *D.M. Lamacraft*

Cladosporium licheniphilum: parasitising squamules and podetia of *Cladonia pyxidata* on moss at Barbrook, VC 4, North Devon, GR SS70–47– and SS70–46–, alt 235 m, August 2020. New to the county and the south-west. *M. Putnam & N.G. Bacciu*

Clauzadea chondrodes: on calcareous pebble embedded in soil on south facing slope,

Bindon Hill, VC 9, Dorset, GR SY835.801, alt 107 m, December 2019. Confirmed by B.J. Coppins. New to Dorset. *N.G. Bacciu*

Coniocarpon fallax: on trunk of *Populus sp.*, Iron Mill Bridge, VC 4, North Devon, GR SS925.208, alt 126 m, May 2020. Species recently described by Frisch et al 2020 *Mycokeys* **62**: 27-51. New to the Vice-county. *N.G. Bacciu & Devon Lichen Group*

Cornicularia normoerica: two records from VC46, Cardiganshire; (i) patch of *c.* seven tiny *c.* 1 cm tufts on steeply sloping face of siliceous rock outcrop below the summit of Pen Lluest-y-garn, *c.* 1 km south-east of Pumlumon Fawr, GR SN800.865, alt 705 m, July 2020; (ii) scattered small thalli on Ordovician (Pencerrigtewion Member) gritstone boulders and rock outcrops, Craig yr Eglwys, Cwm Gwerin, *c.* 2 km north-east of Pumlumon Fawr, GR SN803.894, alt 510-530 m, August 2020. Field records. The second and third Vice-county records for the species and not seen since 1995. *S.P. Chambers*

Cryptolechia carneolutea: a large spread of sterile thallus on twisted knobbly veteran *Fagus*, within *Fagus* dominated pasture woodland, Bignell Wood, New Forest, VC 11, South Hampshire, GR SU2776.1343, alt 40 m, May 2020. A substantial colony recorded in a new area of the New Forest. This Endangered and Section 41 lichen is highly threatened by ash dieback outside of the New Forest. *N.A Sanderson*

Didymocyrtis ramalinae: both anamorph and teleomorph forms present on *Ramalina fastigiata* on twig of *Malus domestica*, Gwelfro, Pennant, VC 46, Cardiganshire, GR SN513.637, alt 160 m, May 2020. Herb. Newbery (20/135). Confirmed by S.P. Chambers. The first Vice-county record for the species and new to Wales. *F. Newbery*

Diplotomma chlorophaeum: (i) on flint on south wall of church (St Mary), Old Hunstanton, VC 28, West. Norfolk, GR TF689.420, February 2020, collected by P. Findlay, confirmed by B.J. Coppins; (ii) on flint on south wall of church (St Mary the Virgin), Titchwell, VC 28, West Norfolk, GR TF762.438, February 2020; (iii) on flint on south wall of church (St Margarets), Lyng, VC 27, East Norfolk, GR TG068.178, June 2020; (iv) on flint on south wall of church (St Marys), Walcott, VC 27, East Norfolk, GR TG360318, September 2020. Previously considered to be a species of western coasts but now found to have a wider ecological and geographical amplitude occurring on flint on churches in both coastal and inland situations in Norfolk. Should be looked for elsewhere in East Anglia. *P.W. Lambley*

Diplotomma chlorophaeum: as a result of the work of P.W. Lambley *et al.* and confirmation by B. J. Coppins for Norfolk, see above, it is now possible to list the records made in Suffolk from similar thalli; (i) on flint on boundary wall of churchyard, St Andrew, Covehithe, VC 25, East Suffolk, GR TM52–81–, May 1983. Herb. Hitch (F). New to the county; ii) on flint on west wall of St. Mary Magdalene church, Withersdale, VC 25, East Suffolk, GR TM28–80–, September 1987. Herb.

Hitch (F9) with P.N. Cayton; (iii) on south wall windowsill of All Saints church, Little Bealings, VC 25, East Suffolk, GR TM22–47–, October 1989. Herb. Hitch (V6/B) with P.N. Cayton; (iv)on stone embedded in cement south facing on boundary wall of churchyard, St Peter, Cockfield VC 26, West Suffolk GR TL90–54–February 1992. Herb. Hitch (H1) with P.M. Earland-Bennett; (v) on smooth stone embedded in cement on north wall St. Andrews church, Mickfield, VC 25, East Suffolk, TM13–61–. April 1993. Herb. Hitch (N9. with P.M. Earland-Bennett; (vi) on flint, St. Andrew and St. Patrick churchyard, Elveden, VC 26, West Suffolk, GR TL822.799, August 1996. Herb. Hitch (T13); (vii) on acidic stone, embedded in a massive block of concrete, at back of pebbly shore, Shingle Street SSSI, VC 25, East Suffolk, GR TM36–41–, August 2000. Herb. Hitch (D4/A) with O.L. Gilbert; (viii) on stone pebble on east wall of St. Catherine church, Tannington, VC 26, West Suffolk GR TL242.675, April 2005. Herb. Hitch (H48). *C.J.B. Hitch*

Diplotomma pharcidium: on bark on large limb of old field edge ash, Llanengan, VC 49, Caernarfonsh*re*, GR SH295.271, April 2020. Herb. Lamacraft. New to Wales and first record for VC49. Associated with rich community on old boundary ash and sycamores, including *Schismatomma graphidioides, Anisomeridium robustum*, *Gyalecta derivata* etc. Confirmed by S.P Chambers. *D.M. Lamacraft*

Echinodiscus lesdainii: on thallus of *Lecania sylvestris* on limestone cliff under trees, Muckross Peninsula, Killarney, VC H2, V96–86–, April 1996. Coppins 25881 (**E**, sub *Lecania sylvestris*). New to the Vice-county. *B.J. Coppins*

Endococcus verrucosporus: parasitising *Ionaspis lacustris* on metamorphic rocks along the River Teign, Fingle Woods complex, VC 3, South Devon, GR SX762.898, alt 113 m, August 2020. New to the Vice-county. *N.G. Bacciu & B.Benfield*

Enterographa brezhonega: on three veteran oaks within *Fagus – Quercus robur* pasture woodland in the former lodge grounds of Ladycross Lodge, Ladycross Inclosure, New Forest, VC 11, South Hampshire, August 2020. Parasitising *Porina rosei* auct. Brit. p. p. (not true *Porina rosei*, but the widespread morph with isidia up to 50µm wide, now known not to be a *Porina sp.*) A large population and new location for a rarely recorded Vulnerable lichenicolous *Enterographa*. *N.A Sanderson & A.M. Cross*

Eopyrenula grandicula: on *Corylus* within old *Corylus* stand, Keelhilla & Eagle's Rock Nature Reserve, Slievecarran, The Burren, VC H9, Clare, M329.041, alt 160 m, October 2008, specimen not retained. New to the Vice-county. *B.J. & A.M. Coppins*

Fellhanera ochracea: on bark regrowing after being chewed by ponies in the past, on *Ilex* bushes, within *Fagus – Quercus petraea – Ilex* pasture woodland, Denny Wood, New Forest, VC11, South Hampshire, GR SU3294.0580, SU3301.0572, alt 40 m, June 2020. New to the New Forest and Hampshire. *N.A. Sanderson*

Graphina pauciloculata: on *G. ruiziana* on branch of *Rhododendron ponticum* in Atlantic gorge *Quercus* woodland, west-bank of Afon Rheidol below Coed Tanycastell, *c.* 0.75 km north-west of Devil's Bridge, VC 46, Cardiganshire, GR SN733.776, alt 80 m, May 2020. Field record. A novel phorophyte for the Vice-county, but an unfortunate choice given the threat it poses to the habitat. *S.P. Chambers*

Graphis inustuloides: on trunk of mature *Fagus* within planted woodland, Stornoway Castle Grounds, Isle of Lewis, VC 110, Outer Hebrides, GR NB409.335, alt 56 m, December 2016. Confirmed by B. J. Coppins. New to the Vice-county. *T. ap Rheinallt*

Heterodermia leucomelos: on moss in short turf on clifftop, Morte Point, VC 4, North Devon, GR SS4428.4553 and SS4436.4558, alt 10–15 m, July 2020. Rediscovery at a site where it was declared extinct and last recorded by Edward Holmes in 1878.
N.G. Bacciu, M. Breeds & M. Putnam

Illosporiopsis christiansenii: on *Physcia tenella* on *Corylus* within *Corylu*s stand, Poulnalour, The Burren, VC H9, Clare, R291.949, alt 100 m, November 2008, specimen not retained. New to the Vice-county. *B.J & A.M. Coppins*

Lasallia pustulata: (i) on rock outcrop, Dunconnel Hill, Lochwinnoch, VC 76, Renfrewshire, GR NS33.59, alt 210 m, July 2001, and July 2020. (ii) near Lochwinnoch at Nockmade Hill, NS352.618, alt 190 m, June 2020. The first find in 2001 made with Keith Watson. A new record for the county. *B. Mellor*

Lecanora quercicola: on mesic bark on large *Quercus* by glade within *Quercus* dominated pasture woodland, in the driftway east of Ladycross Lodge, between Frame Heath and Hawkshill Inclosures, New Forest, VC 11, South Hampshire, GR SU3436.0261, alt 40 m, June 2020. The second recent record of the species for the New Forest for a rarely recorded Section 41 and Vulnerable lichen.
N.A Sanderson & A.M. Cross

Lecanora sublivescens: on two veteran *Quercus*, one recently dead, and a *Juglans regia* in parkland, Knepp Castle Park, VC 13, West Sussex, GR TQ1553.2149, TQ1523.2202 & TQ1495.2184, alt 10–15 m, July 2020. New to the site and a significant new population for this Near Threatened and Section 41 lichen.
N.A. Sanderson

Lecanora zosterae: on shale and on dead thrift on Morte Point, VC 4, North Devon, GR SS444.454, alt 10 m, July 2020. Rarely recorded on rock.
N.G. Bacciu, M. Breeds & M. Putnam

Lecidea confluens: rare on Ordovician gritstone boulder in clitter below summit of Pen Cerrig Tewion, *c.* 1 km north-northeast of Pumlumon Fawr, VC 46,

Cardiganshire, GR SN798.882, alt 670 m, July 2020. Field record. Second Vice-county record for the species. *S.P. Chambers*

Lecidea herteliana: three records from VC 46, Cardiganshire; (i) on west-facing side of large siliceous boulder beside bouldery channel of upland stream on north-facing hillside, Nant Byr, *c.* 0.75 km east-southeast of Cwmystwyth, GR SN796.737, alt 270 m, June 2020; (ii) on sloping east-facing rockface outcropping at ground-level on hillside *c.* 70 m above west side of Llyn Gwngu, GR SN837.730, alt 450 m, June 2020; (iii) on west-facing, rain-flushed rockface beside upland watercourse, Afon Gwngu, GR SN856.729, alt 398 m, June 2020. Herb. SPC. The first Vice-county records and the most southerly stations in Britain for this recently described submontane lichen, known elsewhere in Wales only from Snowdonia (Carnedd Llewellyn) in VC 49, Caernarvonshire. *S.P. Chambers*

Lecidea promixta: (i) on two 'peat-pickled' stones exposed on stony floor of peat erosion complex in montane blanket mire, *c.* 500 m south of Pen Lluest-y-garn, VC 46, Cardiganshire, GR SN800.859, alt 620 m, July 2020; (ii) on stones exposed in small area of eroded peat in montane heath, Bryn Cras, *c.* 1 km north of Pumlumon Arwystli, VC 46, Cardiganshire, GR SN818.892, alt 628 m, August 2020. Field records. The third and fourth Vice-county records for the species and the first record from the Pumlumon range. *S.P. Chambers*

Lempholemma chalazanellum: locally frequent on east-facing walls of ruins of Dryburgh Abbey, VC 81 Berwickshire, GR NT59.31, alt 80 m, September 2020. Coppins 25966 (**E**). Ascospores ellipsoid and lacking a perispore, 10–12 × 5–6 µm. New to the county. *B.J. & A.M. Coppins*

Lichenotubeufia heterodermia: parasitising *Physcia aipolia* on *Populus* twig, edge of cricket pitch, Delamere House, VC 3, South Devon, GR SX598.598, alt 121 m, October 2019. New to Devon. *N.G. Bacciu*

Lichenotubeufia heterodermia: parasitising *Physcia leptalea* on *Prunus spinosa*, Windmill Farm Nature Reserve, VC 1, West Cornwall, GR SW693.151, alt 85 m, November 2019. New to the county. *N.G. Bacciu*

Melanelixia subaurifera: fertile on fallen twig of *Fagus sylvatica*, Fingle Woods complex, VC3, South Devon, GR SX761.897, alt 113 m, August 2020. **(K)** Images of this species, rarely found fertile, are now on the Fungi of Great Britain and Ireland website. *N.G. Bacciu*

Melanohalea elegantula: on *Acer pseudoplatanus*, Kelly Mains Reservoir, VC 76, Renfrewshire, GR NS2063.6924, alt 135 m, April 2020, Specimen not retained. Determined by B.J. Coppins. New to the Vice-county. *D. Callender*

Micarea ternaria: on siliceous pebble embedded in ball clay waste, Meeth Quarry DWT, VC 4, North Devon, GR SS5277.0797, alt 67 m, February 2020. Confirmed by B.J. Coppins. New to the county. *N.G. Bacciu, M. Putnam & J. Skinner*

Mycocalicium subtile: on standing recently dead *Quercus,* in parkland, Knepp Castle Park, VC 13, West Sussex, GR TQ1564.2223, alt 15 m, July 2020. New to the county. *N.A. Sanderson*

Minutoexcipula tephromelae: parasitising *Tephromela atra* on the east-facing outer boundary wall of the churchyard, Shobrooke, VC 3, South Devon, GR SS863.011, alt 76 m, June 2020. New to the county. *N.G. Bacciu, M. Putnam & J. Skinner*

Minutoexcipula tephromelae: on *Tephromela atra* on west-facing vertical side of Ordovician siliceous rock outcrop, Craig yr Eglwys, Cwm Gwerin, *c.* 2 km north-east of Pumlumon Fawr, GR SN801.893, alt 430 m, August 2020. Herb. SPC. This lichenicolous fungus has been recorded from a total of 12 church and chapel sites to date in the Vice-county, but this is the first find in a semi-natural habitat. *S.P. Chambers*

Montanelia disjuncta: on slate roof, West Down, Ilfracombe, VC 4, North Devon, GR SS517.420, alt 155 m, June 2018. Herb. Putnam. Determined by J. Skinner. First record for the Vice-county and first recent record for Devon for a species usually found on natural rock outcrops. *M. Putnam*

Nectriopsis physciicola: parasitising *Xanthoria parietina* and *Physcia aipolia* on branch of *Fraxinus excelsior,* Leith Hill House, VC 17, Surrey, GR TQ134.425, alt 186 m, November 2019. New to the county. *M. Putnam & P. Cannon*

Nectriopsis rubefaciens: parasitising *Pertusaria albescens* on a Quercus trunk, Newbridge, VC3, South Devon, GR SX708.702, alt 108 m, April 2019. New to the Vice-county. *N.G. Bacciu*

Nigromacula uniseptata: on fertile *Hypotrachyna laevigata* on fallen branch of *Quercus petraea* in old *Quercus* wood, north-side of the Nant y Fawnog ravine, Coed Rheidol, VC 46, Cardiganshire, GR SN732.774, alt 80 m, May 2020. Material consumed in i.d. The second and third Welsh records for this species. *S.P. Chambers*

Nigromacula uniseptata: on *Hypotrachyna laevigata* on fallen branch, Coed Ganllwyd, Ganllwyd, VC 48, Merionethshire, GR SH723.241, March 2017. Herb. DML. Second record of this species for the Vice-county. *D.M. Lamacraft*

Opegrapha pertusariicola: on *Pertusaria leioplaca* on *Corylus* in hazel stand, Poulanine, The Burren, VC H9, Clare, M23-00-, alt 140 m, November 2008, specimen not retained. New to the Vice-county. *B.J. Coppins*

Parmelina pastillifera: occurring fertile on mossy branch of *Fraxinus* at the edge of path leading to Bellever Tor, Dartmoor, VC 3, South Devon, GR SX6523.7733, alt 345 m, February 2020. Very rarely found fertile, this thallus had three young apothecia present. *N.G.Bacciu*

Pectenia cyanoloma: on *Corylus* in old *Corylus* stand, Keelhilla & Eagle's Rock Nature Reserve, Slievecarran, The Burren, VC H9, Clare, M329.041, alt 160 m, October 2008, Specimen not retained. New to the Vice-county, although most records of *Degelia plumbea* from western Ireland probably belong to this species. *B.J. & A.M. Coppins*

Peltigera degenii: on mossy *Fagus* stump, Ardgowan Estate, VC 76, Renfrewshire, GR NS2068.7322, alt 10 m, April 2020, Herb.in **E**. Determined by B.J. Coppins. New to southern Scotland. *D. Callender*

Pertusaria amara (Lepra amara): abundantly fertile on bark on lower trunks of ancient spreading *Quercus*, Black-a-tor Copse, VC 4, North Devon, GR SX567.889, September 2017. *D.M. Lamacraft*

Pertusaria amara* f. *pulvinata (Lepra pulvinata): material on ancient *Fagus* with apothecia containing asci but no spores, within *Fagus – Quercus petraea – Ilex* pasture woodland, New Forest, VC 11, South Hampshire, Great Wood, Bramshaw, GR SU1975.1459, alt 80 m, May 2020. This taxon is now known to be not closely related to *Pertusaria amara* (*Lepra amara*) and has been named *Lepra pulvinata.* It appears to be a rare species of old growth woodland in southern Europe. It is not normally fertile but very similar fully fertile material is usually placed in *Lepra slesvicensis*, but this latter taxon has not been sequenced yet, so its relationship with either *Lepra pulvinata* or *Lepra amara* is not yet clear.
<http://italic.units.it/index.php?procedure=taxonpage&num=1684>. *Lepra slesvicensis* does look very like it may be fully fertile *Lepra pulvinata*, in which case *Lepra slesvicensis*, is the older name. *Lepra pulvinata* is a rare taxon of old growth woodland, which has in the past been overlooked for *Pertusaria multipuncta* (*Lepra multipuncta*), but this is always fertile and has different spot tests. *N.A. Sanderson*

Pertusaria coronata: on mesic bark on large spreading post mature *Quercus*, in parkland, Knepp Castle Park, VC 13, West Sussex, GR TQ1523 2202, alt 15 m, July 2020. New to the Vice-county. This species appears to be rare in England, and confined to high quality habitats, but can be easily overlooked for the similar *Pertusaria coccodes*. It can be separated by scanning with UV light and having orange rather than white fluorescence. *N.A. Sanderson*

Pertusaria lactescens: on sandstone headstone in churchyard, (All Saints) Kettlestone, VC 28, West Norfolk, GR TF968.812, July 2020. Herb PWL. Confirmed by I. Pedley. New to the county. *P.W.Lambley*

Phacographa zwackhii: (*Opegrapha zwackhii*): (i) parasitic on *Phlyctis argena* on veteran *Fagus* within open relic pasture woodland in driftway, Beechen Lane, between Pondhead and Park Ground Inclosures, New Forest, VC 11, South Hampshire, GRSU3084.0668, alt 40m, July 2020; (ii) parasitic on *Phlyctis argena* on veteran *Fagus* by glade, within *Fagus – Quercus petraea – Ilex* pasture woodland, Bramshaw Wood, New Forest, VC 11, South Hampshire, GR SU2567.1670, alt 40 m, August 2020. First records for England for what appears to be a rare lichenicolous fungus. Potentially overlooked as although placed (until recently) under *Opegrapha*, this fungus does not have lirellae but has rounded apothecia resembling rough *Dactylospora* apothecia. These appear to burst through the *Phlyctis* thallus and could be overlooked as a bark fungus. *N.A. Sanderson & A.M. Cross*

Phacothecium varium: (syn. *Opegrapha physciaria*): on *Xanthoria aureola* on sea-shore rocks, Cloch Point, VC 76, Renfrewshire, GR NS203.578, June 2020. Herb. specimen in **E**. Determined by B.J. Coppins. New to the Vice-county, and possibly a new host. *D. Callender*

Phylloblastia inexpectata: on *Laurus* sp. leaf, river valley woodland, Iron Mill Bridge, Oakford, VC 4, North Devon, GR SS926.208, alt 124 m, May 2020. New to the Vice-county. *B. Benfield & Devon Lichen Group*

Phylloblastia inexpectata: on shaded *Ilex* leaf at Ashclyst NT, VC 3, South Devon, GR SX9962.9927, alt 109 m, April 2020. New to Devon. *N.G. Bacciu*

Physconia enteroxantha: on trunk of large, recently fallen tree within planted woodland, Stornoway Castle Grounds, Isle of Lewis, VC 110, Outer Hebrides, GR NB4220.3401, alt 20 m, January 2016. Determined by B. J. Coppins. New to the Vice-county. *T. ap Rheinallt*

Polyblastia albida: on lower third of three well lit, west-facing limestone headstones in churchyard, Kenn, VC 3, South Devon, GR SX922.857, alt 34 m, June 2020. New to Devon. *N.G. Bacciu*

Polycoccum minutulum: on *Trapelia placodioides* on north-side of Ordovician boulder, *c.* 1 km north-northwest of Pumlumon Fach, VC 46, Cardiganshire, GR SN782.890, alt 365 m, July 2020. Material consumed in i.d. The second and third Vice-county and Welsh records. *S.P. Chambers*

Porina byssophila: on shaded and sheltered *Corylus* within ancient woodland, in amongst *Strigula taylorii*, Coed Copi'r Graig, Pont Llogel, VC 47, Montgomeryshire, GR SJ03–15–, January 2020. Herb. A.J. Hotchkiss. New to the Vice-county. (Thanks to M. Powell for spotting it on a photograph and suggesting checking for it). *A.J. Hotchkiss*

Porina collina: fertile in moist crevices on sheltered north side of a large Ordovician sandstone boulder in upland valley, west end of the Hengwm valley, *c.* 2 km north-northwest of Pumlumon Fawr, VC 46, Cardiganshire, GR SN782.890, alt 365 m, July 2020. Herb. SPC. Second British record and location for this newly described species. New to Wales. *S.P. Chambers*

Pronectria oligospora: parasitising *Punctelia subrudecta* on *Salix* on branch, South Zeal, VC 4, North Devon, GR SX647.928, alt 273 m, October 2019. New to the Vice-county. *N.G.Bacciu*

Pronectria santessonii: parasitising *Anaptychia runcinata* on outcrop of serpentine, Chynhalls Point NT, VC 2, East Cornwall, GR SW7847.1750, alt 10 m, November 2019. New to the county. *N.G.Bacciu*

Pronectria santessonii: parasitising *Anaptychia runcinata* on maritime, siliceous shale, Morte Point, North Devon, GR SS444.454, alt 10 m, July 2020. New to the Vice-county. *N.G. Bacciu, M. Breeds & M. Putnam.*

Pycnothelia papillaria: in short mossy heath with various *Cladonia spp.*, Colaton Raleigh, VC 3, South Devon, GR SY042.875, alt 140 m, May 2020. First record of the species in East Devon since the early 1980s. *N.G. Bacciu*

Pyrenula acutispora: single thallus on base of *Corylus avellana* poles on two blown over but living bushes, in sheltered Atlantic *Quercus* wood, south side of Nant y Fawnog ravine, Coed Rheidol NNR, VC 46, Cardiganshire, GR SN732.774, alt 90 m, May 2020. Herb. SPC. Second Vice-county record for the species. *S.P. Chambers*

Ramalina cuspidata: on sea-shore rocks, Cloch Point, VC 76, Renfrewshire, GR NS203.578, June 2020. Herb. specimen in **E**. Determined by B.J. Coppins. New to the Vice-county. *D. Callender*

Rhizocarpon subgeminatum: sparse and poorly developed on weakly nutrient-enriched Ordovician sandstone boulder tops, Craig yr Eglwys, Cwm Gwerin, *c.* 2 km north-east of Pumlumon Fawr, VC 46, Cardiganshire, GR SN803.894, alt 460-530 m, August 2020. Verified from sample not retained. Third Vice-county record for the species and a new hectad. *S.P. Chambers*

Rhizocarpon geminatum: on slate roof of outbuilding in churchyard, Shobrooke, Crediton, VC 3, South Devon, GR SS862.011, alt 87 m, June 2020. Herb. Putnam. New to the south west and only the third site for England. *N.G. Bacciu, M. Putnam & J. Skinner*

Rhymbocarpus cruciatus: parasitising *Diploicia canescens* on mature *Quercus robur* (no. 202), Folly Farm, VC 6, North Somerset, GR ST607.604, alt 117 m, October 2019. New to the Vice-county. *N.G. Bacciu & D.J. Hill*

Rinodina exigua: on base rich bark on well lit veteran *Quercus* within woodland in parkland, Highwood Copse, Royden Woods, New Forest, VC 11, South Hampshire, GR SU3148.0141, alt 25 m, May 1995. New to Hampshire. Originally collected as *Rinodina exigua* s. lat., but later renamed as *Rinodina oleae* following the general opinion on the identity of British material, however, with re-examination of the specimen during lockdown, it proved actually to be *Rinodina exigua* s. str.

N.A. Sanderson

Rinodina fimbriata: on metamorphic rocks alongside River Teign, Fingle Woods complex, VC 3, South Devon, GR SX762.898, alt 113 m, June 2020. A rarely recorded lichen in Devon. *N.G. Bacciu & B. Benfield*

Roselliniella cladoniae: parasitising podetial stalk of *Cladonia portentosa* on top of granite wall, Shilley Brook, Dartmoor, VC 3, South Devon, GR SX655.912, alt 304 m, February 2020. New to the Vice-county. *N.G. Bacciu*

Schismatomma graphidioides: rare to frequent, on bark on trunks and large limbs of at least 7 young and old field edge *Acer pseudoplatanus* and on bark of large limbs and branches of large field edge *Fraxinus*, Llanengan, VC 49, Caernarfonshire, SH295.279, March 2020. Herb. Lamacraft. Second record of the species for VC 49.

D.M. Lamacraft

Schismatomma graphidioides: on *Platanus* trunk alongside River Exe, Belle Isle Park, VC 3, South Devon, GR SX9268.9132, alt 9 m, April 2020. A new site in Devon, unusual in an impoverished lichen community with only common lichens recorded in the vicinity. *N.G. Bacciu*

Scoliciosporum pruinosum: on vertical rock face in woodland, Tomies Wood, Killarney, VC H2, North Kerry, V91.88, April 1996. Coppins 25898 (**E**). New to the Vice-county and an unusual saxicolous record for this normally corticolous species.

B.J. & A.M. Coppins

Sphinctrina tubiformis: parasitising *Pertusaria pustulata* on veteran *Fagus* within relic patch of *Fagus*-dominated old growth pasture woodland within a 19th century *Quercus* plantation, South Oakley Inclosure, New Forest, VC 11, South Hampshire, GR SU23050611, alt 50 m, August 2020. A new site for this rarely recorded lichenicolous fungus, which in the New Forest, at least, has been confirmed only as parasitising this Vulnerable lichen, *Pertusaria pustulata* and not *Pertusaria leioplaca* as stated in Lichens of Great Britain & Ireland. *N.A. Sanderson*

Staurothele frustulenta: on flints embedded in concrete road, Ware Corner, Foulness, VC 18, Essex, GR TR019.945, alt.<5 m, September 2018. Herb. Skinner. New to the county. *J. Skinner*

Stigmidium congestum: parasitising *Lecanora chlarotera* on twig of *Ligustrum vulgare*, Braunton Burrows, VC 4, North Devon, GR SS447.349, alt 10 m, December 2019. New to the Vice-county. *N.G. Bacciu*

Strigula taylorii: on bark of old *Acer campestris*, Breden Hill, VC 37, Worcestershire, SO940.398, November 2019. Herb. Lamacraft. New to the county. *D.M. Lamacraft*

Taeniolella arthoniae: on *Lecanactis abietina* on *Quercus*, Altnaheglish Glen, Banagher Glen Woods, VC H40, Londonderry, C682044, alt 180–200 m, July 1991. Coppins 14495 (**E**). New to Ireland. *B.J. & A.M. Coppins*

Taeniolella pertusariicola: records from VC46, Cardiganshire; (i) on marginal areoles of *Ophioparma ventosa* f. *subfestiva* on a siliceous boulder, below Cefn Neint near the north bank of the Afon Elan, *c.* 2km east of Craig Cwmtinwen above the Cwmystwyth valley, GR SN850.747, alt 430 m, June 2020; (ii) on thallus of *Lepra* (*Pertusaria*) *aspergilla* on siliceous rock outcrop on north-facing hillside near stream head *c.* 600 m north of Pen Cerrig Tewion, Hengwm valley, GR SN798.889, alt 530 m, July 2020. Herb. SPC. Second and third British records for the species and new to Wales.

S.P. Chambers

Umbilicaria hirsuta: on granite boulder, gently sloping to the south, in clitter field, Crockern Tor, VC 3, South Devon, GR SX615.756, alt 374 m, January 2020, Herb. at **E.** Confirmed by B.J.Coppins. First record of this rare lichen south of Shropshire.

N.G. Bacciu

Vezdaea stipitata: over moribund hepatics on *Corylus* in old *Corylus* stand, by Green Road, Poulnalour, The Burren, VC H9, Clare, GR R299.945, alt 50 m, October 2008. Coppins 25805 (**E**). New to the Vice-county and second record of it for Ireland.

B.J. & A.M. Coppins

Xenonectriella leptaleae: parasitising *Physcia sp.*, Exebridge, VC 4, North Devon, GR SS933.246, alt 115 m, June 2020. New to Devon. *N.G. Bacciu*

Zwackhiomyces martinatianus: parasitising *Porpidia crustulata* on fragment of siliceous mine waste embedded in soil, Devon Great Consols, VC 3, South Devon, GR SX426.734, alt 101 m, January 2020. New to Devon. *N.G. Bacciu*

Zwackhiomyces martinatianus: parasitising *Porpidia crustulata* on many siliceous pebbles embedded in ball clay waste, Meeth Quarry DWT, VC 4, North Devon, GR SS527.097, alt 67 m, February 2020. New to the Vice-county. *N.G. Bacciu*

Notice of the Annual General Meeting 2021 and Programme of Events

Because of current and forecast travel restrictions due to the pandemic, the BLS Council has decided that holding a virtual AGM is, this year, in the best interests of the Society. We have both the challenge and the opportunity to connect with each other and conduct our Society business on 'Zoom'. This platform will, no doubt, be familiar with many members and has proved very useful for two Council meetings so far, allowing many members to join in discussions without long journeys.

We are very pleased that as a result of our virtual meeting, we can offer an extended range of lectures that will be able to be enjoyed by members around the world. The provisional programme below will hopefully whet your appetite. All members are encouraged to attend, from wherever in the world they may be!

Council is aware that there are members who do not use the internet and that all members must be able to see all papers and proposed motions in advance of the AGM and be able to register their votes. Council's intention, therefore, is to send out all officers' reports a month before the AGM.

All members with email will receive 'Zoom' invitations in advance of the meeting. As we go to press, the timings below are provisional; please watch the website and email announcements for updates.

Friday 29 January

18.30 – Swinscow Lecture: Dr Rosmarie Honegger

Title: Lichens: a more than 400 million-years-old success story

Lichens are a very old success story: fossils of dorsiventrally organised cyanobacterial and green algal lichens with internal stratification were found in Early Devonian (approx. 418 Ma old) sandstones from the Welsh borderland, with even their microbiome being preserved: bacterial films on the surface of the cortex, and filaments of endolichenic actinobacteria and fungi in the thalline interior. From the early 1970s onwards three powerful tools became available for studying lichen biology and the functioning of lichen symbiosis: electron microscopy (conventional and cryotechniques), genomics and information technology. The fine structure of asci, ascospore formation and release, of conidiogenesis and of the diverse types of mycobiont-photobiont interactions, the routes of solute translocation between the symbionts and the fate of cells under extreme drought stress could be explored. Phylogenies of myco- and photobiont taxa and of particular sequences of mating type or of hydrophobin genes of lichen-forming fungi, the latter playing a crucial role in the functioning of lichen symbiosis, could be analysed and compared with non-lichenized taxa. Today many colleagues focus on the microbiome of lichen thalli, the ever present bacterial epibionts and actinobacterial and fungal endobionts, and speculate about

their potential roles in the symbiosis. A model system for resynthesising all stages of lichen thallus formation and for studying the impact of representatives of the microbiome under controlled in vitro conditions is still missing, a challenge for experimental lichenologists!

Virtual lounge open with facilities for smaller groups to go into break-out rooms

Saturday 30 January

10.00 – Annual General Meeting

13-14.00 Lunch. Virtual lounge open with facilities for smaller groups to go into break-out rooms

Winter Meeting

14.00 Introduction – Becky Yahr, President of the Society

14.10 Research Talks

15.10 Management/Conservation Talks

16.10 – 16.30 Coffee break

16.30 Humanities Talks

17.10 Award Ceremony and Close

Sunday 31 January

11.00 Student Talks

12 – 12.15 Coffee Break

12.15 – 4.00 Virtual Field Meeting organised by NHM
Special Habitats for lichens in the British Isles

With contributions from lichenologists who have worked in these habitats.
Organisers: Pat Wolseley and April Windle

Timetable
Part 1
12.15 – 12.30 Introduction to virtual meeting & 'hosts'
12.30 – 1.30 Presentations (x3) *
1.30 – 2.15 Lunch. Virtual lounge open for smaller groups to go into break-out rooms

Part 2
2.15 – 3.15 Presentations (x3) *
3.15 –3.45 Discussion Panel (topic to be decided)
3.45 – 4.00 Wrap up field meeting & Contingency

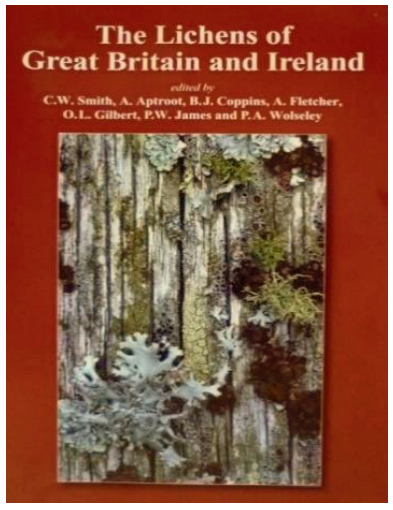
Joy Fildes, a tribute

I was sorry to hear of the death of Joy Fildes. I don't remember exactly when I first met Joy but I attended an FSC lichen course at Preston Montford which she tutored. This was in the early days of my lichen studies when my enthusiasm far outweighed my ability to identify them. Joy gave me great encouragement in those early days and her bright smile helped me overcome my frustration.

The lichens of Mickleham churchyard in Surrey were studied extensively by Peter James and later by Joy for her Master's degree and for many years that churchyard held the record for the most lichens recorded in a lowland churchyard. I was lucky to be included in a trip organised by Tom Chester to update the list and a report of that meeting can be found in the BLS Bulletin **73** Winter 1993.
I lost touch with Joy once she moved to Dorset.

Ishpi Blatchley
ishpi.blatchley@gmail.com

Publications and other items for sale



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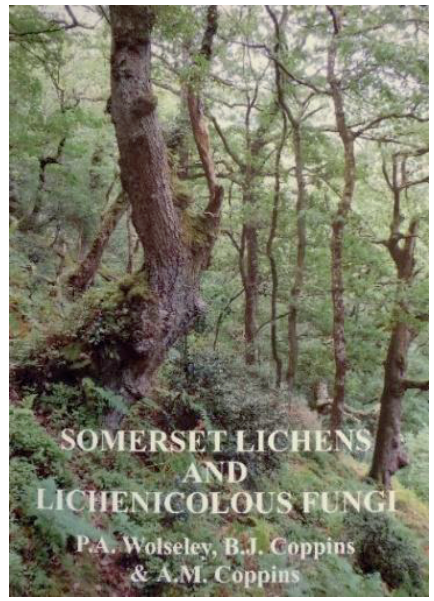
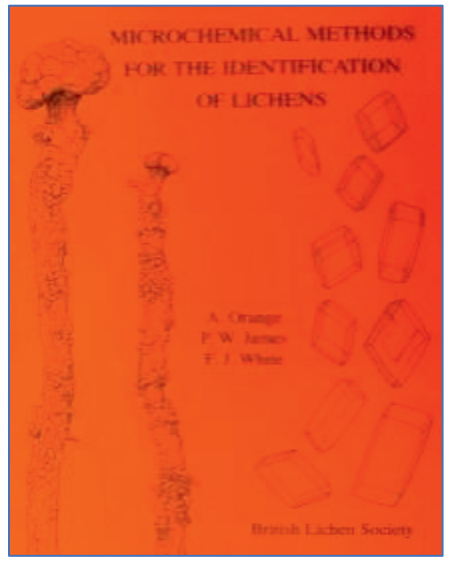
Cat.1. The Lichens of Great Britain & Ireland. Ed. Smith et al. (2009). Hardback, 700pp. This work, a much enlarged revision of 'The Lichen Flora of Great Britain and Ireland published in 1992, reflects the enormous advances in lichen taxonomy over the last two decades. There are keys to 327 genera and 1873 species, with detailed descriptions and information on chemistry and distributions. The language is accessible, avoiding obscure terminology and the keys are elegant. The Lichens of Britain and Ireland is undoubtedly the standard work for the identification of lichens in Great Britain and Ireland and will be indispensable to all serious students of lichens and to other biologists working in the related fields of ecology, pollution, chemical and environmental studies.
BLS members: £45.00, non-members £65.00
Postage & Packing £10.00 UK, £15.00 overseas (note this is a very heavy book!).



Cat.2. Somerset Lichens and Lichenicolous Fungi by P.A. Wolseley, B.J. Coppins and A.M. Coppins

An up-to-date county lichen flora, packed with interesting notes and observations. Of interest to anyone involved in lichen recording in the UK.

£5.00. Postage & Packing £3.50 UK, £8.50 overseas.

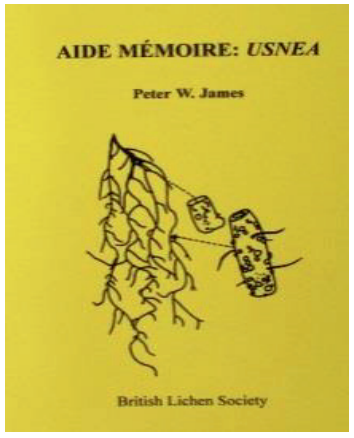


Cat.8. Microchemical Methods for the Identification of Lichens by A. Orange 2010)
2nd edition, with two colour plates. Full of useful information on pigments, crystals, colour tests with reagents and TLC.

£9 members, £11 non-members.
Postage & Packing £4.00 UK, £9.00 Europe

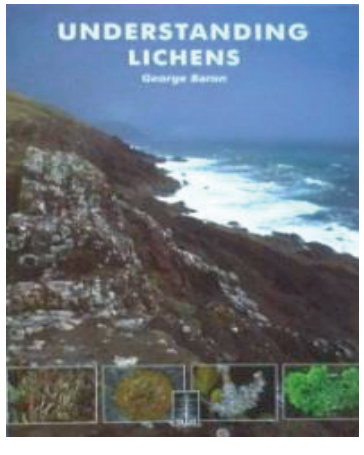
Cat.9. Conservation Evaluation of British Lichens and Lichenicolous Fungi by B.J. Coppins and R.G. Woods (2012)

An update and revision of the 2003 edition and now extended to include lichenicolous fungi. Provides a comprehensive catalogue of threat statuses. Also included are lists of specially protected species in England, Scotland and Wales and those species for which Britain has an internationally important population. It is no. 13 of the JNCC's Species Status volume series. A4 paperback 155pp.
£7.00. Postage & Packing £5.00, £12.50 overseas.



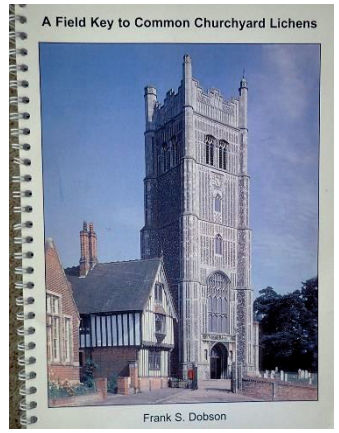
Cat.13. Usnea 'Aide Memoire' by P.W. James
A5 booklet with drawings and many useful tips for identifying the British species of this difficult genus.

BLS members £2.00, non-members £3.00.
Postage & Packing £1.50 UK, £2.50 overseas.



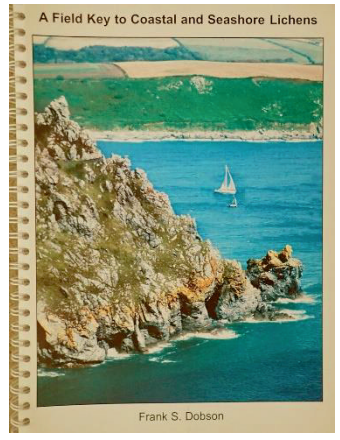
Cat.15. 'Understanding Lichens' by George Baron (1999). Paperback, 92pp.
An excellent introduction to lichenology, from the basic biology of lichens to their environmental importance as well as the history of the science.

BLS members £8.95, non-members £9.95.
Postage & Packing £2.50 UK, £6.50 overseas.



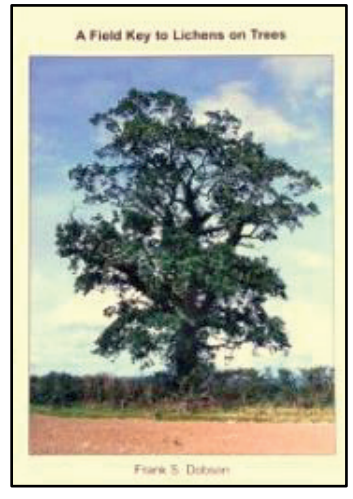
Cat. 16. A Field Key to Common Churchyard Lichens by Frank Dobson (2003) Spiral-bound book with strong paper. Illustrated keys to lichens of stone, wooden structures, soil and mosses. 53 colour photographs. Covers many common lowland lichens.

BLS members £8.50; non-members £10.50.
Postage & Packing £3.50 UK, £6.50 overseas.



Cat. 17. A Field Key to Coastal and Seashore Lichens by Frank Dobson (2010)
A superb guide to over 400 species. 96 colour photographs. In the same format as **Cat. 16**.

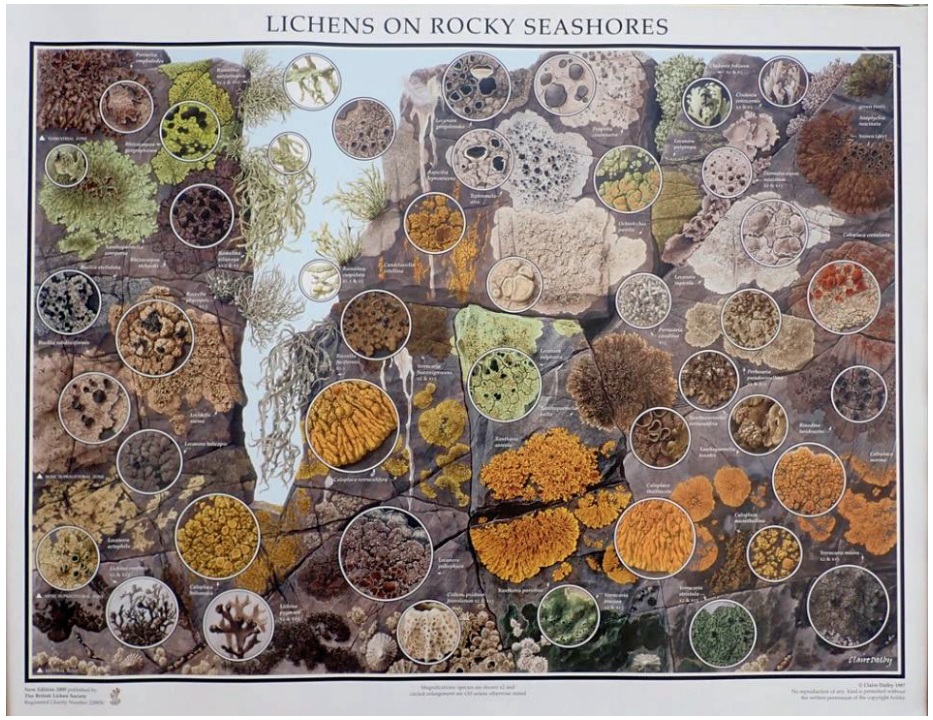
BLS members £10.00; non-members £12.00.
Postage & Packing £3.50 UK, £6.50 overseas.

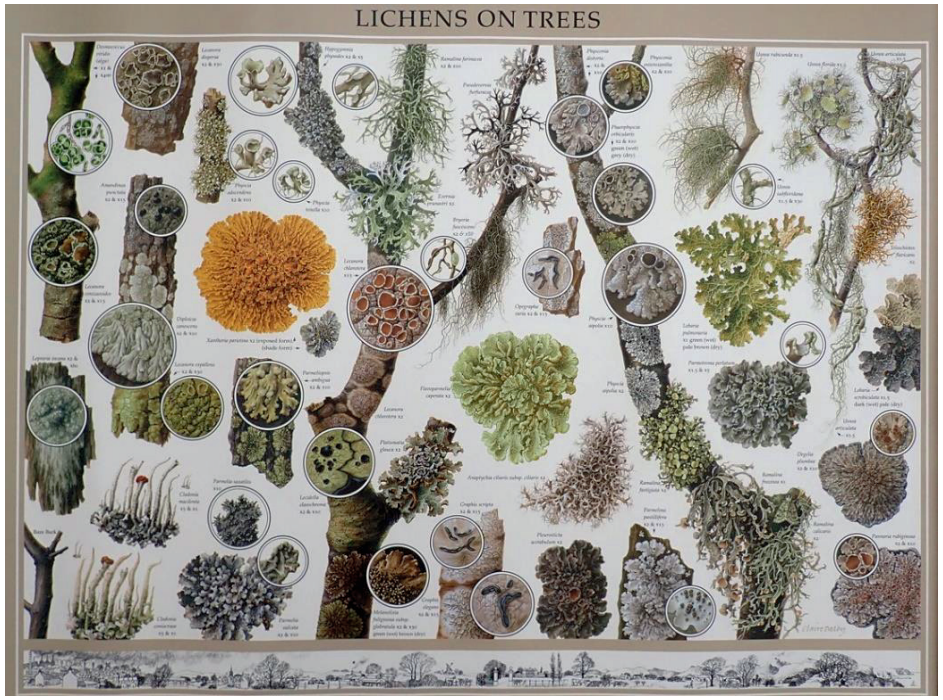


Cat. 18. A Field Key to Lichens on Trees by Frank Dobson (2013)
A superb guide to around 500 species. 96 colour photographs. In the same format as **Cat. 16**

BLS members £15.00; non-members £17.00.
Postage & Packing £3.50 UK, £6.50 overseas

Cat. 21 and 22. Lichen Wall Charts illustrated by Clare Dalby.





Two beautifully illustrated wall charts, **'Lichens on Trees'(Cat.21)** and '**Lichens on Rocky Seashores' (Cat.22)** have been produced by artist Clare Dalby. Each is A1 size (80cm wide x 60cm high) and features over 40 species in colour.

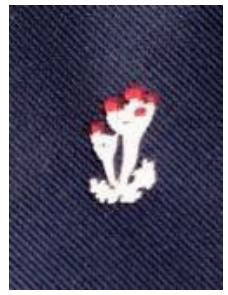
Nomenclature updated to 2010.

£5.00 per poster, £4.00 per poster for purchases of 8 or more.
Postage & Packing (for up to four posters) £7.50 UK.

Cat.25. Greetings Cards/Notelets by Claire Dalby
A set of five cards with envelopes, featuring five exquisite pen and ink illustrations of British lichens.

£2.00 per set.
Postage & Packing £2.00 UK, £3.50 overseas.

Cat.26. BLS Postcards
A set of 16 beautiful photographic postcards of British lichens.
£2.00 per set.
Postage & Packing £1.50 UK, £3.00 overseas.



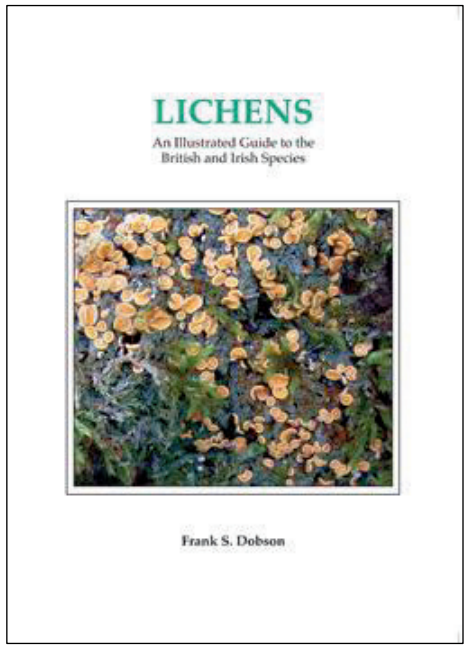
Cat.27. Woven ties with below-knot motif of BLS logo. Attractive ties with discreet BLS logo. Colours available: maroon, navy blue, brown, black and gold.
£7.00 each. Postage & Packing £1.50 UK, £3.00 overseas.

Cat.28. Enamel badge.
Diam. 2.5 cm. Pin-fixing, matt finish. A well-made, attractive badge.

Cat. 29. Fabric badge
Diam. 6 cm. Ideal for sewing onto a cap or rucksack

Cat. Nos. 28 and 29 £1.00 each. Postage & Packing £1.00 UK, £2.50 Europe, £3.00 rest of the world {exception: **Cat. 28** £1.50 UK}

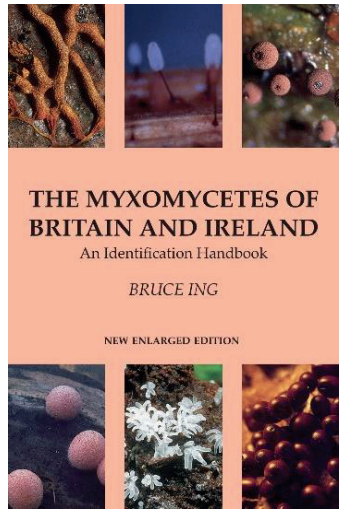
Cat.31 Lichens – An Illustrated Guide to the British and Irish Species 7th Edition



The new edition of this popular book provides an invaluable guide to identifying the British and Irish species, both for the beginner and the more advanced lichenologist.

With detailed air pollution references and distribution maps, it offers the environmentalist and ecologist a concise work of reference, compact enough to be used in the field. The 7th edition conforms with the nomenclature of 'Lichens of Great Britain and Ireland' (LGBI) ed. Smith, C. W. et al (2009) and more recent changes. Over 1,000 species are treated.
This new edition includes many species not currently in LGBI and a section by Mark Powell on lichenicolous fungi on *Physcia* and *Xanthoria.*

Entries consist of a description of each species, a photograph, notes on habitat, chemical tests and line drawings of microscopic and other diagnostic features. Help is also provided in separating similar species.
The popular generic lateral key has been retained and enlarged together with a section on sterile species. A generic synopsis is included to assist the more experienced lichenologist.
Paperback £30 members, £35 non- members. Hardback £45 members, £50 non-members.
Postage & packing: £5.00 UK, £12.00 Europe.



Bruce Ing's book on Myxomycetes, out of print since 2006, has been republished by Richmond Publishing with minor changes and the addition of 20 pages of colour photographs. The cost is £35 and it is being offered POSTAGE & PACKING FREE to BLS members.
Please contact Richmond Publishing to purchase a copy.

Publication of the Summer 2021 Bulletin

Copy for the Summer 2021 Bulletin should reach the editor (contact details on the inside front cover) by 1st May 2021