British Lichen Society Bulletin no. 132
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British Lichen Society Bulletin no. 132
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Here is your Summer 2023 Bulletin which covers a wide variety of topics. As you will see our Field Meetings are now in full swing again and the reports are enlivened by the diaries kept by young and energetic attendees, a trend I hope to continue.

The meeting held in Harris in April last year resulted in groups of folk exploring far and wide, often independently, which produced over 2,000 records. It was not practical to publish all the records in the Bulletin but they can be downloaded from the BLS website at https://britishlichensociety.org.uk/the-society/events/bls-early-spring-meeting-2022-north-harris-outer-hebrides.

Highlights of this issue include a tale of detection – Nicola Bacciu, a pinhead sleuth, spotted what has to be the tiniest rarity at Monks Wood NNR, a pinhead thought to be extinct. For the rest of the story turn to page 24. Another wonder of observation is the work of Isobel Clark who opens this issue with her detailed findings using the camera lens of a mobile phone to uncover the mysteries of the developmental morphology of *Usnea florida*.

The BLS website continues to be a core resource and there seems to have been an explosion of local groups' meetings and zoom meetings involving people worldwide. See https://britishlichensociety.org.uk/the-society/events/events-calendar. Many of the local group meetings are held regularly and provide an essential way to learn and discuss identification problems. Encouragement can make all the difference at a point when you're feeling a little out of your depth.

In February this year we had the saddest of news hearing of the death of Alan Orange. Alan was a truly gifted, respected and inspiring lichenologist, a tower of strength particularly in the fields of saxicolous and freshwater aquatic lichens not to mention being that rare person to whom one could take *Lepraria* queries. He was for many years Curator of Lichens at the National Museum of Wales and later Honorary Research Fellow. He was a self-employed biological consultant with expertise in bryophytes as well as lichens. His full obituary, written by his close friend Pat Wolseley, will be published in *The Lichenologist*. Have a look at the obituaries section to learn more about Alan, and to read the appreciation of the life of Ann Allen who during her long life contributed so very much to the Society particularly in the fields of education and the study of island lichen communities.

It seems appropriate at this point to mention some of the important work which is being done by one of the Education & Promotion Committee's Working Groups; several years ago this group recognized the growing problem of a shortage of skilled lichenologists able to work as consultants and, thanks to the hard work and tenacity of Sue Knight who leads the group, training courses for advanced intermediates are finally in the process of being arranged. We wish all involved success in this vital mission.

Usneas festooning a bench at Trebartha Gardens, Bodmin, Cornwall. Photo © Paul Cannon.

The development of apothecia in *Usnea florida*

Usnea florida is a beautiful fruticose lichen, well known for having numerous large apothecia, apparently growing on the ends of branches. Recent observations of many apothecia have found that they start by forming laterally, part way along branches and this has been confirmed by Clerc (pers. comm.). As they mature and the diameter of the apothecia grows, they develop in such a way that they appear to be growing on the ends of the branches. This article shows the various stages the apothecia pass through, concentrating on their location, and evidence is presented for them to be more correctly described as arising laterally but becoming apparently apical. All the samples studied are from Devon and Somerset, England.

As far back as 1887 drawings of *Usnea florida* showed single branches growing from the rear of each apothecium (Schubert *et al.*, 1887), and many drawings and photos produced since then show the same thing. It may be that the significance of this branch was not appreciated in the UK but there is some indication that at least some eminent lichenologists have been aware of it (Galløe, 1950 and Kurokawa, 1981). Galløe's superb ten-volume series on 'The Natural History of the Danish Lichens' is well worth referring to. Further details are given elsewhere in this *Bulletin* (see page 7).

The earliest stage of apothecial formation observed by the author is the formation of a cavity in the cortex of a branch some way back from the tip (Figure 1). There are often a number of side branches growing from the branch between the cavity and the tip indicating that the cavities form well after the growth of the branching structure. No cavities have been found on the main branches near the holdfast. Suetina *et al.*, (2010) found that 'the most intensive thallus growth takes place before the formation of reproductive structures (apothecia)'. Juvenile apothecia have also been observed in other *Usnea* species developing part way along branches, e.g. *U. pseudogatae* in Taiwan (Shen *et al.*, 2012), *U. dendritica* in Taiwan (Ohmura, 2012). Indeed, Ohmura reports (2001) that apothecia on most species in Japan and Taiwan are located laterally with some being subterminal.

Figure 1: Juvenile apothecia form on the side of branches some way back from the tip. A few peripheral projections are visible. S - Supporting branch, T - Terminal branch, A - Apothecium

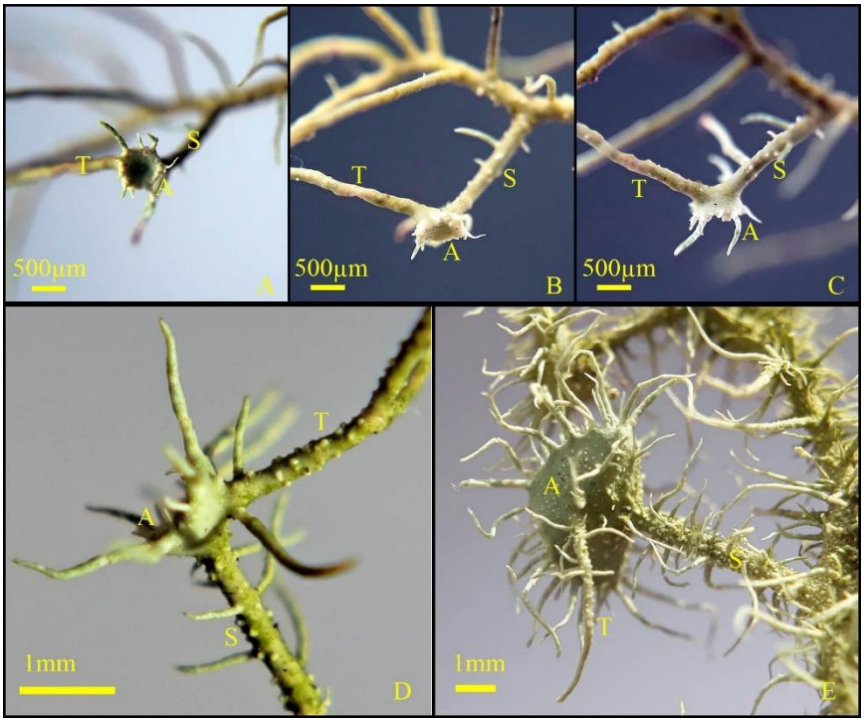

Figure 2: Apothecial development: Young apothecium, 0.7mm diameter with 9 peripheral projections; A – front view, B – side view, C - rear view; D – Older apothecium, side view, with right- angled bend in branch; E - Mature apothecium, rear view, terminal branch growing back towards the supporting branch. S - Supporting branch, T - Terminal branch, A – Apothecium

Around the periphery of each cavity there are one or more short marginal projections (Smith *et al.*, 2009). The centre of the cavity enlarges and the epithecium starts to appear; new peripheral projections grow and older projections lengthen as the circumference increases. As the rim of the cavity unfolds outwards and the

apothecium flattens, the branch on which it is growing develops a bend (Figure 2A, B & C). Further enlargement of the apothecium causes the terminal branch to bend further back, often in the opposite direction to the supporting branch (Figure 2 D & E).

The apothecium can grow to a diameter of around 20mm at which point there may be as many as 100 marginal projections, and the apothecium becomes increasingly involute and almost cylindrical.

The terminal branch continues to grow and produces further branches. Inspection of the rear of the apothecium shows that papillae grow on the rear surface, just as they do on the supporting and terminal branches (Figure 3). On older specimens more projections develop from the papillae on the rear of the apothecium (Figure 4) and some may also themselves grow branches.

Figure 3: Mature apothecium, side view, terminal branch growing back parallel to supporting branch. Papillae visible on rear of apothecium. S - Supporting branch, T - Terminal branch, A – Apothecium

Figure 4 (below right): Mature apothecium, rear view, fibrils growing on rear of apothecium S - Supporting branch, T - Terminal branch, A – Apothecium

The development of an apothecium does not preclude further apothecia from developing on a single branch and some daisy-chained apothecia have been observed (Figure 5). They generally develop at different times, as evidenced by their different sizes. As many as three apothecia have been observed on a single branch. When a pair of apothecia are both mature they can look as though they are growing back-to-back if the connecting branch is short, but there is still a terminal branch leaving the rear of the last apothecium.

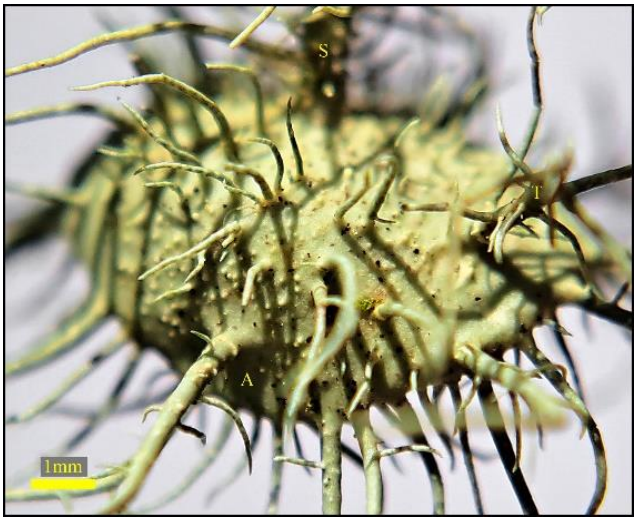

Figure 5: Two daisy-chained apothecia on a single branch. S - Supporting branch, C - Connecting branch, T – Terminal branch, A – Apothecium

On some mature specimens it is possible to see evidence of the axis of the original branch on the epithecium of the apothecium. A paler, somewhat yellower, linear region is visible against the greener background of the epithecium (Figure 6A). It is not clear whether the apothecium itself develops from the axis of the branch on which the original cavity formed or whether there is some other process in play. Further work on this and the structure of the apothecia themselves is ongoing.

By carefully taking a section across an apothecium in a plane which includes the supporting branch it is possible to see where the axis of the original branch runs between the hymenium and the thalline exciple of the apothecium (Figure 6B).

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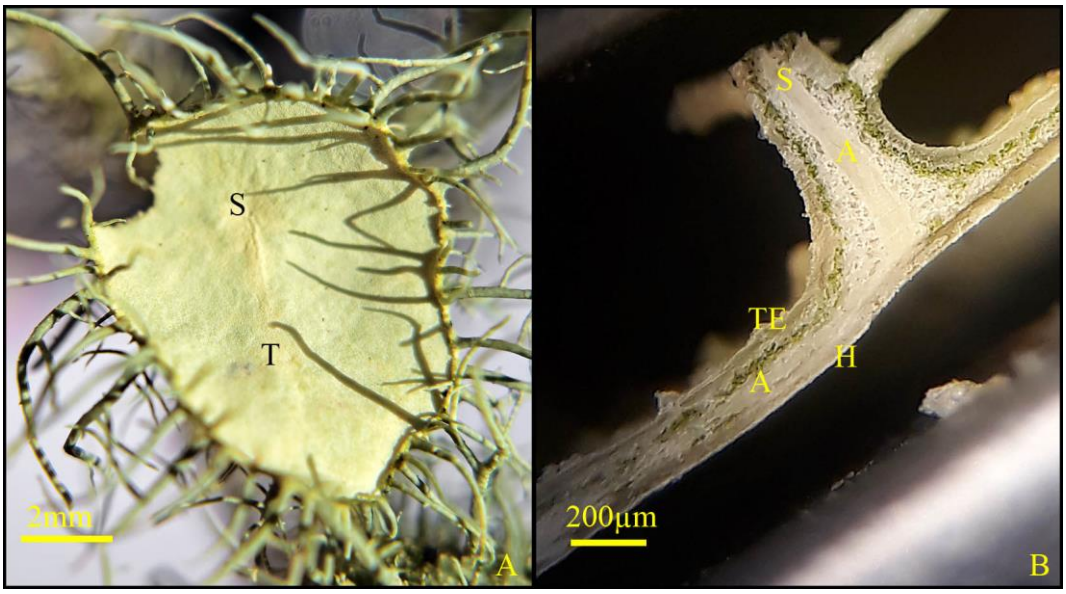

Figure 6: A – Epithecium surface with yellowish region indicating axis behind hymenium between supporting and terminal branches; B - Section through an apothecium and supporting branch showing the continuation of the original axis between the hymenium and the thalline exciple of the apothecium. S-Supporting branch, T-Terminal branch, H- Hymenium, A-Axis, TE-Thalline exciple

It seems unlikely that so little has been published about the development of apothecia on *Usnea florida*, such a conspicuous lichen, and so I have the following request to readers: If you know of any other publications which describe the development of *Usnea florida* apothecia, or indeed on any other *Usnea* species, the author would be delighted to hear from you.

Acknowledgements

I would like to thank Bill Urwin and Maxine Putnam for some of the specimens shown in this article, and David Hill for alerting me to the existence of Galløe's work. As always, the comments from the Lichen Chat and Improvement Zoom Group were enlightening. My thanks also go to Yoshihito Ohmura for his translation of relevant parts of Kurokawa's publication, and to Philippe Clerc for confirming that the lateral development of apothecia in *Usnea florida* is already known. In addition I am very grateful for in depth discussions and microscopic investigations with Stephen Crabtree, Mark Stephens, Di Napier and Sue Thomas.

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Photographs

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In praise of Galløe and other authors!

Lichen morphology and anatomy regularly confuse me when trying to marry what I observe with the information available on websites and in print. In many cases there is no or little detail about the biology of lichens – for example, how does the prothallus grow without photobiont, how and why do fruits occur, what comes first: the rhizine or the lower cortex, and so on. This lack of depth is also reflected in the BLS training on lichens where morphological description is focussed on identification rather than explanation of the natural history.

All is not lost for the enquiring mind as many of those types of lichenological questions have been answered but decades ago. The purpose of this article is to describe some of those publications which hold that information – two of which are freely available online.

Olaf Galløe (1881–1965) was a Danish lichenologist who, from his early university career, studied lichens in Denmark and other parts of Scandinavia. Galløe regularly published works on lichens in the early half of the twentieth century; however his *magnum opus* was a ten volume description of the *Natural History of Danish Lichens* started in 1927 and finishing in 1972. The final volume was published posthumously by his daughter. Galløe's approach was slightly different, and controversial at the time, in that he focussed on giving a thorough morphological and anatomical description of selected individual specimens rather than a collective description covering all individuals of that species. Ironically, the current genomic description of lichens supports Galløe's idea of specificity.

Fig. 280

The *Natural History of Danish Lichens* comprises detailed written descriptions and the most amazing drawings of morphology and anatomy of individual species – including the underside of lichens! For example, at random, the description of *Cladonia subrangiformis* has 38 individual drawings of morphology and sections. I am lucky to own eight volumes of his work and can attest to fine art work on thick paper – each volume weighs around 2kg.

Galløe's illustration of *Anaptychia ciliaris* (Vol **VIII**, Plate 47) © University of Copenhagen. Note detail of cilia and cross section through lobe (bottom left)

Galløe's work can be accessed here: https://samlinger.snm.ku.dk/en/dry-and-wet-collections/botany/lichen-herbarium/olaf-galloee/

John Skinner (Bulletin **125**, 2019) brought to our attention Annie Lorrain Smith's work on British Lichens. Annie Lorrain Smith also published another book simply entitled *Lichens* in 1921. I think this book along with Galløe's should be on the reading list of any aspiring lichenologist! Annie Lorrain Smith's book includes the history of lichenology and the evolution of scientific thinking about lichens, in particular the role of the photobiont. This part of the work is complimented by detailed description of the biology of lichens and much of the work done by late nineteenth century German lichenologists – I found reading about the early scientific work greatly helped my understanding of lichens. The book *Lichens* is available online at: (https://archive.org/details/lichenss00smituoft/page/n13/mode/2up) and as a reprint version. Recommended bedtime reading!

Finally, more up to date, our own fine society published *Lichenology: Progress and Problems* in 1976. At first sight this book comes across as a rather dry rendering of a conference held in 1974 but there is a vast amount of original work that reflects a golden age of lichenology with the development of electron microscopy, classic studies on growth rates and the broader understanding of the role of environment on lichens. Whilst this may not be bedtime reading, and some authors seemed to have followed the rule "why use one word when ten will do", there are some gems, notably, Aino Henssen's "Studies in the developmental morphology of Lichenized Ascomycetes" with accompanying drawings and photographs. Unfortunately, whilst produced by the BLS, the volume does not seem to be readily available. Maybe we could encourage the

society to get the volume online – along with any other gems, hidden, in the BLS library? Time to go trawling methinks!

Thanks go to David Hill who found the link and Isobel Clark for alerting me to the existence of the *Natural History of Danish Lichens,* and Fay Newbery who directed me to read Annie Lorrain Smith's *Lichens* and finally the bookseller who was convinced that I was a worthwhile purchaser of the *Natural History of Danish Lichens.*

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A less toxic version of Lactophenol Cotton Blue Stain

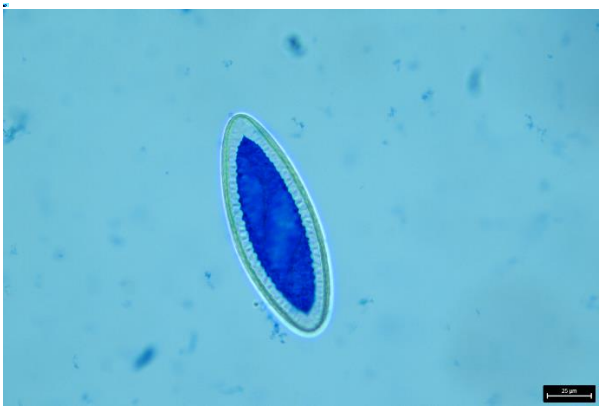
Lactophenol Cotton Blue has been routinely used to observe fungal hyphae in microscope preparations. One use was searching for fungal hyphae in human tissues and the large amount of phenol used was thought necessary to kill any pathogens present. Phenol is known as a carcinogen and many microscopists would prefer not to use it. An equally effective stain can be made up without using phenol at all, adding thymol as a preservative.

To make up Lactothymol Cotton Blue

Cotton blue (Aniline blue) 0.05 g
Glycerol 40 ml
Lactic acid 20 ml
Distilled water 20 ml
A few crystals of thymol

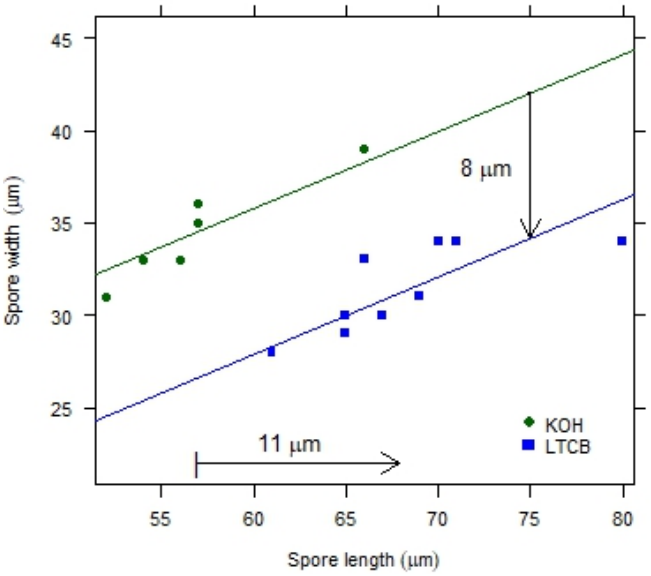
Method:
The stain is prepared over two days.
Dissolve the Cotton blue in the distilled water. Leave overnight.
Mix the lactic acid and glycerol.
Filter the Cotton blue and water solution into the lactic acid and glycerol, add a few crystals of thymol as a preservative and mix.
The stain is now Lactothymol Cotton Blue (LTCB).

Notes This improved, filtered stain is also useful for clearing some spore preparations (below).



Does using this stain cause shrinkage of spores?

Alan Orange notes in his book 'Microchemical Methods for Identification of Lichens' that spores and hyphae should not be measured in Lactophenol Cotton Blue as it can cause shrinkage. A recent comparison was made using spores of *Pertusaria hypoxantha*, a New Zealand species, measured in KOH and LTCB (Fig. 1).



Comparison of spore measurements of *Pertusaria hypoxantha* in KOH and LTCB (Fig. 1)

It was found that LTCB shrank the spore width by nearly 8 µm while elongating the spore by nearly 11 µm (i.e. 7.85 µm and 10.9 µm respectively though rounding is preferred because of the

underlying variation in the estimates). The spore changes in shape rather than overall size. It is possible to adjust the measurements made in LTCB to those made in KOH.

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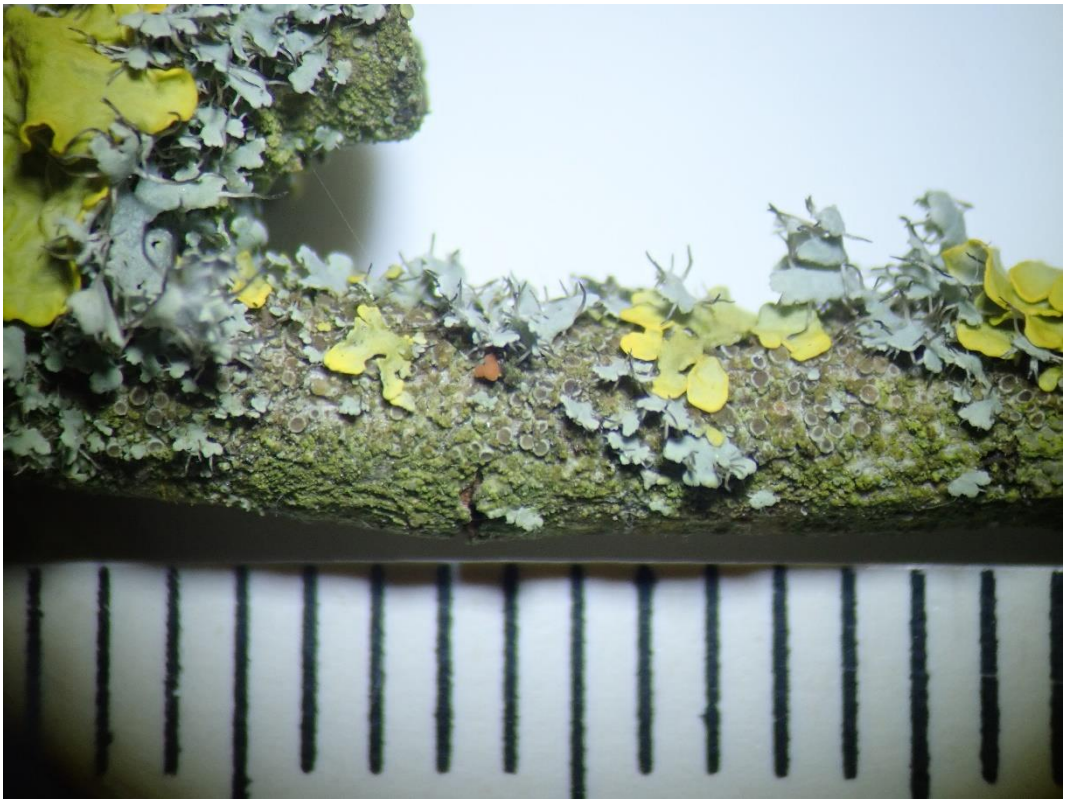
Look out for *Myriolecis sambuci*

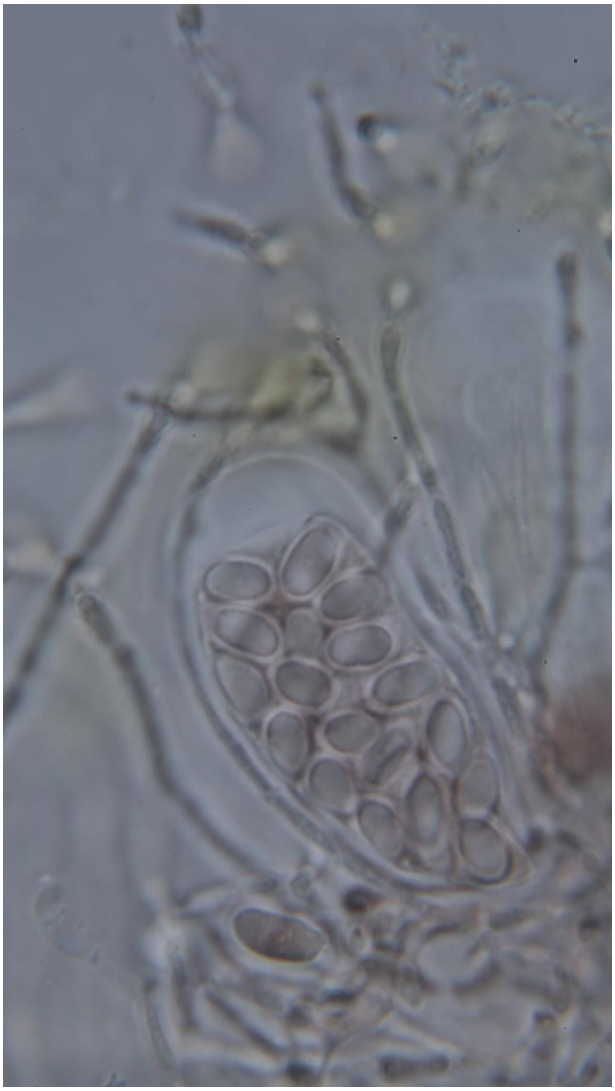
As I am trying to create an atlas of Gloucestershire lichens with distribution maps of species on a tetrad basis, I visit a lot of rather boring squares that are just arable fields surrounded by hedgerows. The best one can do here is pick up a likely looking twig and take it home for microscopic examination.



Tiny lecanorine apothecia just visible between thalli of *Xanthoria parietina.* Photo © J. Bailey

With exceptionally unpromising material it is really hard work getting anything more than *Xanthoria parietina*, but it is from dredging the barrel like this that it came to my attention that the tiny twig-living pioneer in the *Lecanora dispersa* complex that I would have cheerfully identified as *Myriolecis (Lecanora) hagenii* in the past usually has far more than the standard number of eight spores per ascus. That makes it *Myriolecis sambuci*! I

try to check as many as I can under the microscope and find that across Gloucestershire the 8-spored *Myriolecis hagenii* is greatly outnumbered by the multi-spored *Myriolecis sambuci*. The 2009 edition of Lichens of Great Britain and Ireland says *M. sambuci* is a species of areas of low air pollution, and local, but decidedly that does not fit my observation.



I raised my doubts to the accuracy of the *M. sambuci* and *M. hagenii* distributions, both my own and the national maps, to various people including Mark Powell and Brian Coppins. Mark was prompted to check his parish in Bedfordshire and found that there too *M. sambuci* was now present though to that point he had considered it rare in central England. Brian said that *M. hagenii* is by far the commonest in East Lothian. However, for years he has known that a certain car park where from time to time he gathers fallen ash twigs, supports the multi-spored *M. sambuci*.

Brian goes on to say that the question might be whether they are truly different species anyway. In the meantime, the only definition we have to separate them is that *M. sambuci* has more than 8-spores. (See references.)

The multispored ascus in K-ink-vinegar stain, rewashed with K . Photo © J. Bailey

Myriolecis persimilis muddies the question even further. For years the little twig *Lecanora* had commonly been recorded as *L. persimilis* (now *Myriolecis persimilis*). Mark Powell produced an article in the Bulletin **114** (see reference) on separating *M. hagenii* and *M. persimilis*, with *hagenii* being the one with a white slightly-raised rim and sometimes pruinose disc and *persimilis* having a low dull rim, almost biatorine. This met largely with silence, probably because most of us didn't have the confidence or the means to separate them with the resources available.

The twig flora has changed considerably in the last decade and Mark says that he now rarely sees *M. persimilis*. Neil Sanderson agrees that there is not much *M. persimilis* about now, but wonders if it is more common in more polluted areas. David Hill wonders if *M. sambuci* sneaked in unnoticed and is now everywhere.

At the recent DNA workshop I worked on specimens identified as *sambuci*, *hagenii* and a possible *persimilis*. The findings from that are not yet available, and in any case results from such a limited quantity of material are not enough to prove anything. According to Brian, we need large samples comparing many collections to test the hypothesis that the 8-spored version is different to the multi-spored version and that *hagenii* and *persimilis* are really different.

The 2022 revision of the Lecanoraceae in Lichens of Great Britain and Ireland continues to say that *Myriolecis sambuci* is a local species found in areas of low air pollution but adds that "there are indications that the species is either under-reported or has extended its range in recent years."

In conclusion, the abundance of *Myriolecis sambuci* in Gloucestershire may be a new phenomenon or it might have been hiding in plain sight for some time. It would be good if you could check the spore count in your little '*Lecanoras*' on twigs and we'd get a better idea of the current national distribution of the species.

With thanks to Brian Coppins, David Hill, Mark Powell and Neil Sanderson whose personal correspondence forms the basis of this article.

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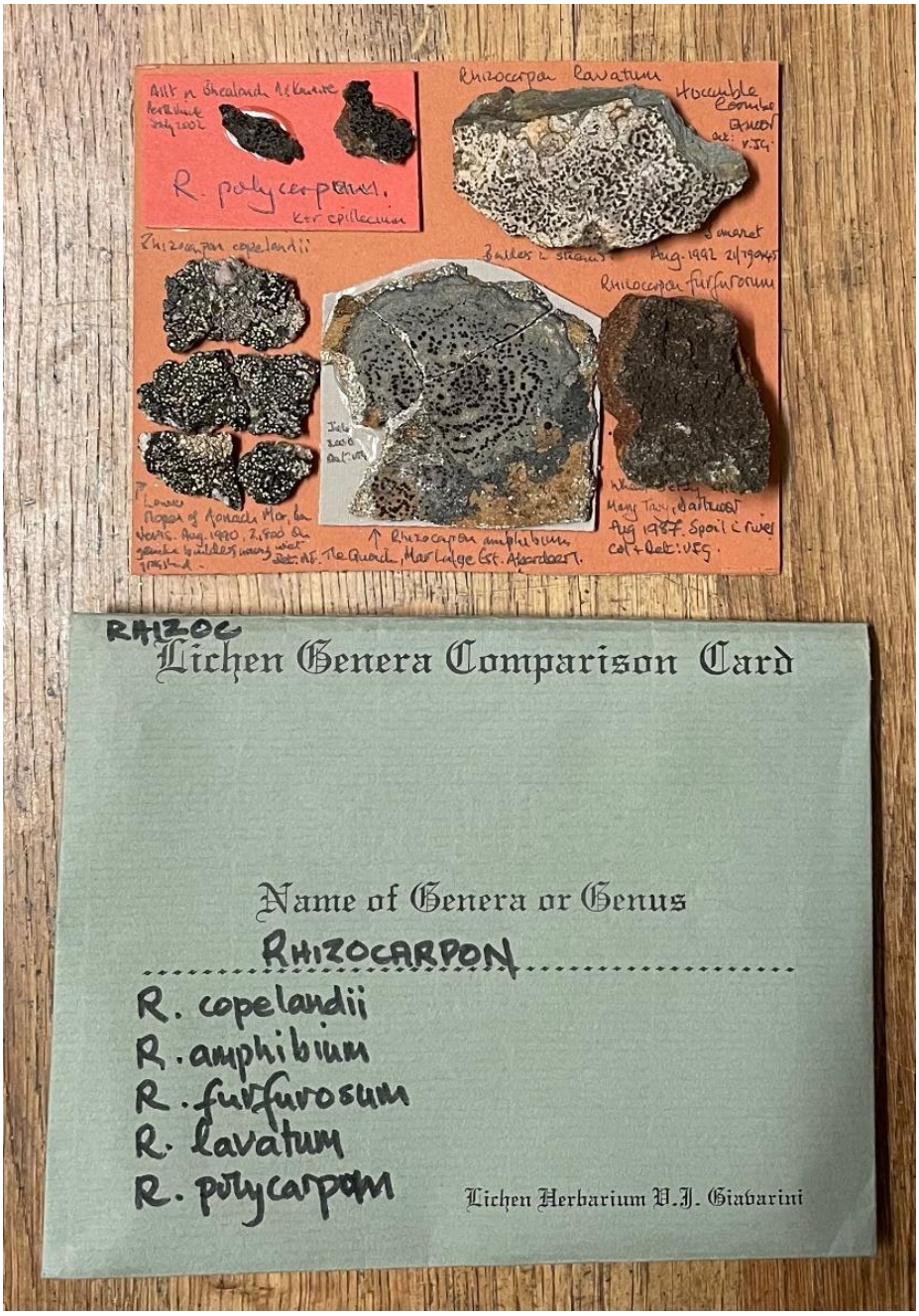
Lichen herbarium

Vince Giavarini is looking to donate his lichen collection to someone within the society who could find it a good home.

The collection is relatively compact and housed in less than 16 elongated shoe boxes. Up to eight species of the same genus have been mounted onto card to aid comparisons to be made with related taxa. Certain genera have not been updated taxonomically for over ten years. The collection contains lichens spanning a period of about 40 years gathered from many parts of Britain and Ireland. This collection does not include his herbarium of lichenicolous fungi.

An example of one of the cards is shown overleaf:



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Effects of hydration on the reproductive structures of *Illosporiopsis christiansenii* – the feasibility of a simple water-drop test in a binary field key

Background

Illosporiopsis christiansenii (B.L. Brady & D. Hawksw.) D. Hawksw. (2001) catches the eye only in the autumn/winter months when it produces shocking-pink blobs, which often contrast vividly with nearby *Physcia* and *Xanthoria* species (Fig. 1).

It is a lichenicolous (lichen inhabiting) fungus (LF) and the pink blobs are the only part of the fungus that is generally observed.

I. christiansenii is one of a number of anamorphic (asexual) fungi with pink, orangey-pink or orange blobs that were previously thought to be related and were probably frequently misidentified in the literature simply because of a lack of morphological characters (Sikaroodi, 2001) and the minute size of the blobs (< 1 mm).

There is a need for field identification characteristics to help distinguish *l. christiansenii* from other LFs that form pink or orangey-pink blobs.

Fig. 1 *Illosporiopsis christiansenii* as typically observed: bright pink blobs in a nutrient-rich lichen community (here on *Malus*) Photo © M.L. Sisti

The nature of the blobs

Hyphomycetes are anamorphic fungi which produce spores (conidia) by closed mitosis (asexual cell division where the chromosomes divide within an intact cell nucleus) on distinct conidiophores. In *I. christiansenii* these look very like vegetative hyphae but are specialized, bearing conidiogenous cells at the tip. As the daughter nuclei separate, one nucleus migrates into a newly formed conidium. The sporodochium is a cushion-like group of conidiophores and their associated conidia, 0.5–1.0 mm Ø, 0.1–2 mm high. Lowen *et al.* (1986) describe the conidia as 17–30 x 11–20 µm, each consisting of a helically coiled, transversely septate, multicellular filament, arising from a gelatinous sporodochium (Fig. 2). Sporodochia appear to be the sole method of propagation. The

conidia are initially hyaline (colourless), becoming pink as they mature (Gavériaux, 2015). The pink blobs observed (cirrhi) are simply a mucus-bound, ribbon-like masses of conidia.

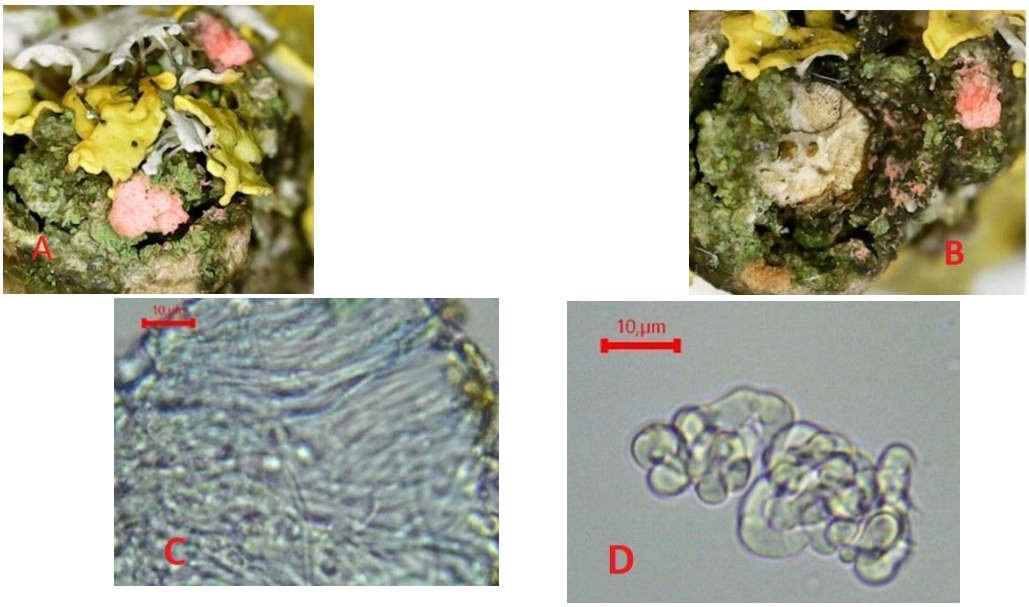


Fig. 2 Anatomy of the sporodochium A. Two pink blobs surrounded by *Physcia adscendens* and *Xanthoria parietina*, damaged thallus and protococcoid algae, growing in a dead node of a *Fraxinus* twig. B. Point of excision of the lefthand blob, showing bundles of conidiophores, indicating it arose from at least three sporodochia C. Aqueous squash of the excised material showing (l. to r.) mycelium, conidiophores and conidia D. Helicoid ribbon-like conidia Photos © A.M. Claypole

Field identification characteristics

Fig. 3 Two look-alikes of *I. christiansenii*: *Erythricium aurantiacum* (left) orangey-pink bulbils on the surface of *Physcia* thallus, and *Marchandiomyces corallinus* (right) bright pink bulbils on *Parmelia* thallus. Photos © A.M. Claypole (right), D. Napier (left)

The two species most likely to be confused with *I. christiansenii* are *Erythricium aurantiacum,* which is also parasitic on *Physcia* species, and *Marchandiomyces corallinus*

because of its colour (Fig. 3). This is currently particularly relevant, in the light of reports that *E. aurantiacum* is apparently dis- or re-placing *I. christiansenii* at many sites across the country.

E. aurantiacum produces pale orange to orangey-pink bulbils on the necrotised surface of the host thallus. These bulbils are not corticate and can be single or merged into clumps (Lawrey *et al.*, 2007). They do not contain spores, but are composed of large, rounded, granular cells.

M. corallinus also produces bright pink bulbils on bleached areas of thallus, but is generally found on *Parmelia* species. Lowen *et al.,* 1986 showed the pink pigment is chemically identical to that in *I. christiansenii* and older cirrhi of *I. christiansenii* may appear a similar colour. First reporting *I. christiansenii* for Wales, Orange (2001) suggested it may previously have been ignored as *M. corallinus.*

Colour alone is an imprecise, subjective delimiter for the uninitiated, particularly when comparing photographs or examining under artificial illumination. Microscopic examination of the contents of the pink/orange blobs is required to show the presence of the distinctive helicoid conidia of *I. christiansenii*.

Without a microscope, the simplest approach to identifying a lichenicolous fungus is to identify the host lichen and then refer to a binary key for lichenicolous fungi known on this host genus.

One of the properties that distinguish *I. christiansenii* is its reaction to water: *l. christiansenii* differs from *M. corallinus* "in the formation of helicoid conidia that disperse readily in water" whereas the contents of bulbils are very difficult to separate (Lowen *et al.*, 1986; Preece, 2011). This reaction to water has been used in binary field keys to help identify *I. christiansenii*. It is possible that this distinction also applies to *E. aurantiacum*.

Is a simple water-drop test feasible for a binary field key to distinguish *I. christiansenii* from *E. aurantiacum* and *M. corallinus*?

Resources and methodology

Fieldwork These studies centred around regular *in situ* observation and sampling for laboratory study throughout 2022, at three different sites across the UK; all specimens were growing in an upward-facing, horizontal habit in regions of moderate pollution:

Site 1. VC23 Oxfordshire, SP531052 with *Physcia adscendens* on a healthy, well-lichenised *Malus* branch in an urban back garden;

Site 2. VC63 South-west Yorkshire, SE063236 with *P. adscendens* on a senescent *Fraxinus* twig (low canopy, c. 1.5 m above ground) on a canal towpath;

Site 3. VC38 Warwickshire, SP314546 with *Physcia tenella* (c. 1 m above ground) on a painted metal, barred gate to a field alongside a country lane.

The field studies enlisted the assistance of members of the online Lichen Chat and Improvement Group (LCIG).

Laboratory work Microscopical examination of the sporodochia and the conidia; time-lapse photography of the effects of hydration.

The study

Laboratory work 1 - Hydration of *I. christiansenii* compared with *E. aurantiacum*

The first step was to establish that *E. aurantiacum* compared with *I. christiansenii* in the same way as *M. corallinus* as described in the literature.

Between January and March 2022, fourteen *I. christiansenii* sporodochia and ten *E. aurantiacum* bulbils from Sites 1 and 2 were tested. Each was mounted under a camera and hydrated with a drop of tap water. Photographs were taken at 10 second intervals for 30 minutes. Any change in the specimens was recorded. After the test, the species was confirmed microscopically by an aqueous squash of the entire cirrhus or bulbil. For comparison, the hydration reaction of the host thallus (*P. adscendens*) was also measured.

The *I. christiansenii* cirrhi were 0.8 mm (mean value) across but irregular in shape and the measurements varied considerably. The *E. aurantiacum* bulbils were much smaller (mean value 195 µm), smoother and spherical to ovoid. For comparison, changes were expressed as a percentage of the initial measurement (% Δ^0).

On hydration, *I. christiansenii* cirrhi immediately began to extend rapidly, reaching a maximum of 63% Δ^0 at 45 s (mean values) (Fig. 4).

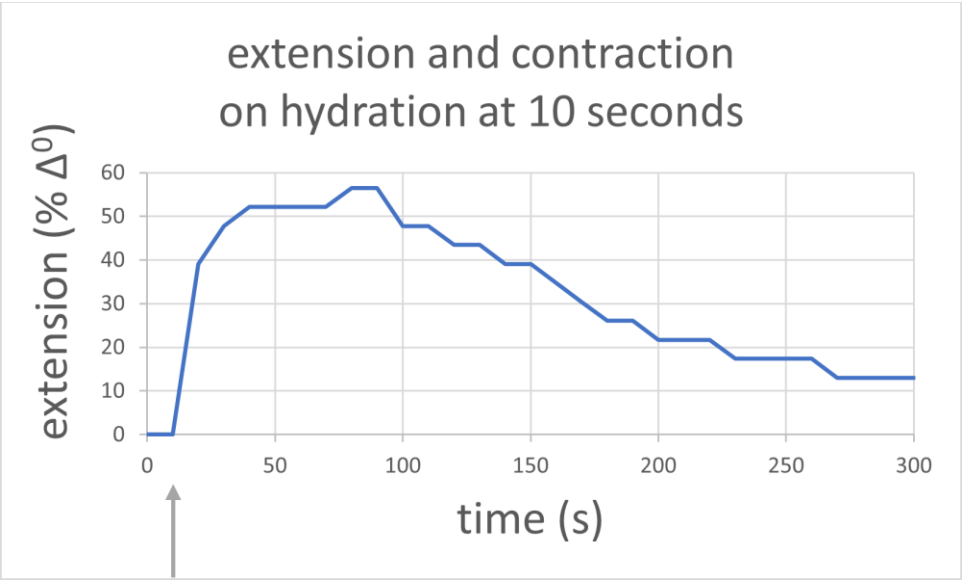


Fig. 4 Extension of an *I. christiansenii* cirrhus on hydration at 10 seconds and subsequent contraction on drying; measurements at 10 s intervals, expressed as a percentage of the initial measurement (% Δ^0)

Half the samples also showed a loss of colour. As the tissue dried, it reverted to its original size and colour. The reaction could be repeated when the cirrhus had recovered (after a matter of hours). The result of the expansion and contraction was to smear some of the pink conidial matter over the surrounding thallus and substrate.

On hydration, the *E. aurantiacum* bulbils showed no colour change and an extension of 26% Δ^0. With a x10 hand lens, only the absence of colour change would be evident.

An extension from 195 μm to 246 μm (51 μm) would not be distinguishable. In other words, there would appear to be no reaction at all. Healthy *P. adscendens* thallus extends by the same degree as *E. aurantiacum* bulbils. Indeed, it may be what was measured since it is extremely difficult to separate the bulbils from the necrotised thallus tissue that they are immersed in.

While it was established that there was no visible change of the *E. aurantiacum* bulbils, the reaction of *I. christiansenii* cirrhi required further clarification: the documented 'dispersion' response had not been found; colour loss was the nearest, but inconsistent reaction.

Laboratory work 2 - The search for 'dispersing' *I. christiansenii* cirrhi

In an attempt to find the 'dispersing' response, the hydration test was performed monthly after the sporodochia reappeared at the end of September. Two cirrhi were sampled mid-month from Site 2 and tested, each sample twice. The results were variable but revealed a pattern.
In September, both samples showed a 46% extension and immediate colour loss, turning pink again after a few minutes.
In October, one sample showed a 36% extension and colour loss, becoming more translucent, then turning white and finally pink again on drying, but the other sample could not be measured because it immediately disappeared completely, returning white, then pink and smeared on drying.
In November, both samples disappeared immediately, reappearing first white, then pink on drying.
In December, one sample disappeared, reappearing white, turning pink. The other swelled, turned white and then pink on drying.
In short: all specimens showed immediate swelling and accompanying colour loss; between October and December a more marked change of translucency developed,

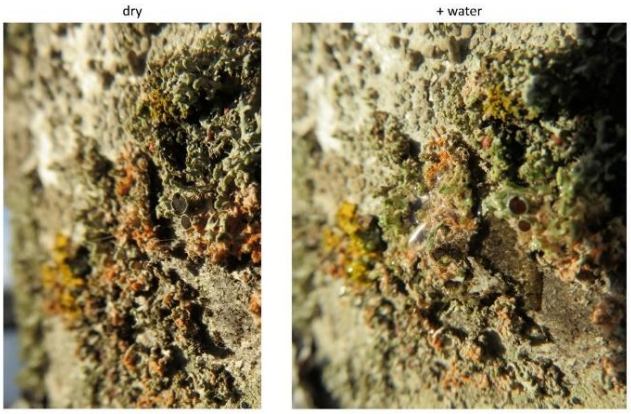
Fig. 5 Colour and translucency change of cirrhi on hydration: the reaction ranges from slightly glassy while wet but no colour change (above) to immediate disappearance, reappearing white, then pink on drying (below). Photographs immediately before hydration, after 30 seconds and after 25 minutes. Photos © A.M. Claypole

being most striking in November. The cirrhi seemed to disappear but became visible again on drying. (Fig. 5) shows an example of a cirrhus that did not lose its colour and one that seemed to vanish.

Fieldwork 1 - *In situ* hydration tests (simulation of a possible field test)

A simple *in situ* hydration test (add a drop of water or spray) was carried out at the three observation sites and by LCIG colleagues across the UK. The results reflected those of laboratory study 2: all *I. christiansenii* cirrhi swelled up immediately; roughly one-third of them showed some loss of colour, and half reported a visible change in consistency (dissipated, went glutinous or muculent) and all observers with patience recorded the return to something like the initial state. No reaction was observed for *E. aurantiacum* bulbils (Fig 6).

Fig. 6 Field trial of the water-drop test in VC85 Fifeshire (NO463285), comparing the response to hydration of *I. christiansenii* and *E. aurantiacum* growing with *Physcia tenella* on *Sorbus aucuparia. I. christiansenii* showed *s*welling but no colour loss (upper) while no reaction (colour or swelling) was observed for *E. aurantiacum* (below). Photos © M. Chapman



Fieldwork 2 Observation of extreme hydration

In an attempt to disperse cirrhi *in situ* at Site 3, gentle spraying was gradually increased to forced irrigation and recorded on video. The cirrhi just became bloated, shiny and wet. Cirrhi at Site 1 were filmed in torrential rain.

The result was the same: *in situ* some cirrhi neither disperse nor wash away; they just become fat, shiny and wet (Fig. 7).

Fig. 7 Effects of extreme wetting on cirrhi. (Above) artificial irrigation (photo © D. Napier) showing dry and very wet states and (below) torrential rain early in the storm and later (photo © M.L. Sisti)

Feasibility of the water-drop test in a binary field key

I. christiansenii cirrhi swell rapidly on hydration, they may become paler, and more translucent; some even seem to disappear. As they dry, they revert towards the original state. *E. aurantiacum* bulbils do not show any visible change.

When wetted, *Ill. christiansenii* cirrhi extend rapidly by approximately 0.5 mm which is observable with a x10 hand lens or mobile phone camera, but expansion of *E. aurantiacum* bulbils is only about 50 µm which would not be visible. **The extension reaction distinguishes *I. christiansenii* from both *E. aurantiacum* and *M. corallinus* and could usefully serve in a binary field key.**

The changes in colour, texture and translucency also distinguish *I. christiansenii* from both *E. aurantiacum* and *M. corallinus*. In *I. christiansenii* they are a very striking

reaction, but also highly variable, rendering them less suitable for a binary field key test. A positive response could be of use supported by other characteristics.
The inconsistency of the hydration reaction means that the water test in identification keys for *I. christiansenii* may require rewording. While all cirrhi expand on wetting, not all give the impression of "dissolving". The wording "disperse readily in water" originally referred to conidia on a microscope slide; "go glassy" would better describe the reaction and this also describes cirrhi that retain their colour.

The effects of hydration on the cirrhi of *I. christiansenii*
Precipitation In the weeks before collection of the February samples at Site 2, there had been 85 mm precipitation and an average relative humidity of 90%. Therefore, the cirrhi had already been subjected to multiple wettings and dryings.
Photographs show that the effect of successive expansion and contraction is to smear the pink conidia over the neighbouring tissue. After successive cycles of raised and reduced hydration, the cirrhus is reduced to a pink smear of conidia, which a single soaking of the cirrhus did not achieve.
Movement This study showed that the effects of water are not limited to the cirrhus, but also result in a massive movement of any healthy host thallus nearby. The *Physcia* thallus thrashes about dramatically as the water content changes. The movements of the *Physcia* thallus may bring it into closer proximity to the sporodochium, possibly spreading the sticky *I. christiansenii* conidia onto it. Soralia can also be seen on nearby thallus suggesting the possibility of conidia and soredia being dispersed together. This is pure speculation but would represent a huge advantage to the lichenicolous fungus (LF).

What is the point of the shocking-pink sporodochia?
Why pink? This is a matter for speculation, but whatever the reason, *I. christiansenii* may share it in common with *M. corallinus*.

The sporodochia serve to produce and protect a dense mass of conidia embedded in a gelatinous matrix, the cirrhus, the purpose of which is propagation and dispersal. What do the sporodochia actually do? Nothing – unless they get wet. Dry samples stored from the beginning of 2022 still responded to hydration at the end of the year. This may be an adaptation of the LF to the host lichen habit, but the conidia cannot fulfil their function of propagation when dry. Instead, they remain protected, glued to the substrate in a layer of dried mucus.

Dispersal is a limiting factor for any LF. They are more common in mature lichen communities at sites with long ecological continuity. Many produce large, multicellular often thick-walled, long-lasting spores (Hawksworth, 2003). An LF has a limited geographic range (Lawrey & Diederich, 2003). The community at Site 2 had only spread a few centimetres along a single twig, not even to *Physcia* on adjacent twigs. Similarly, at Site 3, the infection spread along a single bar of the gate, not to the *Physcia* on the bar below.

The principal action of the cirrhi is the hydration/drying reaction. On wetting, the conidia separate more easily, and the walls become more gelatinous and stickier. The cirrhi immediately expand, becoming shiny and more translucent, often losing their colour.

A number of general means of dispersal have been suggested, both physical and biological. Those that involve wetting, are splash dispersal, wind splash dispersal, stem-flow and animals. Splash dispersal is characteristic of many muculent fungal spores (wind splash dispersal is simply the amplification of splash dispersal by wind): the dry spores are stuck to the substrate by the mucilage; an initial wetting (by rain or high humidity) causes the mucilage to swell and the spores to float on the surface; subsequent rain drops shoot them into the air in splash droplets (Gregory *et al.*, 1959).

However, in the case of *I. christiansenii,* while this may release a batch of spores at a single wetting, the majority appear to remain glued in the cirrhus. If splash dispersal is occurring, then the cirrhus may serve to slow it down, lengthening the dispersal period. Some pink cirrhus material containing conidia is smeared onto the adjacent tissue where it will remain until the next wetting, from rain, dew, or just humid air.
Age may be a factor here: observations in other fungi show freshly formed cirrhi disperse more easily in water, while cirrhi that have been subjected to drying require squashing to separate the spores.

Stem-flow is less likely as this would only direct the spores downwards and into crevices. Microarthropods may play a role as suggested by Fox (1997). Plenty of these were observed at Site 2, mainly active in the dark and in the rain.

The cirrhus is poikilohydric which means that its water status is completely dependent on the environment. The water vapour partial pressure of the cirrhus is in equilibrium with the humidity of the atmosphere. A single pre-dawn dewfall roughly fills most lichens' internal water holding capacity, suggesting that lichens are optimized to use dew rather than rain (Gauslaa, 2014). Whatever the dispersal mechanism, a double diurnal dew cycle would expand and contract the *I. christiansenii* cirrhi twice daily, spreading the conidia for a longer period until the whole cirrhus smears away.

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Rediscovery of *Sclerophora farinacea* in Britain

Sclerophora farinacea in Norway. Photo © E Timdal

In February 2022, whilst surveying lichens at Monks Wood NNR as part of Natural England's Long Term Monitoring Network, I collected a number of samples which included a few pinhead lichens. Following my survey I attended the BLS winter workshop at Cober Hill in Cloughton, Yorkshire where, being unfamiliar with one particular pinhead sample, I showed it to Neil Sanderson. He recognised the genus of the pinhead as *Sclerophora* and then keyed it to *Sclerophora farinacea* – a species previously evaluated as Regionally Extinct by Woods, R.G. & Coppins, B.J. (2012).

The history of *Sclerophora farinacea* in Britain is not straightforward. In the nineteenth century it was found on the bark of deciduous trees in Teesdale, Durham and on oak at Mundon, Essex. Specimens from both these localities were initially recorded as *Coniocybe pallida* and not assigned to the species *Sclerophora farinacea* until 1980 when the Swedish lichenologist Leif Tibell viewed the nineteenth century specimens at the herbaria in Edinburgh and at the British Museum. The results from Tibell's visit were not made public until 2003 when Brian Coppins reported *Sclerophora farinacea* as new to Britain in the New, Rare and Interesting, BLS Bulletin 92.

Following the rediscovery of this species at Monks Wood NNR, in February 2023 Neil Sanderson and I were funded by Natural England and the BLS to undertake a survey to map the distribution of the *Sclerophora farinacea* population within the reserve. Sadly, after two days of effort, only the original population was refound on a post-mature field maple in an area of the reserve which had escaped clear felling in the 1920s. *Sclerophora farinacea* was found growing on flakes of weakly flushed bark on the east side of the tree, in close proximity to *Chaenotheca hispidula*. Both species share the same photobiont: *Trentepohlia*. In the field *Sclerophora farinacea* is distinguished from

Neil Sanderson studying *Sclerophora farinacea* on a field maple in Monks Wood NNR, Huntingdonshire. Photo © N. Bacciu

other pinhead lichens by its shiny brown stalk and the coarse, off-white crystalline coating on the underside of the head of the pin.

Sclerophora farinacea is a rare and decreasing lichen throughout its range in Scandinavia and continental Europe and has been described as a suboceanic to continental species of the base-rich bark of veteran deciduous trees in old growth woodlands and parks. Records have been made from elm, oak, ash, lime, maple and beech. The small population on a single field maple at Monks Wood is most likely a relic having survived historic sulphur dioxide pollution and partial clear felling of its habitat last century. Due to the rarity of this species in Europe it is unlikely the population in Monks Wood has recolonised from the continent and it is possible this lichen may be present at other sites in Eastern England and possibly Eastern Scotland. Although targeted searching for this species may be difficult due to the scarcity of old growth woodland in Eastern Britain, raising awareness of *Sclerophora farinacea* amongst lichenologists is important and to this end a species account will be created on the BLS website.

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Monitoring *Lobaria pulmonaria* translocations at Haweswater

In the Summer 2022 Bulletin, we wrote an account of the *Lobaria pulmonaria* translocation project at Haweswater in the eastern English Lake District, which began in 2020. It's turned into an open-ended activity - there's more translocation material available as *Lobaria* is re-growing on the original fallen ash trunk and now a separate ash elsewhere in the forest has come down with another colony of *Lobaria* to save.

Over several months during the winter and early spring we have revisited all the translocated thalli and, while it's too early to draw definite conclusions, the initial findings are hopeful as the majority haven't completely died or disappeared. That seems a very low bar when measuring success or failure, but we haven't had the time or know-how to do this in a more detailed way.

We didn't remove the plastic mesh and staples on most translocations as they had not completely attached so there was a danger they would be dragged off the bark. It appeared in most cases that the thalli had begun to attach around the edge where there were younger, more actively growing lobes. In the centre, where the lobes were older, there was movement when pressed, i.e. not yet attached. When enough new attachment points have developed the weight of any unattached old lobes will not drag the thalli off so at that point the mesh can be removed. This could be tried when we next visit in a year or so.

These are the criteria, in order of importance, that we applied when looking at the thalli:

1. is it still there?
2. is it alive, i.e. green when wet and signs of growth?
3. has it attached, usually around the edge?
4. are there signs of damage, e.g. mollusc-browsing showing white where the cortex has been removed, or necrosis?

In total 264 pieces of *Lobaria pulmonaria* were attached to 80 trees. So far 9 translocations have failed (disappeared entirely or completely dead) which seems pretty good after two years. However, lichen can take a long time to die and a fair number were barely attached to the new substrate and not attached at all in a few cases, so the jury's still out. It seemed that the most successful thalli were those in positions with greater retained dampness, on the north or shaded sides of trunks, but in general it's too early to draw conclusions.

The original fallen ash bough is producing a new crop of lobes, regenerating from fragments left after removal of the lichen two years ago.

Then, a few weeks ago, we visited another Haweswater ash known to support a *Lobaria pulmonaria* colony only to find that the tree has snapped off about six feet off the ground, leaving the lichen vulnerable. We hadn't translocated any *Lobaria* to this area of the forest as we didn't find any suitable host trees, but there are several old ash trees with *Lobarion* species which we discounted before but now might use, despite the likelihood they'll be affected by disease in the future.

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Growing in plain sight: women in the British Lichen Society archives

The British Lichen Society (BLS) was founded in 1958 for the promotion of the study and conservation of lichens. Now, as its archives are organised and catalogued for the first time, I share my observations, shining a light on the women within the society, and highlighting their lack of representation within the archives.

A recent masters graduate in the taxonomy and biodiversity of plants, I came to this project with limited knowledge of lichens and no idea of the work of the BLS. My interests ordinarily lie in plant ecology and biogeography, the merging point of my undergraduate degree in physical geography and my fascination with plants. Approached to undertake a short-term project cataloguing and organising the BLS archives, I was to begin laying down the framework required for unification of the BLS archives from their three UK sites (Royal Botanic Garden, Edinburgh (RBGE), the Natural History Museum (NHM), and the National Botanic Garden of Wales (NBGW)).

Earlier in March 2022 material from the BLS archives in the care of Mark Seaward had been transferred to RBGE. This comprised 7 storage boxes and large quantities of record cards from the Mapping Scheme. With nobody quite knowing what the archives held, beginning the process of cataloguing felt like dipping into a time capsule. The archives at RBGE comprised written correspondence from 1920 onwards, containing an original circular distributed by Frederick A. Sowter in 1953 launching the lichen study group and material from Robert Paulson, James H. Bloom and Elke Mackenzie. In addition to this the archives housed photographic material from 1965 to 2014, event flyers, spatial records, and information from key BLS projects i.e., the Mapping Scheme and the Lichen IUCN Red List Subcommittee.

Much of the groundwork for this project had been laid previously by Becky Yahr who provided a guiding hand and helped to establish aims and priorities, having spearheaded the transfer of material from Mark Seaward during her BLS presidency (2020–2). Also involved in this project at RBGE were Lorna Mitchell, the head librarian, and Leonie Paterson, RBGE's archivist who were key to discussions on archival procedure, storage agreements and acquisition policies that were to feature in

draft agreements between RBGE and the BLS. My work on the archives also led me to meetings with Theresa Greenaway, the archivist and BLS library curator at NBGW who helped establish further guidelines for an acquisition policy and contributed an inventory of the material held in Wales. A meeting with Brian Coppins helped identify people in earlier unnamed photographs. In a trip down to London to sort the archives at NHM, I met Gothamie Weerakoon and Pat Wolseley who helped me navigate the herbarium and sort the material into boxes for future transfer to RBGE.

At this point, having familiarised myself with names present in Oliver Gilbert's 'The Lichen Hunters', David Hawksworth's 'Lichenology in the British Isles' and numerous *Bulletins* I started to notice gaps in the archives. The most conspicuous was a notable lack of material from 2014 onwards, very little representation of committee members 2010 onwards and most strikingly, the lack of representation of the work of women in the society.

The pioneers

From Annie Lorraine Smith's illustrated *Handbook of British Lichens* (1921) to Ursula Duncan, a founding member of the British Lichen Society and author of the seminal '*Introduction to British Lichens*' (1970), there is no doubt that women have made profound contributions to British lichenology.

Entirely self-taught, Ursula Duncan is renowned for her role in nurturing lichenology through its greatest decline (1945–1955), where work in the physical sciences was greatly reduced and effort was diverted to projects relevant to the war (Bullard *et al*., 1975). Through her lichen identification courses at Kindrogan field centre and her contributions to BLS field meetings she encouraged beginners, sharing her enthusiasm and personal collections to awaken interest in lichens and inspire individuals such as Peter James. The tenacity of this woman, the lady who characteristically *'tirelessly trampled across East Ross-shire in Wellingtons'* is captured in recollections by Kenneth Ross:

When I once asked Ursula why she always wore a skirt, and not trousers which, in view of the terrain over which we clambered seemed to me to be more sensible.

"Well Kenneth," she said-,

-"It's far easier and less obvious if I wander off a little distance and suddenly find the need to crouch down and examine something interesting, than what you have to do when the need arises".

(Left), Ursula Duncan circa 1969 wearing her characteristic wellingtons. (Right), Ursula and Pauline's letters within the archives.

Leaving a legacy

Within Duncan's possessions, a bundle of light blue letters caught my attention. Addressed to Pauline Topham, these letters written by Ursula detail their close friendship and scientific relationship, taxonomic exchange on *Umbilicaria* and species such as *Xanthoria lobulata* and their shared lichen hunting trips in the spring and autumn months. Whilst Ursula Duncan holds great presence in the archives, I failed to find any additional information about Pauline Topham, other than two photos, pictured below.

Pauline Topham pictured far right, crouching.

In fact, within the archives, only four women other than Ursula are reliably represented. Since the founding of the society there have been five female presidents, and five female recipients of the Ursula Duncan award. Yet, I could find no mention of their achievements or work that lead to this recognition within material currently held in the archives.

Pauline Topham would have been the first female president had she accepted the role. Vice president and field meetings officer between 1980 and 1981 (the first woman to hold these posts), she published papers on the genus *Umbilicaria* and did work on spore size and the growth rate of *Rhizocarpon geographicum* across Scotland. An extremely senior statistician for Scottish Horticultural Research and a prolific collector, Pauline contributed over 34,000 records to the BLS database and travelled extensively to collect in obscure locations such as Greenland (the specimens of which

are now held by the NHM). However, all that is documented of her legacy in the BLS archives is her name in letterheads and a photo of the back of her head. Her obituary was never finalised and never made it to any *Bulletin*.

Fig. 20. Officers and Council of the British Lichen Society, 1976.

Front row (seated, *left to right*): J. R. Laundon (Secretary), P. B. Topham, D. L. Hawksworth (Assistant Editor), S. N. K. Tallowin (Treasurer) and F. N. Haynes (Chairman, Conservation Committee). Back row (standing, *left to right*): M. R. D. Seaward (Mapping Recorder), F. H. Brightman (Vice-president), F. Rose, P. W. James (Editor), D. H. Brown (Librarian and Reading Circle Secretary), P. W. Lambley (Assistant Treasurer), R. H. Bailey and S. R. Davey. Insets (*top to bottom*): O. L. Gilbert (President), J. D. Guiterman (Curator), B. J. Coppins and F. S. Dobson.

Council of the BLS, 1976 (taken from Hawksworth & Seaward, 1977), Pauline Topham centre-left.

A glimpse in the photo albums, stacked between the piles of correspondence of their male counterparts, tells a vastly different story. Spread across social events, field trips, and A.G.M.s are the gleeful faces of the many female society members captured and curated by Mary Hickmott. Spanning 1983–2010, these albums and accompanying diaries have such an important role in capturing the community, friendships and faces of the BLS not found elsewhere.

Mary's legacy within the archives forms some of the most significant records for the BLS, representing 90% of the entire photographic collection. For this, I think we need to recognise her efforts and say a well overdue 'thank you'. Without Mary's photos, each with a date and names of those included, I would have presumed that the society had few notable female members. From this discovery, I set about compiling a list of names, for which their only mention in the archives was Mary's photo collection. From this alone I created a list of 25 women. This list, however, does not represent the active members in the society who are completely unrepresented.

Take, for example, Janet Simkin, who has managed the BLS spatial records database since 2000, a role that involves importing, cleaning, querying, and mapping data for both individuals and organisations. Member of the Conservation Committee 2003 to present day, vice president 2012–3, president 2014–5,

webmaster 2012–20 and a trustee from 2000 up to present date, Janet also lectures at Newcastle University, researching lichen communities in abandoned lead mines.
Sandy Coppins' work and contributions are also absent from the archive. The first female president of the BLS, 2002–4, there is no mention of her work with Pat Wolseley doing the Exmoor Woodlands Lichen Survey, or her ambitious and successful Lichen Apprentice Scheme in Scotland. This provided training workshops, and opportunities in terms of funded projects for the apprentices to go on and apply their skills working with active lichen consultants, conducting visits at over 50 SSSIs.

Alice Burnet, Ann Allen, Barbara Benfield, Ishpi Blatchley, Vanessa Winchester, Barbara Hilton, Becky Yahr ….. The list of people missing from the BLS archives could go on.

Witnesses to the past

Much like the lichens they study, the contributions of these women have been growing in plain sight yet remain overlooked in the BLS archives. These unexpected gaps and missing narratives within the archives show that no archive is completely neutral in its representation of history. Given the pernicious gender stereotypes that have historically existed in botany, and by extension lichenology, it is the responsibility of all scientists to ensure that no contributions are overlooked or minimised in historical archives even if these contributions exist outside of academia.
Societies like the BLS are not founded on science per se, but the shared enthusiasm of a subject. There would be no science without people, excursions, collaborations, and conversations, and this needs to be properly reflected. Archives are witnesses to the past. It is essential that they accurately represent the work of the society and ***all*** its members.

In her obituary, Ursula Duncan was described as:
"Reticent about her many achievements and naturally modest by nature"
I say: don't let these women's modesty nor ingrained prejudices bury their legacy.

Acknowledgements

I would like to give my thanks to Nina Olshan for the title suggestion, Janet Simkin and Sandy Coppins for providing further information for the article and to all who assisted during this project.

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If you would like to contribute an item to the archives or would like to write a piece about your or others' involvement and work relating to the society, please use the contact details on the Archive page of the BLS website at http://britishlichensociety.org.uk/resources/bls-archives ***to request the acquisition policy and for a list of names of which little to no material exists.***

The comings and goings of *Cetraria islandica* subsp. *islandica* in north west Yorkshire (VC 65)

Those of you of a certain age will remember the opening scenes to the 1978 series of 'All Creatures Great and Small' in which the North Yorkshire vets are seen driving their veteran car through a ford. This is across Bleaberry Gill, a tributary of the River Swale, in the Yorkshire Dales National Park in VC65. Known locally as the 'watersplash'; it is a popular picnic spot today.

In 2010, in our early days looking at lichens, we were walking through a patch of heather and bilberry, above and south of the ford, when we noticed a large number of loose 'fronds' several centimetres long. At the time we did not recognise what they were, but it soon became apparent that they were *Cetraria islandica* subsp. *islandica*. Searching the internet for more information we found that Allan Pentecost was about to give a talk on the loss of this species from the southern Yorkshire Dales. We contacted him and he was kind enough to invite us to his talk and to encourage us to look for more instances of the lichen. Over the next five years we found 32 locations in VC65, with Allan Pentecost and Steve Price adding one and two more locations respectively.

Figure 1. Large thallus of *Cetraria islandica* subsp. *islandica* at fingertip with a number of 'scarified' partial thallus remains below.

Cetraria islandica subsp. *islandica* is a large, foliose, terrestrial lichen, typically found in VC65 on moorland over 390m. It can be VERY difficult to spot, but once found is easy to recognise. Figure 1 shows a typical occurrence, comprising an *in-situ* thallus growing in moss (at finger end) surrounded by a number of thallus fragments, 'scarified' by rabbits or grouse, lying on top of the moss and forming a 'vagrant' community. Typically, it is found in a number of habitats including well drained, stable unburnt, acidic microhabitats, among heather or bilberry on peat, or anchored in moss, in stone-rich mine tips and high-altitude summit plateau blockfields. It is usually found associated with *Cladonia portentosa*.

During the period 2010 to 2022, 16,500 records were added to the BLS database for VC65 of which only 35 were of *C. islandica* subsp. *islandica*, see Figure 2. Representing only 0.2% of the total number of records it is clearly a rare lichen, even in an upland area such as the Pennines of VC65. A marked feature of the recording history shown in Figure 2 is the dramatic decline in records for the lichen. Furthermore, over the same period the lichen has almost completely vanished from its original find spot where it had been abundant. The question then arises, is this reduction due to a decline in the lichen, or some artefact of recording strategy?

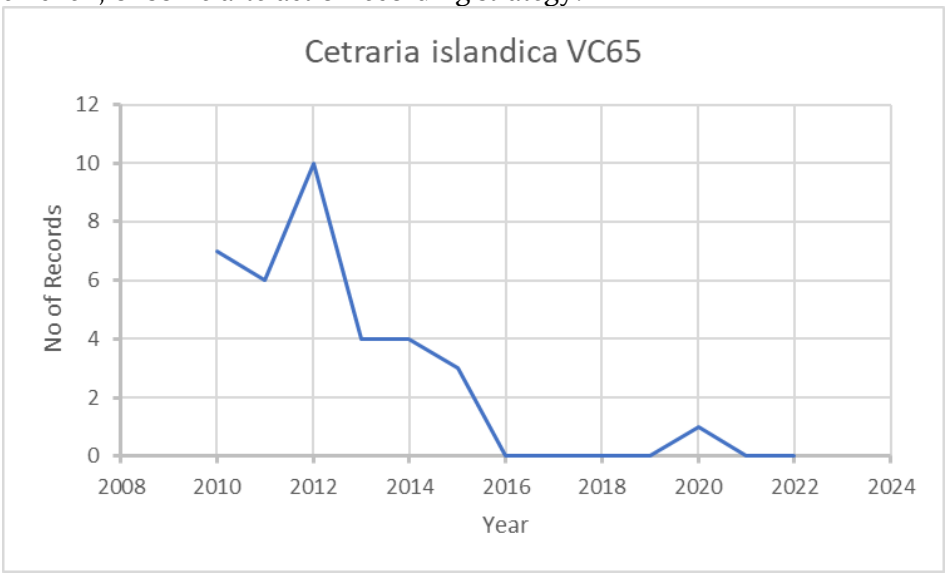

Figure 2. Number of records of *Cetraria islandic islandica* made in VC65 during the period 2010 to 2021. Records include a number of instances of re-visits to existing sites so that the number of unique locations is less than shown.

The historic reduction in the spatial distribution of *C. islandica* subsp. *islandica* was noted by Seaward (1994) in his checklist of lichens in Yorkshire (comprising five vice counties VC61–65). He found that the lichen had been lost from 22 hectads (10 x 10km squares) but was still present in 8 hectads. A similar situation was noted by Seaward (2008). The apparent decline in *C. islandica* subsp. *islandica* on Fountains Fell (VC64), immediately south of VC65, was discussed by Pentecost (2011) who showed a marked decline in the extent of the lichen on the mountain from the 1980s, so that by 2011 a concerted effort was required to find just a few thalli. However, a small number of thalli were also reported on four nearby fells. Elsewhere, as on Pen-y-Ghent, it

appeared to be surviving well. The increase in records for the lichen from VC65 meant that by 2021 Seaward (2021) was able to report that the lichen had increased from 8 to 13 hectads across Yorkshire.

We decided to re-visit the lichen's post 2010 locations in VC65. At the outset we recognised that this was literally like looking for a needle in a haystack and involves some conceptual and technical challenges. Conceptionally, what is a 'location'? How close to the original find spot has a lichen to be found to be considered a re-find of the original location as distinct from a new location? How much search effort and over what area should it be carried out? In addition, there are technical issues of just how accurate are the existing coordinates?

To relocate our find locations we relied on a combination of our memory of the locations and OS grid coordinates recorded at the time. Where we had a memory of the precise site locations relocating the site was straightforward. However, it soon became apparent that reliance on grid coordinates alone was an issue. According to the Ordnance Survey [Ordnance Survey 2023a, b] prior to 2000 locations derived from GPS receivers were only accurate to 100m. Even today, the Ordnance Survey's OSLocate app claims only an accuracy of 15m at best. Furthermore, they point out that while an OS grid reference represents a fixed point on the surface of Great Britain, coordinates derived from latitude and longitude do not. These depend on the assumed shape of the Earth (coordinate reference system) and the same values of latitude and longitude can relate to points up to 100m apart depending on which of the three most common systems in Britain were used by the GPS (see Figure 1 in Ordnance Survey 2023a). Our early grid references were derived from a hand-held GPS which we no longer have and so we cannot check its accuracy, but from our experience errors of up to 100m are possible.

We revisited seventeen sites

- At three sites we failed to re-find the lichen at all. In two of these sites there had been erosive peat loss which may account for the loss of the lichen.
- At three further sites we did not find the lichen at the original find spot, but two of these were from coordinates reported by others so we did not have the benefit of any memory of the location. However, we did find the lichen nearby.
- At eleven sites we re-found the lichen. Four of these sites appeared healthy and to have increased populations, whereas at the remaining seven sites only few thalli were found. Encouragingly, in several instances detailed searches revealed further locations in the vicinity.

These results mirror those reported by Pentecost (2011), with decline at some locations but apparently stable populations elsewhere. They also emphasise that recording effort is a major contributing factor to site discovery. Even under ideal conditions *C. islandica* subsp. *islandica* can be a difficult lichen to spot, see Figure 1. The simplest explanation of the 'decline' (noted in Figure 2) is that we had simply changed our focus of lichen recording from microhabitats favoured by this lichen to more widespread moorland and drystone wall habitats where the lichen was unlikely to be found. Clearly, before attributing changes in numbers of records of a lichen species over time to

environmental factors it is important to rule out such changes in recording effort or focus.

The open uplands moorlands of VC65 are a dynamic environment for terrestrial lichens in particular. They are impacted by sheep grazing, heather burning (on the grouse estates), peat erosion, and competition, especially from grasses. *Cladonia* species tend to favour short turf, or moss and are pioneer species on bare peat. *C. islandica* subsp. *islandica*, as noted above, tends to require drier and more stable conditions. Terrestrial lichens in general cannot compete with tall grasses.

Regulatory changes imposed by Natural England favour reduction in both sheep grazing and heather burning. The review by Martin *et. al.* (2013) of various trials of different grazing regimes on terrestrial lichens in upland environments found examples of both increased and decreased lichen biomass and diversity with reduced sheep grazing. A similar result was reported by Gilbert (2000). The impacts of heather burning were reviewed by Glaves *et. al.* (2013) who found that there was some evidence that controlled fires could impact the lichen layer, and in some cases, lead to patches of bare peat. However, personal observation suggests that such bare patches can favour lichen colonisation. There are also areas of putative rewilding with tree planting which may be detrimental to terrestrial lichens in the long term.

Taken together it is difficult to predict the impact of these changes on terrestrial lichens but maintaining a diversity of management regimes would appear to offer the best option for their long-term survival.

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Extreme lichenology in Småland, Sweden!

The Svensk Lichenologisk Förening's spring field trip was located in Småland in southern Sweden on 21–23 April 2023. The excursion covered two contrasting areas – a deep ravine on the central Småland plateau and the grounds of an ancient manor near to the east coast.

Olof Persson organised the event and led the weekend. Olof is a lichenologist who works for the local kommun running the long term-planning group. Olof's role is to manage the environment in terms of the conflicting forces of development, leisure and, in particular, the forestry industry both private and state owned. This area of Småland has extensive broad leaved forests that need careful long term management and luckily lichens are part of the management plan!

On the plateau looking into Moreravinen. Photo © S. Crabtree

Our first visit was to the extraordinary location of Moreravinen (57.2393°N, 15.8022°E). The location is an east-west ravine formed along a deformation zone marking contrasting metamorphic volcanic material to the south and granites to the north. The 8km long ravine was formed when an ice-dammed lake in the west, broke through, 12,000 years ago, eroding the fault zone. Now a river fills the base of the canyon, with vertical walls 20–30m high and overall width of 50–100m. In places tallus, from part collapsed walls, fills part of the canyon.

Because of the orientation the northern side is considerably warmer than the cold southern, shaded side. This has a dramatic effect on the ecology of lichens with differing communities within metres of each other. In addition, it is a difficult place to get in and out of!

Surveys have been few. So far around 200 species have been recorded with many on the Red List because of the unique environment. Because the southern side is so cold throughout the year (snow and ice were still present despite an air temperature of 20°)

several northern flora species occur such as *Chaenotheca gracilenta, Carbonicola myrmecina, C. anthracophila, Protopannaria pezizoides, Alectoria sarmentosa* and *Bryoria bicolor.* The river and vertical walls create a highly humid environment with *Nephroma laevigatum*, *Lobaria pulmonaria, Menegazzia terebrata*, *Pannaria conoplea* and *Agonimia flabelliformis* (found on this trip). Robin Isaksson found *Coniocarpon cinnabarinum* (rare in Sweden away from coastal areas) and a few other unidentified species on the trip - obviously an area that needs more work!!

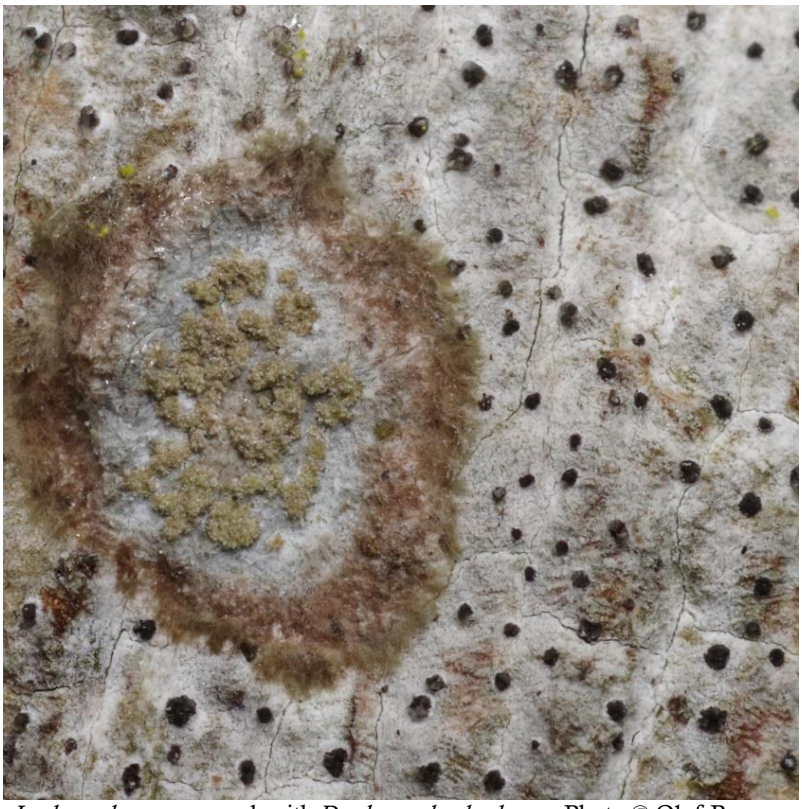
Protopannaria pezizoides. Photo © Olof Persson

Our second day could not have been more of a contrast. As in many places in Europe, Sweden was ruled by barons who ran their fiefdoms from herrgårds or manor houses. Additionally, until the mid 19th century, all oak trees were owned by the crown and felling was controlled. When the crown ownership ceased many ancient oak trees were felled, apart from those owned by the manors. The Strömsrum Herrgård (56.9552°N,16.3983°E) is one such manor, located on the coastal plain, with ancient and old growth oak, ash, maple and limes. We were given permission to survey the large open woodland, which remains one of the largest such woodlands in Sweden.

Chaenotheca cinerea on oak. Photo © Olf Persson

The woodland contains *Scutula effusa*, *Inoderma byssacea* and *Bactrospora dryina* with the *Inoderma byssacea* being one of the most common. The rare *Bacidia rosella* and *Phlyctis agelaea* were spotted along with many others including *Pachnolepia pruinata* and *Lecanographa amylacea.*

For me the trip was one of contrasting experiences both in a physical and lichen sense, Moreravinen with its verticality, ruggedness and binary environmental controls and Strömsrum with its calm and ancient wooded stately grandeur. I would strongly recommend a trip to Moreravinen – on the SLF trip we traversed less than 1km of the ravine – goodness knows what lichens the rest will turn up.



Inoderma byssacea on oak with *Dendrographa decolorans.* Photo © Olof Perrson

Thanks to Olof Petersson for organising the trip and ensuring that everything passed off so smoothly and to the SLF for finding such wonderful places to visit!

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New records of *Cryptodiscus* from Slovakia

New records of two species of *Cryptodiscus* Corda, *Cryptodiscus foveolaris* (Rehm) Rehm and *Cryptodiscus pallidus* (Pers.) Corda, are reported from Poľana Mountains in Slovakia. The members of the genus are known from only a few localities in Europe. They differ from the common lichenised species, *Ramonia interjecta* and *Cryptodiscus gloeocapsa*, by the structure of the fruiting bodies and the shape of the spores.

Introduction

Poľana is a volcanic mountain range situated in central Slovakia and belongs to the Western part of the Carpathian Mountains. A significant part of the area is an established natural biosphere reserve and protected landscape area due to the unique old growth forest sites and exceptional richness of the fauna and flora, including a high

diversity of epiphytic lichens (e.g. *Alectoria sarmentosa, Gyalecta derivata, G. herculina, G. ulmi, Leptogium saturninum, Lobaria pulmonaria*).

The Poľana region is predominantly covered by vast, continuous forests composed of tree species typical for the Carpathian Arc, including *Fagus sylvatica, Abies alba*, and *Picea abies*. The area has a long history of forest management surrounding the remaining parts of preserved old growth forests. Recently, two species belonging to the genus *Cryptodiscus*, previously unknown in Slovakia, were observed in a young, managed beech forest site located on the periphery of the protected reserve of Poľana.

The structure of the forest was shaped by forestry practices resulting in an even-aged, uniform and compact arrangement of trees, a dense and closed canopy, and an overall low level of structural diversity. Such characteristics are in general associated with low biodiversity of lichens (Boch *et al.*, 2013, Fritz *et al.*, 2009), however, a stand's proximity to the old growth forest may present an ecological benefit as it enhances the dispersal of various lichen species (Dettki *et al.*, 2000).

The cosmopolitan genus *Cryptodiscus* was described by Corda (Corda, 1838) and was included in the family *Stictidaceae* (Ostropales) (Sherwood, 1977). It comprises a relatively large number of species (68) including overlooked discomycetes, which are mostly saprotrophs (Baloch *et al.*, 2009). Species of the genus *Cryptodiscus* form inconspicuous, partially or completely immersed, cream-coloured, urceolate, round ascomata. The ascomata are initially completely closed and only open at maturity through a pore, which gradually expands. The size of the ascomata varies between 0.2–1mm in most species. They are waxy coloured except for *C. pini* which has dark brown fruiting bodies. The structure of the ascocarp is similar to that of *Gyalecta*, because, unlike in the genera *Ramonia* and *Stictis*, the periphysoids do not grow at the edges of the ascocarp. The asci contain 8 spindle-shaped hyaline multicellular spores. The paraphyses are unbranched. *Cryptodiscus* resembles the genus *Ramonia* from the related family *Gyalectaceae* in the shape of its fruiting bodies and its ecological demands – also grows on deadwood (Vondrák *et al.*, 2010). Recently, *Cryptodiscus foveolaris* have been confirmed from the Czech Republic (Halda, 2022). The same type of substrate is commonly colonized by the representative of the related *Stictidaceae* genus, *Absconditella lignicola* Vězda et Pišút, which is very common in Europe.

Methods

The samples were collected in August 2023 in the Poľana Mountains. Microscopic and macroscopic details of the fruiting bodies were measured using a stereomicroscope Olympus SZ61 and microscope Olympus BX41 DIC. A Canon 5DSR camera and Keyence WHX-S750S microscope were used to obtain the images. The herbarium samples of *Cryptodiscus foveolaris* JPH/23606 and *Cryptodiscus pallidus* JPH/23611, 24352 are kept in the East Bohemian Museum in Pardubice (MP).

Results

Cryptodiscus foveolaris (Rehm) Rehm, is an inconspicuous, non-lichenized fungus with tiny round fruiting bodies (up to 1mm in diameter). The ascocarps are completely immersed in the substrate which is most often rotting fallen logs (**FIG**. **1**).

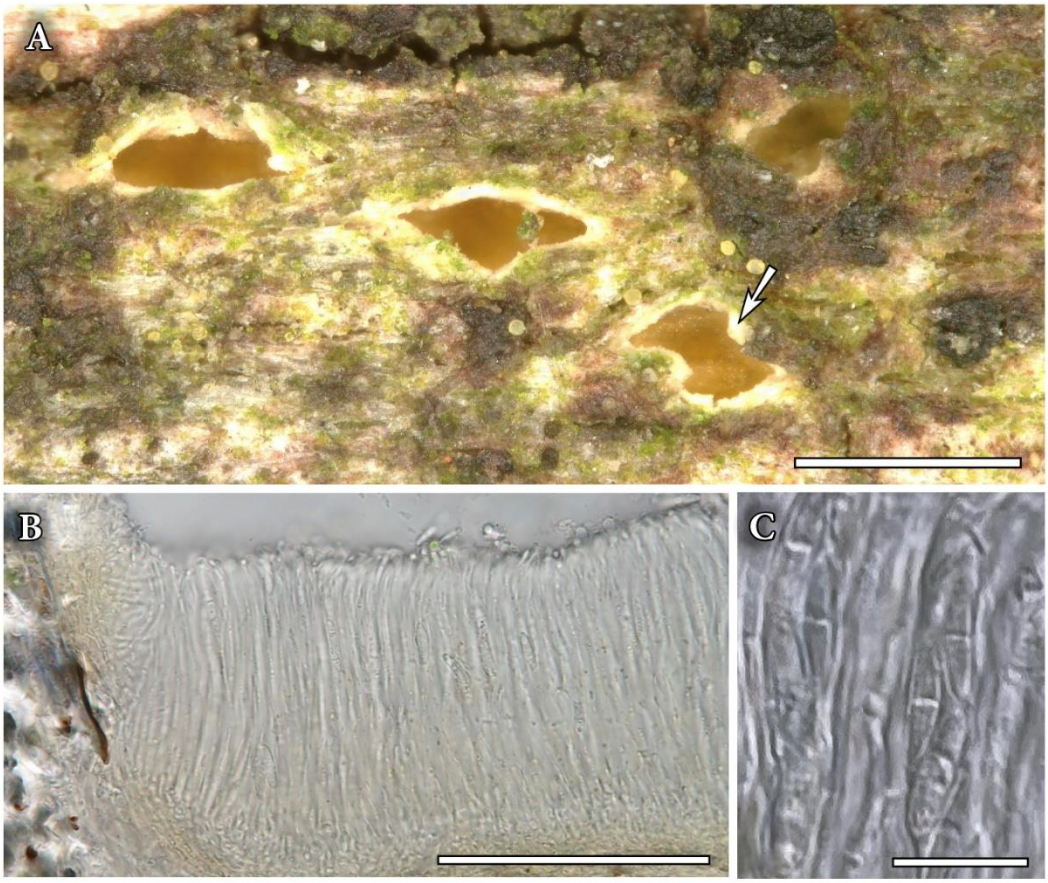

FIG. 1. *Cryptodiscus foveolaris* (JPH/23606); A, ascocarps; B, vertical section of an ascocarp; C, ascus detail with spores (mounted in water); Scales: A, – 500 μm, B – 100, μm, C – 10 μm.

In optimal condition the colour is waxy yellow to ochre but due to the presence of algae on the surface of the substrate the ascocarps turn dark green. The fungus prefers the wood of conifers, however it also rarely grows on fallen trunks of common broad-leaved species (Baloch *et al.*, 2010). It is distinguished from related and similar species of the same genus by its oval two-celled spores (9 × 3μm). The fungus can easily be confused with the more common species *Ramonia interjecta* Coppins, which also grows on rotting wood, but differs by longer, needle-shaped, multicellular spores.

C. foveolaris is probably widespread throughout Europe but it is not reported very often (Baloch *et al.*, 2010). *C. foveolaris* has recently been recorded in Austria (Berger, 2019), Luxembourg (Tholl *et al.*, 2007) and Great Britain (Baloch *et al.*, 2010), however considering the assessment of its being widespread throughout Europe, it is not reported often (Baloch *et al.*, 2010) and seems to be overlooked also in North America (Baloch *et al.*, 2009).

Studied specimen: the Western Carpathians, Slovakia, Poľana, managed beech forest (POL_107/2022), N48.622523 E019.498748, 1130 m n. m., on deadwood of beech rotting fallen log, 3. VIII. 2022, leg.: Josef Halda & Daniela Dúhová (JPH/23606).

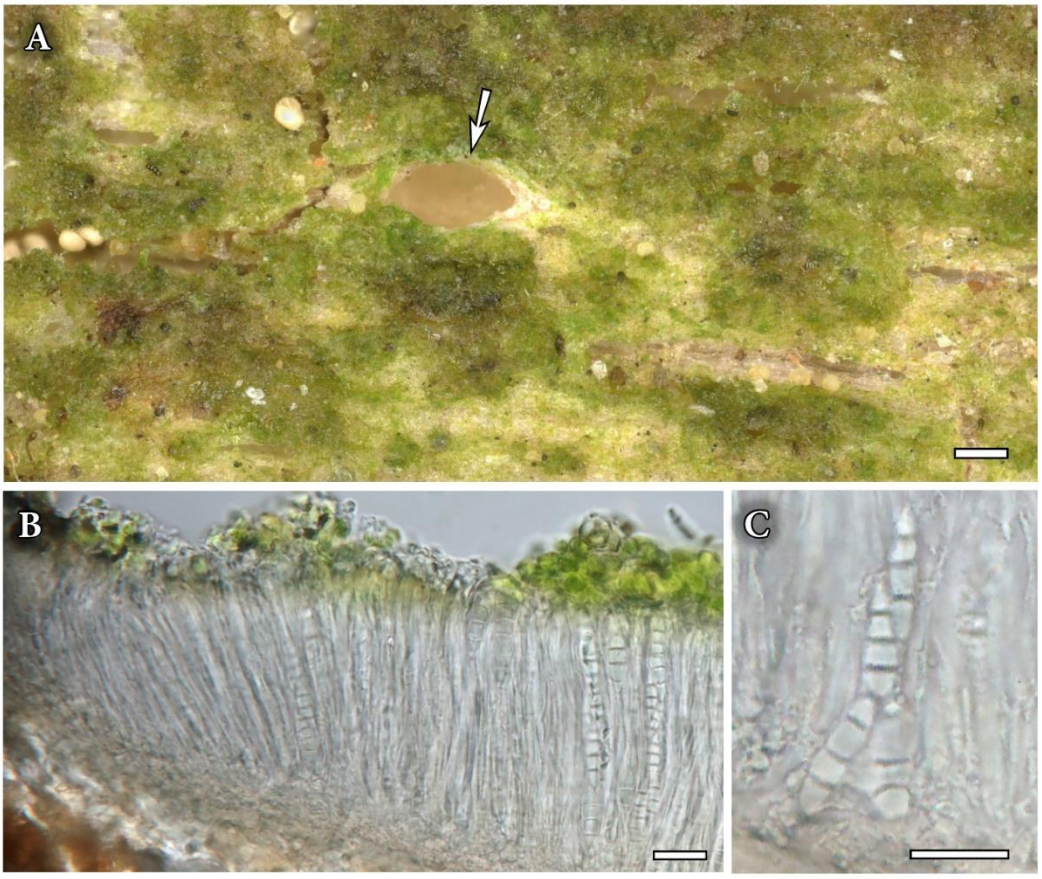

FIG. 2. *Cryptodiscus pallidus* (JPH/23611); A, ascocarp; B, vertical section of an ascocarp; C, spores (mounted in water); Scales: A – 100 µm, B, C – 10 µm.

Cryptodiscus pallidus (Pers.) Corda forms small fruiting bodies (0.5 × 0.3 mm), 3-septate ascospores, cylindrical to slightly fusiform, 14 × 5µm, mature spores clearly constricted at septa and paraphyses with knoblike apices. The ascomata are visible as ochre coloured pits in the deadwood log, and they only open when mature (**FIG. 2**). The light yellow to ochre colour can turn dark green due to algal growth. Unlike the previous species it prefers the wood of broad-leaved trees like *Alnus glutinosa, Fagus sylvatica* or *Populus tremula* (Baloch *et al.*, 2009), except one record on *Abies alba* (Urbanavichene & Urbanavichus, 2014). *C. pallidus* is known from Greenland, Iceland, Svalbard (Wietrzyk *et al.*, 2017), Scandinavia, North America, Canary Islands (Baloch *et al.*, 2010), Czech Republic (Corda, 1838) and Russia (Urbanavichene & Urbanavichus, 2014). According to Baloch *et al.* (2010) and Baloch *et al.* (2009), it is likely that this species has been overlooked in Europe, Great Britain and North America, (Baloch *et al.*, 2010, Baloch *et al.*, 2009).

Studied specimens: The Western Carpathians, Slovakia, Poľana, managed beech forest (pol_108/2022), N48.626443 E019.503469, 1065 m n. m., on deadwood of beech rotting fallen log, 4. VIII. 2022, leg.: Josef Halda & Daniela Dúhová (JPH/23611); Poľana, managed beech forest (POL_107/2022), N48.622523

E019.498748, 1130 m n. m., on deadwood of beech rotting fallen log (together with *C. foveolaris* JPH/23606), 3. VIII. 2022, leg.: Josef Halda & Daniela Dúhová (JPH/24352).

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Keywords: *Cryptodiscus*, *Stictidaceae*, lichen-like fungus, ecology, biodiversity, beech forest, the Western Carpathians.

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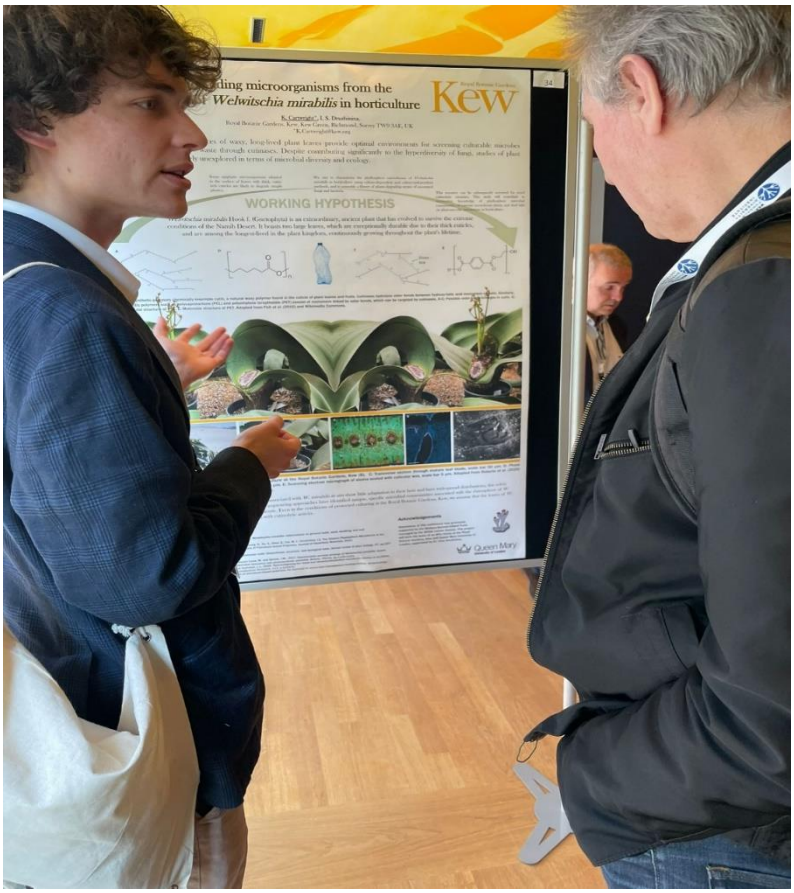
A visit to the Westerdijk Institute fungal evolution spring symposium 2023

In April 2023 I was graciously supported by the British Lichen Society's Wallace-Burnet-Gilbert Fund to attend the Westerdijk Fungal Biodiversity Institute's annual symposium on fungal evolution. As an MSc student, I am at the beginning of an academic career in which I hope to study the composition and ecology of lichenised microbial communities, which can be conceptualised as lichen holobionts (Allen & Lendemer, 2022). On returning from my trip, I was inspired to write a short article for the *Bulletin* to summarise some key insights from a busy programme of talks that I found particularly relevant to lichenology, and to share some reflections on the support and educational value this experience offered me.



Presenting my research poster at the Westerdijk Institute Fungal Evolution Spring Symposium

Major themes of this year's symposium were the construction of robust phylogenies and accurate taxonomic delimitation. With developments in next-generation sequencing approaches, full genome sequences are rapidly becoming more widely available and feasible to generate. Whole genomes are highly preferable to small

numbers of genes for constructing phylogenetic trees. Using conventional random bootstrapping approaches, whole genome datasets can often be used to build trees that are apparently fully resolved. However, Dr Marco Thines from the Institute of Ecology, Evolution and Diversity at the Goethe University Frankfurt-am Main presented recent work on fungal and oomycete genome datasets demonstrating that trees constructed using conventional methods were actually very inaccurate, due to varying mutation rates between lineages and the malalignment of highly divergent genomic regions. Methods including, first filtering out regions with low global homology assignment and bootstrapping multiple genes, mitigated these limitations and enabled robust, high-resolution phylogenies. This talk highlighted how phylogenomic approaches can be improved and optimised to construct robust phylogenies.

Dr. Jens Frisvad from the Technical University of Denmark spoke of how grouping fungi in the genera *Aspergillus* and *Penicillium* by their secondary metabolite and CAZyme profiles corresponded extremely accurately with their established taxonomy and phylogeny. Most species descriptions and delimitations in these genera are currently based only on homology of genes such as *BenA*, *CAM, RPB2* and *TEF1alfa*, backed up by morphology and some limited physiological traits. Dr. Frisvad argued that incorporating detailed comparative chemotaxonomy could improve such delimitations and diagnostics, whilst contributing to knowledge of functional diversity. Dr. Frisvad's talk was an important reminder to the mycological community that physiological traits should be combined with genetic and morphological data for fungal taxonomy. To me, this stressed the importance of passing on lichenologists' expert knowledge of diagnostic chemotaxonomy to future generations.

Obtaining whole genome sequences from lichens has historically been difficult due to the presence of photobionts and other partners. Theo Llewellyn from the Royal Botanic Gardens, Kew presented research from his PhD in which he developed highly effective workflows for isolating and assembling full lichen mycobiont genomes from metagenomic data. Additionally Theo published 24 newly sequenced high-quality genomes from the *Lecanoromycetes* assembled using this approach. These were used in the construction of a genome-scale phylogeny, which was used to investigate hypotheses about the evolution of anthraquinone pigments in the *Teloschistales* (Llewellyn *et al*., 2023). Workflows developed in Theo's PhD work may prove highly useful and influential in my future work on lichens, and the symposium was an excellent opportunity to discuss them thoroughly.

From a personal perspective, attending the symposium was an excellent opportunity for my professional development, as I gained experience preparing a scientific poster and writing an abstract to present my MSc thesis work on epiphytic fungi from the phyllosphere of tropical plants. It was an excellent networking opportunity, and I had several fascinating conversations with scientists in attendance about fungal ecology, symbiosis and lichens. The conference was an opportunity to hear diverse perspectives and to contribute to debates about fungal taxonomy and nomenclature, with the notable example of a discussion about a vote at next year's International Mycological Congress on whether it should be possible to designate living, lyophilised, metabolically inactive cultures as types. The perspectives, methodologies and connections I was exposed to through attending this conference

will be highly influential in my career going forward, and I would like to express my immense gratitude to the trustees of the British Lichen Society's Wallace-Burnet-Gilbert Fund for enabling this highly educational experience.

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Exploration of lichen richness in areas of Nepal polluted by heavy traffic

Introduction

Nepal, lying between Tibet and India, is considered the garden for lichen diversity at the genetic, species, and ecosystem levels. One hundred and sixty-seven genera and 471 spp. of lichen have been reported in Nepal including over 50 endemics (Jha *et al.*, 2017). The total number of lichen species is expected to reach more than 2000 owing to the significant variation in climatic conditions, vegetation types, topography, and latitude. Lichens are highly sensitive to environmental conditions, including airborne contaminants, substrate chemistry, and climate (Abas, 2021) which make them valuable indicators of species richness, air quality, and climate. In 2020, we received a small ecological grant from the British Lichen Society to study lichen diversity along a busy road between Butwal and Tansen, two mega cities in Lumbini province, Nepal (Fig. 1).

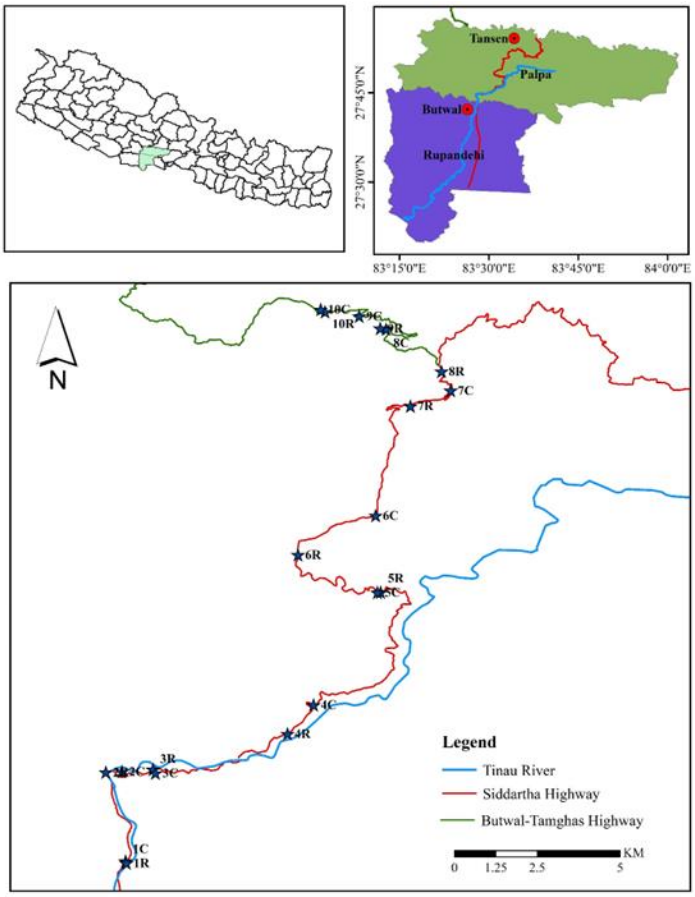

Fig. 1 Study area along the road between Butwal and Tansen, part of Butwal-Tamghas highway. R = roadside transects; C = control transects

This highway is 41 km long and carries approx. 2000 vehicles per day with an average speed of 32.21 km/hr. The objective of the study was to determine the effect of road pollution on lichen diversity. I had previously been involved in research on how lichen richness changes along elevational gradients in Nepal in areas largely unaffected by pollution (Baniya *et al.*, 2010; Nanda *et al.*, 2021); lichen diversity in areas affected by road traffic had not been studied earlier.

The topographical features of the study area vary significantly from the lowland of the north foot of Churiya hill, inner mid-hills with terrace lowlands, to the high Mahabharat mountain range. The altitude varies from 250 to 2000m with mean annual temperatures of 18.2°C to 24.0°C and mean annual rainfall of 2203–1912mm, which is concentrated in autumn and winter, while summer is relatively dry; prevailing winds are southwesterly (CFC-TIS Document Series, 2005). Thus, it possesses tropical to subtropical types of climate. Loams and sandy loams are the most common soil types throughout the hill regions, on both slopes and alluvial terraces. Both districts have a monsoon climate with hot, wet summers and mildly warm, dry winters up to 1000 m. In the Mahabharat range between 1000 and 2000m, there is a warm temperate monsoon climate and wet summers and cool and dry winters. During summer months

(May and June), the maximum temperatures are around 28° and 32° C, respectively, while in winter months (December and January), the minimum temperatures reach 4–9° C. Relative humidity is normally highest (80–87%) during the rainy season (June–September) (CFC-TIS Document Series, 2005).

Methodology

Lichens were collected in January 2021 along transects of 100×1m orientated parallel to the road and positioned at locations at which the road crossed an approx.100m altitude contour. Roadside and control transects were laid down at 5–10m and 100m from the centre of the road, respectively. Some images from the fieldwork are shown in Fig. 2.

Fig. 2 Lichen rich sites. A first plot at periphery of research site with dust and pollution; B collection of lichen from tree trunk by principal investigator (PI); C luxuriant growth of fungi on tree trunk; D participants in field work (left, PI; middle, Alina Shrestha (MSc. Botany Student), Right, Gaurav Shrestha (MSc. Botany Student); E collection of saxicolous lichen by PI.

Lichens were identified using standard available keys (Awasthi 1991, 2007) and identifications were checked by Dr. Dalip Kumar Upreti (Emeritus Scientist at CSIR-National Botanical Research Institute, Lucknow, India).

A total of 41 lichen species was collected from the 10 transects (Table 1) belonging to 4 classes, 8 orders, and 17 families. Interestingly, 7 genera and 21 species were new records for Nepal (Table 1). The number of species was largest in *Parmeliaceae* (n=6) and *Caliciaceae* (n=6), followed by *Graphidaceae* (n=5) and *Arthoniaceae* (n=4). At genus level *Parmotrema*, *Pyxine*, *Graphis*, and *Lepraria* were most dominant irrespective of location and altitude.

Table 1 List of lichen species from Butwal-Tansen highway roadside

Pyxine sorediata	*Oxneriopsis bassiae* *#&
Herpothallon spp.$	*Brigantiaea leucoxantha* *#&
Diorygma spp.	*Pyxine sorediata*

Diorygma junghuhnii	*Parmotrema praesorediosum*
Herpothallon minutum [#$]	*Lepraria incana* [#]
Malmidea psychotrioides [*#]	*Pyxine farinosa*
Graphis platycarpa [#]	*Mycobilimbia hunana*
Malmidea bakeri [*#]	*Biatora spp.*[&]
Pyxine reticulata [#]	*Candelaria concolor* [#]
Myriostigma candidum [*#&]	*Parmotrema cooperi*
Cryptothecia multipunctata [*#]	*Graphis japonica* [#]
Staurothele clopima [*#]	*Heterodermia hypocaesia*
Parmotrema hababianum [@]	*Leprocaulon coriense* [#]
Dirinaria aegialita [@]	*Lepraria ecorticata* [#]
Phaeophyscia hispidula	*Chrysothrix chlorina*
Lepraria lobificans	*Lecidella viridans*[#]
Malmidea duplomarginata [*#]	*Parmotrema tinctorum*
Bacidia alutacea [#]	*Cratiria obscurior* [*#]
Graphis cincta	*Ioplaca pindarensis*
Bacidia laurocerasi [#]	*Brigantiaea leucoxantha*[*#&]
Letrouitia transgressa [&]	

Genera new to Nepal; [#] Species new to Nepal; [$]Indicator species in polluted sites; [&]Indicator species in non-polluted regions; [@]Lichen species present in different altitudinal zones.

Analysis

On analysing the diversity index, the control site (non-polluted regions) had a high lichen diversity compared to traffic-affected areas. One genus (*Herpothallon*) occurred only in polluted areas while 5 genera (*Myriostigma*, *Leutrouitia*, *Oxneriopsis*, *Brigantia*, and *Biatora*) were reported only from non-polluted plots.

The results from transects at different altitudes were grouped into three different categories: low (150–450m), medium (600–1000m), and high (1020–1520m). *Parmotrema hababianum* (Gyeln.) Hale and *Dirinaria aegialita* (Afzel. ex Ach.) richness was similar in each of the three elevation categories and the genera *Graphis* and *Pyxine* were also commonly distributed along the elevation gradient. Plots at intermediate altitudes were more diverse compared to those at low and high levels. Species of *Herpothallon* and *Myriostigma* appeared to have a preference for low altitudes, those of *Bacidia*, *Biatora, Oxneriopsis* and *Brigantiaea* were reported from medium altitudes, while species of *Heterodermia*, *Chrysothrix*, *Lecidella*, *Cratiria* and *Ioplaca* were present at higher altitudes.

Understanding species and genera richness in different regions and vegetation types can aid in formulating effective conservation strategies, particularly for areas where anthropogenic, climatic, and environmental stresses are quite significant. In a country with limited research resources like Nepal, research on the diversity and conservation of lichens is necessary. This exploratory study on the lichen diversity in western Nepal (B-P road site) has found 7 genera (Fig. 3) and 21 species new to Nepal. In addition, the discovery of a potential pollution indicator species (*Herpothallon* spp.) gives us hope for a useful tool in future pollution mapping. Moreover, the presence of *Parmotrema*

hababianum and *Dirinaria aegialita* at different altitudes suggests that these lichen species could be considered for various comparative studies.

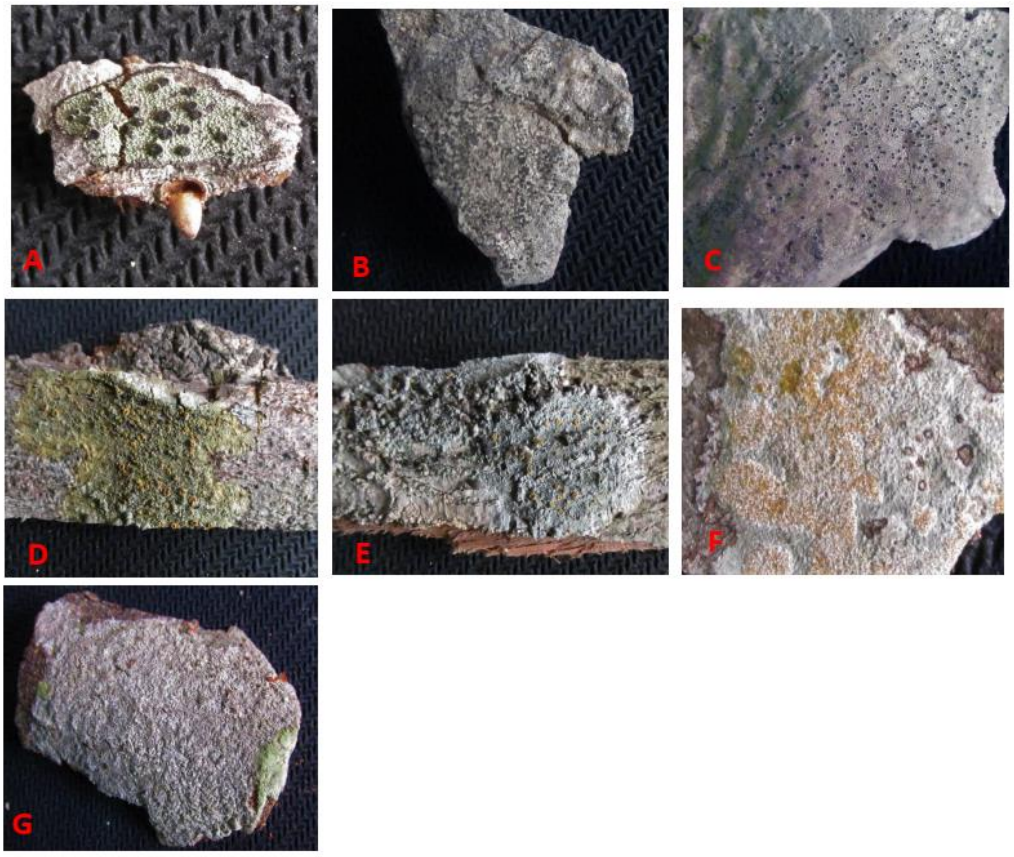

Fig. 3. Seven genera new for Nepal: A. *Malmidea*, B. *Cratiria,* C. *Staurothele*, D. *Oxneriopsis*, E. *Brigantiaea*, F. *Myriostigma* G. *Cryptothecia.*

Acknowledgements

This project, "Exploration of lichen species richness from heavy traffic polluted areas of Nepal," was made possible by the active involvement and contribution of P.I. (Dr. Buddha Bahadur Basnet), two students, and a local resident. I want to express my sincere appreciation to the UK's British Lichen Society for financial support. Ms. Alina Shrestha and Mr. Gaurab Shrestha, MSc students, helped me during the planning stage and the logistic arrangements during the field survey. Mr. Saroj Khanal, a local resident, advised us of the potential dangers and risks in field sites. I want to thank Emeritus scientist Dr. Dalip Kumar Upreti and Rajesh Bajpai (CSIR National Botanical Research Institute, Lucknow, India) for assistance in the identification of lichens. Last but not least, I extend my sincere thanks to all local citizens and scientists who were directly involved in the field.

Further details of the study may be requested from the authors (contact details at the end of this article).

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2023 BLS Winter Workshop

Arnecliff field trip: attendees from the Winter Workshop and local naturalists. Photo ©Judith Allinson

The weekend was attended by: Judith Allison, Nicola Bacciu, Juliet Bailey, Graham Boswell, Paul Cannon, Isobel Clark, Brian Coppins, Stephen Crabtree, Joan Giles, Pat and Keith Cavanagh, Fay Newbery, Heather Paul, Graham Pyatt, Neil Sanderson, Janet Simkin, Eluned Smith, Robert Yaxley.

The BLS winter workshop residential weekend was held once again at Cober Hill, near Scarborough, where 18 souls gathered to chew over existing lichen problems and create new ones!

The weekend kicked off with a field trip, led by Dave Minter, to the poorly recorded Arnecliff Wood (NZ7804–5) located on the northern margin of the North York Moors. The drive back to Cober Hill was halted for a brief inspection, in freezing conditions, of a *Cladonia* rich area of moorland close to Cloughton. Details of all the taxa recorded during the survey of woodland at East Arncliff Wood, the old sandstone bridge at Glaisdale and Low Moor can be requested from Janet Simkin, records@britishlichensociety.org.uk.

Neil Sanderson and Brian Coppins kindly agreed to facilitate the weekend by making themselves available for endless problematic identification and questions. As in 2022 a group, comprising Heather Paul and Fay Newbery (when not giving microscope tutorials), established a lichenicolous fungi area of expertise at the heart of our lichen study area or lab.

Slightly to the north, Janet Simkin and Paul Cannon involved themselves in what at first sight appeared to be some form of clandestine database manipulation with a lot of muttering of numbers and letters and strange codes. It wasn't until Sunday afternoon we realised what was going on. Suddenly, Paul announced the real time release of the revision of the *Verrucariaceae* family, volume 31 of the LGBI. This volume is dedicated, following his untimely death, to Alan Orange who spent much of his life working on *Verrucariaceae*.

Further west, Graham Pyatt provided a wonderful display of assorted saxicolous lichens from Scotland – by the end of weekend all lichens were identified. However, their individual complex relationships initiated a discussion about the controls and speed of saxicolous lichen growth.

Perhaps the oddest group of all was one made up of Isobel Clark and Stephen Crabtree who were studying the cilia and rhizines of the *Physciaceae*. Enough said.

Directly to the south Pat and Keith Cavanagh worked on several projects and provided a wealth of advice to some of us less experienced attendees on approaches to microscopy and effective staining techniques to enhance the cortex of lichens. This discussion was helped with the purchase of Alan Orange's book on Microchemical Methods – amazingly, Eluned Smith had hauled the entire BLS Bookshop to Cober Hill and worked hard on selling items throughout the weekend.

Far to the south Juliet Bailey worked industriously on her amazing array of "fenciferous" lichens and made startling discoveries during the weekend, including some new to the vice county.

For those who were still around on the last evening, Nicola Bacciu gave a fascinating review of her work on the NT property at Lanhydrock in Cornwall. Nicola and her team had surveyed many unique and special species and showed how poor woodland management, conducted by the NT, was having a deleterious effect on lichen populations such as the Lobarion.

Surprisingly Robert Yaxley was often absent from the lab supposedly looking at coastal lichens. These putative lichen visits to the shoreline, even though always coming back with an interesting lichen specimen, revealed a dark side to Robert's character, namely an interest in ornithology!

Judith Allison helped Joan Giles, who had just started on lichens, to find her way amongst the myriad of techniques and analysis. Judith kindly took on the role of photographing the workshop and spent some time setting up her remarkable recording project in the Settle area on QGIS. On Saturday, we had a brief visit from Sue and Les Knight – it was great to catch up with Sue and Les in person.

In addition to this busy lab work Neil organised a second field trip, in warmer weather, to the heathland of the North York Moors to study *Cladonia*.

Unlike 2022 there were, unfortunately, no evening presentations. Oh and by the way, the BLS microscopes urgently need servicing!

Our thanks goes to Graham Boswell for organising the event, Neil and Brian for sharing their enthusiasm and knowledge, Fay for providing many stimulating and thoughtful discussions and, despite the odd grumble, Cober Hill for looking after us.

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Lichen survey of Pabbay and various sites on Barra and Vatersay, Outer Hebrides

Pabbay is one of the southern-most islands of the Outer Hebrides and is a 10.5 mile boat trip from the nearest port of Castlebay on the island of Barra. In August 2022 Andy Acton, Brian Coppins, John Douglass and Steve Price visited this 250ha uninhabited island – centroid grid ref. NL6087. Prior to this visit there were records for only 18 lichens and these had been noted in 1976 as part of a quadrat vegetation survey.

All aboard for a day trip to Pabbay! Photo © Steve Price

Pabbay and the neighbouring islands of Berneray and Mingulay were acquired by the National Trust for Scotland (NTS) in the year 2000. Berneray was surveyed by this same group of lichenologists in August 2019 (see report in the BLS Bulletin **126**, Summer 2020, p92–107). There are a good number of records from Mingulay visited a number of times in the early 1980s by Vince Giavarini and in 2020 by Ivan Pedley.
For access to Pabbay it was necessary to charter a boat from Castlebay, Barra. The local boatman Francis Gillies knows the waters well and is familiar with the awkward landing with disembarkation, and most importantly embarkation, being directly onto and from rocks. His advice regarding the weather and sea conditions was invaluable.

This trip was originally planned for 2020 and was, because of COVID, postponed firstly to 2021 and then to 2022 and then because of gales and heavy seas from June 2022 to August 2022. Even then adverse weather caused significant problems. The forecast was too uncertain for us to risk an overnight stay but at very short notice with a window in the weather we were eventually able to spend a single long day on the island.

Before and after the trip to Pabbay the time spent on Barra and Vatersay was very productive and rewarding. During these days our activities included: leading a public guided lichen outing; surveying a community woodland; joining in a Ranger outing to the centre of the island; recording on a 'secret' peninsula; on an inshore island; in a gorge woodland; and a 10km square bash. Barra is probably now the most recorded island in the Outer Hebrides!

Our whole trip, in its constantly changing structure, was only possible because of the personal generosity of the NTS Ranger (and Barra Ranger) Jonathan Grant and his wife Jacqui. They welcomed us in and accommodated us at their house for the whole week; shared our whisky; and tolerated our cooking (all based on the tinned and dried provisions we had planned to use whilst camping on Pabbay). Jonathan, and his companion Barra Ranger, Ben, guided us to pockets of previously un-recorded woodland; a little visited peninsula; and transported us by dinghy to the inshore island of Fuidheigh (Fuiay).

Statistics for the trip

Total records for trip: 1831
Total records for Pabbay: 279 (recorded in 4 out of the total of 9 monads on the island)
UK Red-Listed spp: 6
Taxa for Pabbay: 147
Taxa for Barra and Vatersay: 370
Species new to Barra: 46
Species new to VC 110 (Outer Hebrides): 8

- *Arthopyrenia cinereopruinosa* (Barra)
- *Bacidina delicata* (Barra)
- *Caloplaca aractina* (Pabbay)
- *Halecania spodomela* (Heabhal and Ardveenish)
- *Llimonaea sorediata* (Fuidheigh)
- *Micarea viridileprosa* (Barra)
- *Myriolecis salina* (Pabbay)
- *Zyzygomyces* (*Heterocephalacria*) *bachmannii* (Pabbay)

UK Red-Listed species: 6

- *Caloplaca aractina* VU NR P (Pabbay)
- *Cladonia maxima* VU NR Sc (Earsairidh -Earsary)
- *Pectenia ligulata* VU NR Sc IR (Fuidheigh and Pabbay)
- *Rinodina milvina* NT NR Sc (Fuidheigh)
- *Sarcogyne clavus* NT NS (Traigh Eais)
- *Scytinium palmatum* NT NS Sc (Heabhal)

Pabbay
(NL6087 and surrounding 1km squares)
Tuesday 23 Aug 2022
Geology
Pabbay is composed entirely of the siliceous rock Hebridean gneiss.
Topography
The island is mostly rock-girt with much exposed bed-rock across the interior of the island. There is a sandy bay on the eastern side with a small dune system behind the bay. The island has four rounded rocky peaks the tallest being 171m. alt. There are significant sea-cliffs on the west and south-west sides of the island.
Habitats
Shelving bed-rock influenced in places by springs and seepages; gullies with vertical outcrops; seacliff-top rocks and boulders; shelving coastal rocks; and a small dune system are the main natural habitats. Sheep grazing ceased in 2009 since when short-turf vegetation has all but disappeared.

The cliff-top iron-age dun (fort), walls of abandoned houses and the ancient burial

Dunan Ruadh, the iron-age fort (dun), on Pabbay. Photo right © Steve Price

ground provide additional saxicolous habitat and calcareous sandstone and mortar as alternatives to gneiss. Lignicolous habitat is restricted to old fence posts, rails and a half-buried ship's mast.

It was Brian during a hands-and-knees scouring of the superficially bare bed rock above the sea battered cliffs of Ruadh-phort who found the UK Red-Listed Vulnerable *Caloplaca aractina* and *Myriolecis salina* both new to the vice-county (photo left © Steve Price)

Also new to the vice-county and found in a rather more vegetated situation was *Zyzygomyces (Heterocephalacria) bachmannii,* a lichenicolous fungus on *Cladonia furcata*.

Barra & Vatersay

Vatersay (NL6295 and NL6395)

Saturday 20 Aug 2022

110 taxa recorded

This large island is connected with Barra via a road causeway and whilst of itself is worthy of a week's study our day visit concentrated on an area on the west side of the island. This included the north edge of the bay of Treasabhaig where its shore-line rocks intersected with the shell-sand and above there on the SW flanks of the hill Heiseabhal Mor. These flanks offered some small measure of shelter from the driving hail and rain which was being encouraged along by the gale-force winds that were preventing us from voyaging to Pabbay. In the car park even the cattle gathered behind our car to find some relief from the elements!

Ranger-led public walk to the infrequently visited 'Centre of the Island' (Allathasdal, Dun Bharpa and Baille na Creige (Craigston))

Sunday 21 Aug 2022

The grid squares in which recording took place were: NF6601, NF6602, NF6603, NF6701, NF6702

This half day outing embraced moorland; deserted farmsteads; a dun; and a burial mound. There was a measure of casual recording throughout the walk.

71 taxa recorded

Northbay Woodland (Coille Bhag a Tuath) (NF7003)

Sunday 21 & Monday 22 Aug 2022

67 taxa recorded

This small plantation dating from around the late 19th or early 20th century is now a community woodland. It is afforded protection from the elements by being in a shallow valley. There is a mix of deciduous and coniferous trees. We recorded the site prior to leading a publicly advertised 'lichen walk'.

Public lichen outing in Northbay Community Woodland, Barra. Photo © Steve Price

Six local residents attended and hopefully took away with them a little knowledge and appreciation of lichens.
The attendees were delighted to have the man himself, Brian, show them *Micarea coppinsii*, and alongside it the ice-blue UV reaction of *Mycoblastus caesius.*

Lochan Duin – dam & nearby (NF6903)
Monday 22 Aug 2022
45 taxa recorded

This is a mains water supply loch and the dam wall, the loch margins and, below the dam, an area of young-growth willow-carr kept us out of mischief for a couple of hours.

The freshwater flora around the reservoir included *Verrucaria aethiobola*, *V. rosula* and *V. cernaensis*, the latter in particularly large quantities. This is an unusual phenomenon for a reservoir drawdown zone – unless, that is, there is not much drawdown.

Allt Heacair (Allt Heisgeir) (NF7000)
Monday 22 Aug 2022
148 taxa recorded
This rich gully woodland, comprising naturally generated trees, was mostly hazel, alder and aspen. Being a rare example of Hebridean native woodland the Rangers were indeed keen to point it out to us and have it surveyed. And it did not disappoint, the Lobarion community present is a rare sight on Barra.

The lichen rich gully-woodland at Allt Heacair, Barra. Photo © Steve Price

There were two new vice-county records from the site: *Arthopyrenia cinereopruinosa* was found on a chest high hazel (*Corylus avellana*) and *Bacidina delicata* was found in a knot-hole of the dead trunk of a rowan (*Sorbus aucuparia*)

Bruairnis peninsula (NF7101, NF7102, NF7200, NF7201, NF7300 and NF7301)
Wednesday 24 Aug 2022
171 taxa recorded
This low-lying peninsula, infrequently visited even by residents of Barra, gave us easy access to a range of habitats including: outcrops; boulders; coastal rock and moorland. *Micarea viridileprosa*, found amongst bryophytes on a north-east facing crag, was a new vice-county record.

Earsairidh (Earsary) (NL7099)
Thursday 25 Aug 2022
88 taxa recorded
The community of Earsairidh sits at the NW corner of the 10km square NL79 and, apart from a few skerries, holds the totality of the land in what was a previously un-recorded hectad. A convenient road-side pull-off provided the opportunity to study coastal rocks, a few fence posts and lumps of concrete for an hour's worth of square bashing.

Heabhal (Heaval) (NL6899, NL6798 and NL6799)
Thursday 25 Aug 2022
134 taxa recorded
This 384m alt. hill, the highest on Barra, dominates the town of Castlebay. A wide range of aspects of the bed-rock and boulders yielded a rewarding range of lichens. Including the Red-listed *Scytinium palmatum* and also *Halecania spodomela* for its first vice-county record. Later this was also found in Ardveenish in our host's garden.

Halecania spodomela, the 1st and 2nd vice-county records were found on Barra at Heabhal and Ardveenish. The latter being in our host's garden. Photo © John Douglass

Traigh Eais and Bag nan Clach (NF6908 and NF6907)
Thursday 25 Aug 2022
47 taxa recorded

This sandy bay and rocky shoreline in the north of Barra with the calcareous influence of the shell sand provided an interesting set of records. including the UK Red-Listed Near Threatened *Sarcogyne clavus* the second record for VC110 (recorded from Mingulay by Vince Giavarini in 1982)

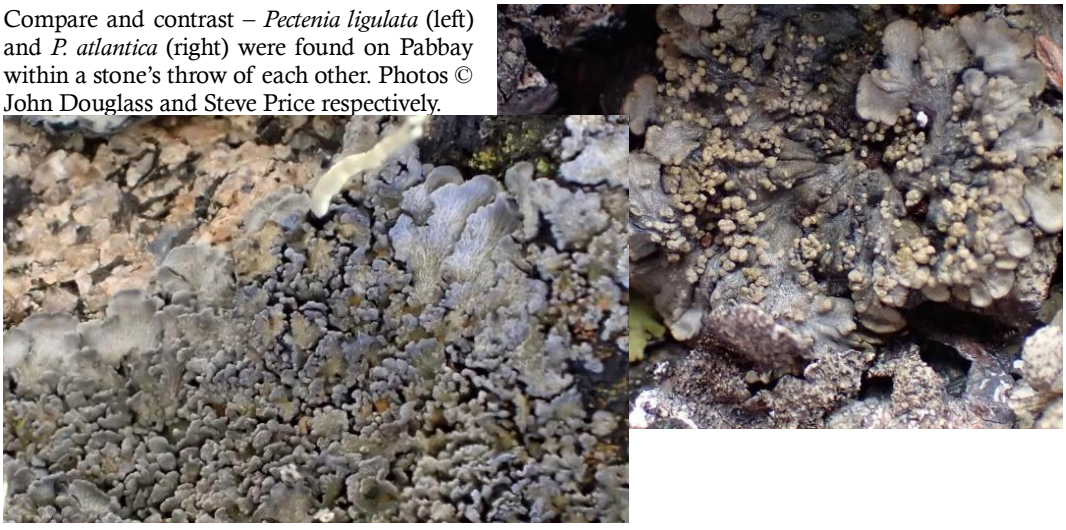
Red-Listed *Sarcogyne clavus,* the second record for VC110, from the interface of windblown sand and gneiss at Traigh Eas, Barra. Photo © Andy Acton

Fuidheigh (Fuiay) (NF7301, NF7302 and NF7402)
Friday 26 August 2022
178 taxa recorded

Fuidheigh is an 84ha inshore island off the east coast of Barra. It has a single 107m high peak in the centre. We spent an interesting day examining shore-line rocks, the tops of sea cliffs, outcrops on the central peak together with some terricolous habitats. *Llimonaea sorediata* found on a sheltered rock-face was a new species for the vice-county. Rocks around the trig point revealed the second British record of the UK Red-Listed *Rinodina milvina* (previously recorded from nearby Mingulay by Vince Giavarini in the 1980s), as well as a problematical lichenicolous *Acolium* on *Ochrolechia parella*: similar to *A. marcianum*, which grows on *Pertusaria pseudocorallina*.

There were rich-pickings on the off-shore island of Fuidheigh. Photo © John Douglass

Compare and contrast – *Pectenia ligulata* (left) and *P. atlantica* (right) were found on Pabbay within a stone's throw of each other. Photos © John Douglass and Steve Price respectively.



Ardveenish (Àird Mhidhinis) (NF7103)
Miscellaneous recording in the area around our accommodation yielded records of 52 taxa supplementing the records made here during our 2019 trip to Berneray. These records included populations of *Halecania spodomela* in Jonathan Grant's garden, found when disembarking the dingy after the trip to Fuidheigh.

Table of taxa for Pabbay

Acarospora fuscata
Agonimia tristicula
Anaptychia runcinata
Aspicilia caesiocinerea
Aspicilia grisea
Aspicilia leprosescens
Bacidia scopulicola
Baeomyces rufus
Buellia aethalea
Buellia stellulata
Caloplaca aractina
Caloplaca arnoldii subsp. oblitterata
Caloplaca ceracea
Caloplaca crenularia
Caloplaca limonia
Caloplaca marina
Caloplaca microthallina
Caloplaca saxicola
Caloplaca scopularis
Caloplaca thallincola
Caloplaca verruculifera
Candelariella vitellina f. vitellina
Catapyrenium cinereum
Catillaria chalybeia var. chalybeia
Cladonia arbuscula subsp. squarrosa
Cladonia cervicornis subsp. cervicornis
Cladonia cervicornis subsp. verticillata
Cladonia chlorophaea s. lat.
Cladonia ciliata var. ciliata
Cladonia crispata var. cetrariiformis
Cladonia firma
Cladonia foliacea
Cladonia furcata subsp. furcata
Cladonia portentosa
Cladonia pyxidata
Cladonia ramulosa
Cladonia ramulosa
Cladonia rangiformis
Cladonia rangiformis
Cladonia squamosa var. subsquamosa
Cladonia strepsilis
Cladonia subcervicornis
Cladonia uncialis subsp. biuncialis
Cliostomum tenerum
Coccotrema citrinescens
Collema auriforme
Collema cristatum var. cristatum
Collema furfuraceum
Collema tenax var. ceranoides
Collema tenax var. tenax
Dermatocarpon intestiniforme
Dermatocarpon miniatum
Diplotomma alboatrum
Endococcus verrucisporus {LF}
Ephebe lanata
Fuscidea cyathoides var. cyathoides
Fuscidea lygaea
Haematomma ochroleucum var. porphyrium
Halecania ralfsii
Heterocephalacria bachmannii {LF}
Hydropunctaria maura
Hydropunctaria oceanica
Ionaspis lacustris
Lasallia pustulata
Lecania hutchinsiae
Lecanora albescens
Lecanora gangaleoides
Lecanora helicopis
Lecanora intricata
Lecanora poliophaea
Lecanora poliophaea
Lecanora polytropa
Lecanora rupicola var. rupicola
Lecanora salina
Lecanora sulphurea
Lecanora symmicta
Lecidea diducens
Lecidea lactea s. lat.
Lecidella asema
Lecidella scabra
Lepraria caesioalba
Lepraria finkii
Leptogium gelatinosum

Leptogium plicatile
Lichenomphalia umbellifera
Lichina confinis
Megalaria pulverea
Megalaria pulverea
Melanelixia fuliginosa
Melanelixia glabratula
Micarea lignaria var. *lignaria*
Micarea peliocarpa
Myriolecis massei
Myriospora smaragdula
Normandina pulchella
Ochrolechia androgyna
Ochrolechia parella
Opegrapha calcarea
Opegrapha gyrocarpa
Ophioparma ventosa
Parmelia omphalodes
Parmelia saxatilis s. lat.
Parmotrema crinitum
Parmotrema perlatum
Pectenia atlantica
Pectenia ligulata
Peltigera membranacea
Pertusaria corallina
Pertusaria excludens
Pertusaria flavicans
Pertusaria pseudocorallina
Physcia caesia
Physcia tenella
Placynthiella icmalea
Polyblastia cupularis
Porina lectissima
Porina leptalea
Porpidia melinodes
Porpidia tuberculosa
Protopannaria pezizoides
Ramalina cuspidata
Ramalina siliquosa
Ramalina subfarinacea
Rhizocarpon geographicum
Rhizocarpon lavatum
Rhizocarpon reductum
Rhizocarpon richardii
Rinodina atrocinerea
Rinodina luridescens
Rinodina oleae
Schaereria fuscocinerea var. *fuscocinerea*
Scoliciosporum umbrinum
Solenopsora holophaea
Solenopsora vulturiensis
Sphaerophorus globosus
Stereocaulon evolutum
Stereocaulon vesuvianum var. *vesuvianum*
Stigmidium eucline {LF}
Tephromela atra var. *atra*
Toninia aromatica
Trapeliopsis pseudogranulosa
Tylothallia biformigera
Umbilicaria deusta
Verrucaria fusconigrescens
Xanthoparmelia conspersa
Xanthoparmelia loxodes
Xanthoparmelia pulla
Xanthoparmelia verruculifera
Xanthoria aureola
Xanthoria calcicola
Xanthoria parietina

Table of taxa for Barra & Vatersay sites

Taxon name	Vatersay	Allathasdal Walk	Northbay Woodland	Allt Heacair (Allt Heisgeir)	Lochan Duin	Bruairnis	Earsairidh (Earsary)	Heabhal	Bag nan Ciach & Traigh Eais	Fuidheigh	Ardveenish
Acarospora fuscata	x	x		x		x		x		x	x
Acarospora impressula						x					
Agonimia tristicula	x					x		x			
Amandinea punctata	x										
Amygdalaria pelobotryon				x				x			
Anaptychia runcinata	x	x		x		x	x	x	x	x	x
Anisomeridium biforme			x	x		x					
Anisomeridium polypori			x	x							
Arthonia cinnabarina				x							
Arthonia didyma			x	x							
Arthonia muscigena			x								
Arthonia punctiformis {*F*}				x							
Arthonia radiata			x	x							
Arthopyrenia analepta {*F*}				x							
Arthopyrenia cinereopruinosa {*F*}				x							
Arthopyrenia punctiformis {*F*}			x								
Aspicilia caesiocinerea	x			x		x	x	x		x	x
Aspicilia cinerea s. lat.	x	x				x	x				
Aspicilia cinerea s. str.				x							
Aspicilia grisea	x					x	x	x		x	
Aspicilia leprosescens	x					x	x		x	x	x
Bacidia arceutina	x										
Bacidia carneoglauca										x	
Bacidia delicata				x							
Bacidia scopulicola	x					x			x	x	
Bacidia trachona				x							
Bacidia viridifarinosa			x	x							
Baeomyces rufus	x			x	x	x		x		x	
Bryobilimbia sanguineoatra				x		x					
Buellia aethalea	x	x	x	x		x	x	x		x	

Taxon name	Vatersay	Allathasdal Walk	Northbay Woodland	Allt Heacair (Allt Heisgeir)	Lochan Duin	Bruairmis	Earsairidh (Earsary)	Heabhal	Bag nan Clach & Traigh Eais	Fuidheigh	Ardveenish
Buellia griseovirens		x	x								x
Caloplaca arcis							x			x	
Caloplaca arnoldii subsp. *oblitterata*				x		x	x				
Caloplaca britannica						x			x		
Caloplaca citrina s. lat.								x			
Caloplaca crenularia		x		x		x	x		x	x	
Caloplaca flavocitrina				x	x						
Caloplaca limonia							x				
Caloplaca marina	x					x	x		x	x	x
Caloplaca maritima										x	
Caloplaca microthallina	x						x			x	
Caloplaca oasis							x	x		x	
Caloplaca phlogina									x		
Caloplaca saxicola										x	
Caloplaca scopularis						x					
Caloplaca thallincola	x					x	x		x	x	
Caloplaca verruculifera						x			x	x	
Candelariella aurella f. *aurella*				x	x						
Candelariella vitellina f. *vitellina*	x	x	x	x		x		x		x	x
Catillaria chalybeia var. *chalybeia*				x		x	x	x	x		
Catillaria chalybeia var. *chloropoliza*					x						
Catillaria nigroclavata				x							
Cecidonia umbonella (LF)										x	
Cecidonia xenophana (LF)								x		x	
Cercidospora cladoniicola (LF)								x			
Cetraria aculeata	x	x				x		x		x	
Chrysothrix candelaris			x								
Cladonia arbuscula subsp. *squarrosa*		x			x	x		x		x	

Taxon name	Vatersay	Allathasdal Walk	Northbay Woodland	Allt Heacair (Allt Heisgeir)	Lochan Duin	Bruairmis	Earsairidh (Earsary)	Heabhal	Bag nan Clach & Traigh Eais	Fuidheigh	Ardveenish
Cladonia bellidiflora								x			
Cladonia cervicornis subsp. *cervicornis*	x			x		x	x	x		x	
Cladonia cervicornis subsp. *verticillata*						x		x		x	
Cladonia chlorophaea s. lat.	x							x		x	
Cladonia ciliata var. *ciliata*		x						x		x	
Cladonia ciliata var. *tenuis*	x	x		x	x	x		x		x	
Cladonia coccifera s. lat.		x				x		x		x	x
Cladonia coniocraea	x		x			x		x		x	
Cladonia crispata var. *cetrariiformis*						x				x	
Cladonia diversa				x							
Cladonia fimbriata										x	
Cladonia firma						x					
Cladonia floerkeana	x					x				x	
Cladonia foliacea	x	x				x		x		x	
Cladonia furcata subsp. *furcata*	x	x		x		x	x	x		x	
Cladonia gracilis						x		x		x	
Cladonia maxima							x				
Cladonia polydactyla var. *polydactyla*			x			x				x	
Cladonia portentosa	x	x				x		x		x	x
Cladonia pyxidata	x	x		x		x	x	x	x	x	
Cladonia ramulosa	x	x		x		x		x		x	
Cladonia rangiferina						x					
Cladonia rangiformis	x	x		x		x	x	x	x	x	x
Cladonia squamosa s. lat.										x	x
Cladonia squamosa var. *squamosa*	x	x						x		x	
Cladonia squamosa var. *subsquamosa*				x		x				x	
Cladonia strepsilis		x				x				x	
Cladonia subcervicornis	x	x		x		x	x	x		x	x

Taxon name	Vatersay	Allathasdal Walk	Northbay Woodland	Allt Heacair (Allt Heisgeir)	Lochan Duin	Bruairmis	Earsairidh (Earsary)	Heabhal	Bag nan Clach & Traigh Eais	Fuidheigh	Ardveenish
Cladonia uncialis subsp. *biuncialis*	x	x			x	x		x		x	
Clauzadea monticola					x						
Clauzadeana macula						x		x			
Cliostomum griffithii			x				x				
Cliostomum tenerum				x						x	
Coccotrema citrinescens	x			x						x	
Collema auriforme	x				x				x		
Collema cristatum var. *cristatum*	x										
Collema furfuraceum	x			x		x	x		x	x	
Collema tenax var. *ceranoides*	x										
Collema tenax var. *tenax*							x				
Collemopsidium foveolatum							x				
Cornicularia normoerica		x				x		x		x	
Corticifraga fuckelii (LF)				x							
Cystocoleus ebeneus				x				x			
Dactylospora parellaria (LF)							x				
Dermatocarpon intestiniforme	x					x		x		x	x
Dermatocarpon luridum					x					x	
Dermatocarpon miniatum	x	x		x	x	x			x	x	x
Didymocyrtis ramalinae (LF)				x							
Diploschistes scruposus										x	
Diplotomma alboatrum							x				
Dirina fallax										x	
Enterographa hutchinsiae				x							
Eopyrenula grandicula {*F*}			x								
Ephebe lanata	x			x		x		x		x	x
Evernia prunastri			x		x						
Flavoparmelia caperata			x								
Fuscidea cyathoides var. *cyathoides*	x	x	x	x	x	x	x	x	x	x	x
Fuscidea lightfootii				x	x						x
Fuscidea lygaea	x			x		x		x			x

Taxon name	Vatersay	Allathasdal Walk	Northbay Woodland	Allt Heacair (Allt Heisgeir)	Lochan Duin	Bruairmis	Earsairidh (Earsary)	Heabhal	Bag nan Clach & Traigh Eais	Fuidheigh	Ardveenish
Graphis elegans			x	x		x					
Graphis inustuloides			x	x							
Graphis scripta				x							
Haematomma ochroleucum s. lat.									x		
Haematomma ochroleucum var. *porphyrium*				x		x				x	
Halecania ralfsii	x					x	x			x	x
Halecania spodomela								x			x
Herteliana gagei				x		x		x		x	
Heterocephalacria physciacearum (LF)				x							
Homostegia piggotii (LF)	x										
Hydropunctaria maura	x	x				x	x		x	x	x
Hydropunctaria oceanica						x	x			x	
Hydropunctaria orae						x	x			x	
Hydropunctaria scabra				x							
Hypogymnia physodes			x			x		x			
Hypogymnia tubulosa			x			x		x			
Hypotrachyna afrorevoluta				x							
Hypotrachyna revoluta s. str.			x								
Hypotrachyna sinuosa							x				
Icmadophila ericetorum						x					
Immersaria athroocarpa								x			
Ionaspis lacustris	x	x		x	x	x		x		x	x
Lambiella furvella								x	x		
Lecania baeomma				x							
Lecania erysibe s. str.										x	
Lecania hutchinsiae	x										
Lecania naegelii				x							
Lecania rabenhorstii							x				
Lecanora actophila	x					x	x		x	x	x
Lecanora albescens	x				x		x	x		x	
Lecanora argentata			x								

Taxon name	Vatersay	Allathasdal Walk	Northbay Woodland	Allt Heacair (Allt Heisgeir)	Lochan Duin	Bruairmis	Earsairidh (Earsary)	Heabhal	Bag nan Clach & Traigh Eais	Fuidheigh	Ardveenish
Lecanora campestris subsp. *campestris*					x		x				
Lecanora cenisia										x	
Lecanora chlarotera		x	x	x	x	x				x	
Lecanora confusa				x	x						
Lecanora dispersa	x						x	x			
Lecanora expallens		x	x		x					x	
Lecanora farinaria	x			x	x						
Lecanora fugiens	x										
Lecanora gangaleoides	x	x		x		x	x	x		x	x
Lecanora helicopis	x					x	x		x	x	x
Lecanora intricata				x		x		x		x	
Lecanora muralis	x				x	x	x			x	
Lecanora orosthea				x				x			
Lecanora persimilis				x							
Lecanora poliophaea									x	x	
Lecanora polytropa	x	x	x	x		x	x	x		x	x
Lecanora rupicola var. *rupicola*	x										
Lecanora sulphurea	x	x		x		x	x	x		x	x
Lecanora zosterae									x		
Lecidea auriculata								x			
Lecidea diducens								x			
Lecidea fuliginosa								x			
Lecidea fuscoatra s. str.				x			x	x		x	x
Lecidea grisella				x		x		x		x	x
Lecidea lactea s. str.				x		x		x		x	
Lecidea lapicida	x									x	
Lecidea phaeops		x		x		x		x		x	
Lecidea turgidula					x						
Lecidella asema	x	x		x		x	x	x	x	x	x
Lecidella elaeochroma f. *elaeochroma*	x	x	x	x	x	x				x	
Lecidella meiococca	x					x				x	

Taxon name	Vatersay	Allathasdal Walk	Northbay Woodland	Allt Heacair (Allt Heisgeir)	Lochan Duin	Bruairmis	Earsairidh (Earsary)	Heabhal	Bag nan Clach & Traigh Eais	Fuidheigh	Ardveenish
Lecidella scabra	x	x	x	x		x	x		x	x	
Lecidella stigmatea					x						
Lepraria caesioalba						x		x			
Lepraria finkii			x	x		x			x	x	
Lepraria incana s. lat.			x	x						x	
Leptogium britannicum						x	x				
Leptogium gelatinosum							x			x	
Leptogium lichenoides			x								
Leptogium palmatum								x			
Leptogium pulvinatum						x					
Lichenomphalia umbellifera				x		x			x	x	
Lichina confinis	x					x	x			x	x
Lichina pygmaea							x				
Llimonaea sorediata										x	
Marchandiomyces corallinus (LF)	x					x		x		x	
Megalaria pulverea			x	x							
Melanelixia fuliginosa	x	x		x	x	x	x	x	x	x	
Melanelixia glabratula			x							x	
Melanelixia subaurifera			x								
Micarea botryoides						x					
Micarea coppinsii			x								
Micarea lignaria var. *lignaria*			x			x				x	
Micarea peliocarpa											x
Micarea prasina s. lat.			x		x	x				x	
Micarea viridileprosa						x					
Micarea xanthonica						x					
Miriquidica complanata f. *complanata*						x		x			
Miriquidica leucophaea						x				x	
Miriquidica pycnocarpa f. *pycnocarpa*								x			
Muellerella pygmaea (LF)						x	x				
Mycoblastus caesius			x	x		x		x			

Taxon name	Vatersay	Allathasdal Walk	Northbay Woodland	Allt Heacair (Allt Heisgeir)	Lochan Duin	Bruairnis	Earsairidh (Earsary)	Heabhal	Bag nan Clach & Traigh Eais	Fuidheigh	Ardveenish
Myriolecis massei	x					x	x				
Myriospora rufescens								x			
Myriospora smaragdula				x							
Nephroma spp.										x	
Nesolechia oxyspora (LF)	x									x	
Normandina acroglypta			x	x					x		
Normandina pulchella	x		x	x		x		x	x		
Ochrolechia androgyna	x					x		x		x	
Ochrolechia parella	x	x	x	x	x	x	x	x	x	x	x
Ochrolechia tartarea						x		x		x	
Opegrapha atra			x	x		x					
Opegrapha cesareensis						x	x				
Opegrapha gyrocarpa				x		x		x		x	
Opegrapha herbarum			x								
Opegrapha lithyrga				x						x	
Opegrapha multipuncta			x	x							
Opegrapha ochrocheila			x								
Opegrapha physciaria (LF)						x					
Opegrapha saxigena								x			
Opegrapha sorediifera			x								
Opegrapha vulgata			x	x							
Opegrapha zonata				x		x				x	
Ophioparma ventosa								x			
Pannaria rubiginosa				x							
Parmelia omphalodes	x	x		x		x	x	x	x	x	x
Parmelia saxatilis s. lat.	x	x	x	x		x	x	x	x	x	x
Parmelia sulcata	x		x	x	x	x	x	x		x	
Parmeliella parvula				x		x					
Parmotrema crinitum	x		x	x				x		x	
Parmotrema perlatum	x	x	x	x		x		x		x	
Pectenia atlantica		x		x							
Pectenia cyanoloma				x							
Pectenia ligulata										x	

Taxon name	Vatersay	Allathasdal Walk	Northbay Woodland	Allt Heacair (Allt Heisgeir)	Lochan Duin	Bruairmis	Earsairidh (Earsary)	Heabhal	Bag nan Clach & Traigh Eais	Fuidheigh	Ardveenish
Pectenia plumbea s. str.			x								
Peltigera canina	x					x	x			x	
Peltigera hymenina				x		x	x	x		x	
Peltigera membranacea	x	x		x		x	x	x		x	
Pertusaria amara f. *amara*			x								
Pertusaria aspergilla	x					x		x		x	
Pertusaria corallina	x	x		x		x		x		x	
Pertusaria excludens	x	x		x		x		x		x	
Pertusaria flavicans	x	x		x		x		x		x	
Pertusaria hymenea							x				
Pertusaria lactescens		x									
Pertusaria leioplaca			x	x							
Pertusaria monogona						x		x		x	
Pertusaria pseudocorallina	x	x		x		x	x	x	x	x	x
Phaeophyscia orbicularis						x				x	
Phaeopyxis punctum (LF)										x	
Physcia adscendens						x				x	
Physcia aipolia				x							
Physcia caesia				x		x	x			x	
Physcia tenella				x							
Placidium squamulosum									x		
Placopsis lambii				x		x				x	
Placopyrenium fuscellum	x						x			x	
Placynthiella icmalea		x				x				x	
Platismatia glauca		x	x								
Polychidium muscicola	x					x	x	x			
Porina aenea				x							
Porina chlorotica f. *chlorotica*	x			x		x				x	
Porina lectissima				x				x		x	
Porpidia cinereoatra	x	x		x		x		x		x	
Porpidia crustulata						x					
Porpidia flavocruenta								x			
Porpidia hydrophila				x							

Taxon name	Vatersay	Allathasdal Walk	Northbay Woodland	Allt Heacair (Allt Heisgeir)	Lochan Duin	Bruairmis	Earsairidh (Earsary)	Heabhal	Bag nan Clach & Traigh Eais	Fuidheigh	Ardveenish
Porpidia macrocarpa f. *macrocarpa*	x	x		x	x	x				x	x
Porpidia melinodes	x	x		x		x		x		x	
Porpidia platycarpoides				x			x	x		x	
Porpidia rugosa								x			
Porpidia tuberculosa	x	x				x		x		x	
Protoblastenia rupestris				x	x		x				
Protopannaria pezizoides										x	
Protoparmelia badia								x			
Punctelia subrudecta s. str.			x								
Pycnothelia papillaria						x					
Ramalina cuspidata	x			x		x	x		x	x	
Ramalina farinacea		x	x	x	x						
Ramalina fastigiata		x	x	x	x						
Ramalina portuensis			x								
Ramalina siliquosa	x	x		x		x	x	x	x	x	x
Ramalina subfarinacea	x	x				x	x	x	x	x	x
Rhizocarpon geographicum	x	x		x	x	x	x	x	x	x	x
Rhizocarpon hochstetteri								x			
Rhizocarpon infernulum f. *sylvaticum*						x					
Rhizocarpon lavatum				x	x	x		x		x	
Rhizocarpon petraeum					x						
Rhizocarpon reductum	x	x	x	x		x	x	x		x	
Rhizocarpon richardii	x	x		x		x	x	x	x	x	x
Rimularia intercedens								x			
Rinodina atrocinerea	x			x		x	x	x		x	x
Rinodina confragosa				x				x			
Rinodina luridescens	x			x		x	x	x		x	x
Rinodina milvina										x	
Rinodina oleae	x									x	
Rinodina sophodes				x							
Sarcogyne clavus									x		
Sarcogyne regularis				x							

Taxon name	Vatersay	Allathasdal Walk	Northbay Woodland	Allt Heacair (Allt Heisgeir)	Lochan Duin	Bruairmis	Earsairidh (Earsary)	Heabhal	Bag nan Clach & Traigh Eais	Fuidheigh	Ardveenish
Schaereria fuscocinerea var. *fuscocinerea*	x	x				x	x	x		x	x
Sclerococcum sphaerale (LF)		x		x		x				x	
Scoliciosporum umbrinum				x				x		x	x
Skyttea lecanorae (LF)						x					
Solenopsora vulturiensis										x	
Sphaerellothecium araneosum (LF)						x					
Sphaerophorus globosus		x			x	x		x		x	
Staurothele fissa					x						
Stenocybe pullatula {*F*}			x								
Stereocaulon dactylophyllum var. *dactylophyllum*								x			
Stereocaulon evolutum	x					x		x		x	
Stereocaulon vesuvianum var. *nodulosum*					x	x		x		x	
Stereocaulon vesuvianum var. *vesuvianum*		x		x		x		x		x	
Sticta limbata			x								
Stigmidium epiramalina {LF}	x									x	
Stigmidium eucline {LF}				x		x				x	
Stigmidium fuscatae {LF}								x			
Telogalla olivieri {LF}									x		
Tephromela atra var. *atra*	x	x		x	x	x	x	x	x	x	
Tomasellia gelatinosa {F}				x							
Toninia aromatica	x			x			x			x	x
Trapelia coarctata										x	
Trapelia glebulosa										x	
Trapelia involuta s.str.				x		x		x			
Trapelia obtegens								x			
Trapelia placodioides	x			x				x		x	x
Trapeliopsis flexuosa		x									
Trapeliopsis granulosa						x		x			
Trapeliopsis pseudogranulosa					x	x		x		x	

Taxon name	Vatersay	Allathasdal Walk	Northbay Woodland	Allt Heacair (Allt Heisgeir)	Lochan Duin	Bruairmis	Earsairidh (Earsary)	Heabhal	Bag nan Clach & Traigh Eais	Fuidheigh	Ardveenish
Trapeliopsis wallrothii		x									
Tremolecia atrata								x			
Tylothallia biformigera				x		x		x			
Umbilicaria cylindrica								x			
Umbilicaria polyphylla						x		x			
Umbilicaria polyrrhiza						x					
Umbilicaria torrefacta						x		x			
Usnea cornuta			x								
Usnea flammea			x							x	
Usnea wasmuthii			x								
Vahliella leucophaea										x	
Varicellaria lactea						x	x				
Verrucaria aethiobola					x						
Verrucaria cernaensis					x						
Verrucaria fusconigrescens	*x*			*x*		*x*	*x*			*x*	
Verrucaria mucosa						*x*	*x*			*x*	
Verrucaria nigrescens f. *nigrescens*					*x*						
Verrucaria nigrescens f. *tectorum*							*x*				
Verrucaria rosula					*x*						
Verrucaria striatula						*x*				*x*	
Vouauxiella lichenicola {LF}				*x*							
Xanthoparmelia conspersa	*x*	*x*		*x*		*x*	*x*	*x*		*x*	*x*
Xanthoparmelia loxodes						*x*	*x*		*x*	*x*	*x*
Xanthoparmelia mougeotii						*x*		*x*		*x*	
Xanthoparmelia pulla	*x*					*x*		*x*		*x*	
Xanthoparmelia verruculifera	*x*	*x*		*x*		*x*	*x*	*x*	*x*	*x*	*x*
Xanthoria aureola	*x*					*x*	*x*		*x*	*x*	*x*
Xanthoria calcicola		*x*				*x*				*x*	
Xanthoria parietina	*x*			*x*		*x*	*x*		*x*	*x*	*x*

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Thanks to the BLS for financial support towards the cost of the trip in the form of a Small Ecological Project Grant.

References and general reading:
Buxton, B., (2016) *Mingulay – An Island and Its People*, Birlinn, Edinburgh. Also includes coverage of Pabbay.

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April in Harris: a report of the April 2022 BLS meeting based in North Harris, Outer Hebrides, Scotland

with extracts from the diary of Michaela Sisti (23rd – 30th April 2022)

Group photo taken before setting off to Laxdale ravine, South Harris. Photo © Judith Allinson

Attendees from left to right: Heather Paul, Brian Coppins, Doug McCutcheon, Paul Cannon, Alistair Stevenson, Margaret Cameron, Steve Price, Becky Williamson, Nicola Bacciu, Tracey Lovering, Judith Allinson, Graham Boswell and Michaela Sisti (kneeling). Also attending Maddie Geddes-Barton, Jenny Ford, Joanna Kruk, James McGill, Peter Mellor, Maxine Putnam and John Skinner.

Meeting base: Scaladale Activity Centre, Ardvourlie, Isle of Harris, HS3 3AB. Grid Ref NB187105

This meeting was originally organised for April 2020 but when COVID rudely appeared it was re-arranged to April 2021. When COVID refused to go away the meeting was moved on for yet another year to April 2022. Unfortunately, because of all these changes, Tristan ap Rheinallt, the local organiser, was unable to attend. He is sincerely thanked for all the preparatory work put in to organising the meeting: in the first place sorting out possible accommodation; and then identifying potential sites (including parking spots); and liaising with land owners and land managers, in particular with The North Harris Trust. Hopefully, although not able to be with us at the meeting, Tristan can take some satisfaction from the impressive number of records and the list of taxa generated by the meeting. Whilst maybe it was not under his direct control, we will also thank Tristan for the quite remarkable weather – this was the Outer Hebrides and throughout the week, against all expectations, no waterproof jacket needed to be worn in anger!

The Scaladale Activity Centre, owned and run by the Lewis and Harris Youth Clubs Association, proved to be an excellent base. Located near the impressive Glen Scaladale (Gleann Sgaladail) and the shores of Loch Seaforth (Loch Shiophoirt), a number of sites were within easy walking distance.

The field visits ranged from 'summer days out' in the sand-dunes to expeditions to mountain lochans by the way of the Butt of Lewis. This wide variety of habitats and situations is reflected in the rich set of records obtained. Many of the sites were on land owned by The North Harris Trust and they are thanked for permissions granted.

Summary Stats:

Site Records: 2198
Taxa recorded: 370 including 17 lichenicolous fungi
New to VC 110: 13
New to Harris and Lewis: 75 for Harris (including Scalpay) and 18 for Lewis

North Harris: Lower Glen Scaladale (Gleann Sgaladail), Sunday 24 April 2022, with recording in the Scaladale & Ardvourlie area occurring throughout the week, OS grid squares: NB1609, NB1709, NB1712, NB1809, NB1810, NB1812

The impressive Glen Scaladale is just a short walk from the Centre and lies at the heart of North Harris. Photo © Steve Price

Just a short walk down the road from the centre lay Glen Scaladale (Gleann Sgaladail). This broad-based valley, flanked by impressive mountains, sets out the scenic magnificence of North Harris.

The river, boulders, outcrops, heathland and seepages provided plenty of lichen interest that was accessible to the whole group. After this first day in the field most attendees had gained some understanding of the main lichens to be found on Lewisian gneiss thus helping set the backcloth for the rest of the week. The lichenicolous fungi (LF) hunters had a good day with three species new to VC 110: *Polycoccum microsticticum* (on *Acarospora fuscata*), *Roselliniopsis ventosa* (on *Placopsis* sp.) and *Taeniolella pertusariicola* (on *Ophioparma ventosa*). Also new to VC 110 were *Rhizocarpon amphibium* on rocks in the burn, and *Pertusaria melanochlora* on large boulders by the A859 road.

Selected extracts from the diary of Michaela Sisti (MS)**:**

Day 1 for beginners starts as a race to learn as many new lichen names as possible and not fall too far behind. Once we've got names, notes and photographs the really challenging work began – try to find them again!
Every lichen in this place is new to me. Everything is exciting.

Boulders such as this one in Glen Scaladale provided hours of puzzlement and entertainment, and plenty of records. photo © Jo Kruk

- *the explosions of colour on rocks - the metallic blues and oranges of the Porpidias, the bright fluorescent green of Rhizocarpon geographicum, the blood red of Ophioparma ventosa*
- *the white, subtly textured Pertusaria thalli, which you have to parse into species by using chemical spot tests*
- *the utterly weird 3D structures of the Stereocaulons and the Sphaerophoruses*
- *and then there is the fascinating world of peat hags and the miniature soil-dwelling lichens that grow on them – beautiful Cladonias, tiny Pycnothelia papillaria, the surprisingly pink apothecia of Icmadophila ericetorum*
- *but it doesn't stop there – there are fresh water loving lichens too that live on rocks in streams. I was so surprised to look through a hand lens at what I thought was a black crust and see an intricate web of tiny black fibres. This was Ephebe lanata.*
- *I also learned that "Life is too short for Porpidia". The trouble is, there are Porpidias everywhere!!!*

Lewisian Gneiss, I wanted to find out more about it. Here is what I learned:

- *Lewisian Gneiss forms all of the Outer Hebrides; It is a Precambrian, metamorphic rock; the oldest rocks of the Lewisian have been dated at between 2.4 billion and 2.6 billion years old (that's half the age of the Earth!)*

That evening at the centre, John and I somehow decided that life was not too short for Porpidia and we tried to get to the bottom of a Porpidia that I'd brought back. After about an hour with the key we ended up with…Porpidia macrocarpa.

South Harris: Luskentyre & Luskentyre Cemetery, Monday 25 April 2022, NG0699, NB0600, NB0701.

The intersection of calcareous shell-sand and acidic Lewisian gniess boulders at Luskentyre gave us an interesting range of terricolous lichens. Photo © Michaela Sisti

The scenically famous sandy bay of Luskentyre on the west of the island was the site of our second day out. Here the highly calcareous shell-sand provided for an interesting range of terricolous lichens and the interface of shell-sand and Lewisian gneiss rock provided a great contrast to the boulders in acidic heathland studied the previous day. Notable species in this habitat included *Peltigera leucophlebia*, *Solorina saccata* and as new to VC 110: *Agonimia globulifera*, *A. tristicula*, *Lempholemma polyanthes* and *Romjularia lurida*. Also new to VC 110 were two LFs: *Phaeospora rimosicola* (on *Rhizocarpon petraeum*) and *Zwackhiomyces physciicola* (on *Physcia caesia*). Luskentyre Cemetery added an additional range of saxicolous substrates for study.

Peltigera leucophlebia (here wet) was nestled next to a rock in the stable sand dunes at Luskentyre. photo © Steve Price

... from the diary of MS:

“

Our journey to the beach is marked by Nicola’s sighting of The Cake Shed. It’s like a tiny closet – or very neat outhouse - perched at the side of the road.

Brian, Steve and Paul have already arrived and they’re scouring the local graveyard and fence posts for lichens. We head in the direction of the sea, stopping to look at the lichen species that are growing on the rocks scattered among the sand dunes. There are new species this time. Xanthorias, Ramalinas, Physcias, Collemas and Leptogiums, [Anaptychia] runcinata …

It’s now hitting home just how much habitat has to do with everything. I never really got a sense of that in Oxford because I had nothing to contrast it with.

The dunes are cloaked in yellow grasses and dotted everywhere with primroses. The hills across the bay are deep blue. It’s very pretty here. I see thrift for the first time, growing from crevices in the rocks. But the real treat is spotting rosettes of carnivorous butterwort, with tiny insects caught on their sticky leaves.

I follow Tracey and Graham into the supralittoral zone – the splash zone – and again the lichens change. Now there are Caloplacas – marina and thallincola and also a curious green lichen, which Tracy tells me is Verrucaria mucosa.

Towards the end of the afternoon two highland cattle appear over the top of the hill. I find a lichen that looks like a huge Dermatocarpon. Very pleased with myself, I show it to Tracey. For

some reason she grimaces. "That's not a lichen, Michaela," Tracey tells me. "That's cow pat." On the way back home, we make a stop at The Cake Shed. .....

Lewis: Stornaway - Creed Bridge and Lews Castle area, Tuesday 26 April 2022, NB4032.

Venturing north to Stornaway gave the opportunity to record from mature trees, an opportunity not afforded in the rest of Harris and Lewis. The woodlands of Lews Castle had previously been well recorded and reported, most recently in 2021 (see '*A postcard from Lewis*', Peter Lambley *et.al.*, BLS *Bulletin*. **129**:62–69). The trees did give many the pleasure of engaging in a 'rarity refresher course' and photography. Of particular interest, aside from the regulars of the Atlantic Lobarion community, was *Ramalina portuensis* found here in 2021 at its northern-most location in Europe.
After this, sub-groups dispersed to record at various sites including the **Butt of Lewis**, NB5266, NB5166 (Cannon, Coppins & Price) in the extreme north; the island of **Scalpay**, NG2394 (Putnam, Skinner & Paul) at the very south-east of North Harris; and to engage in square-bashing in a miscellany of unrecorded areas. The visit to Scalpay resulted in the first find for VC 110 of *Rinodina freyi*.

North Harris: Huisinis, Wednesday 27 April 2022, NA9811, NA9812, NA9912.

The rocky peninsula of Huisinis lying at the western-most point of North Harris was explored and recorded by those not wishing, or able, to join the group venturing uphill westwards in Glen Scaladale. Lewisian gneiss outcrops and the calcareous influence of shell-sand provided an interesting set of records. These included both *Pectenia cyanoloma* and its isidiate counterpart, *P. atlantica*. From a mossy turf/rock interface Nicola collected the minute pyrenocarp *Thelidium zwackhii* (new to VC 110), while on rock she spotted the rare lichenicolous fungus *Sphinctrina tubiformis* parasitising *Pertusaria pseudocorallina*.

North Harris: Upper Glen Scaladale, Wednesday 27 April 2022, NB1509, NB1408.

The energetic members in the group joined an expedition led by Graham Boswell and went to higher levels at the west end of the Glen. Here areas surrounding **Loch Mhisteam** (NB1509) at 250m alt. and **Loch nan Eang** (NB1408) at 470m alt. were explored and recorded.

...from the diary of MS:

Our team was Peter, Alastair, me and Graham. Our destination was a series of small lochs high up in the mountains surrounding Glen Scaladale. That area was not yet recorded, and there was a chance that we'd find lichens that grow at high altitude.

This was an adventure. Big ancient landscape and a quest. Clear bright skies, deliciously mild weather, boots that were mercifully waterproof. We pulled ourselves up over boulders, crossed narrow cascading streams where thallose liverworts grew in slick blankets of black and brilliant

green, scrambled over ragged heather, heading higher up with every step. At last, we round the top of the first big slope. Before us, the eastern shore of Loch Mhisteam is shimmering a serene midnight blue. It's cold. The winds blowing over the top of the mountain are very strong here. We're also ravenous. For now the lichens can wait. We hunker down like Harris sheep and dig out our lunches.

We were back in the world of difficult iron-loving crusts, weird Stereocaulons, cryptic Cladonias and, more than ever, Umbilicarias, which I had no practice with whatsoever. Records of common lichens would be useful. Graham told us to keep our eyes open for a rare Lecanora [achariana]– one that looks like L. muralis – that grows around lake edges at high altitudes. We never found it, but we got a lot of practice with the others.

And then, coming up over the hills, we saw three bobbing heads heading in our direction. It was a shock to see people, and so suddenly, in an otherwise desolate landscape. Margaret, Becky and Jo ("the three women from Fife") had set out on their own and they had found us. We press on, always following the flow of water but we haven't come here to scale the entire mountain. We've found our second loch. Up here the wind is stronger than ever. It tears over the rocks with a knife-like cold, skirting over the surface of Loch Nan Eang and riddling its surface with shudders.

We start our second round of recording. The lichens here are much sparser than before. After so many days looking at thallus-encrusted boulders, it is strange to see these rocks looking so naked. Though after about thirty minutes we've got 28 species down in our notes, including potentially four Umbilicarias and one lone Cetraria.

South Harris: Laxdale ravine (Gil Lacasdail), Thursday 28 April 2022, NG1096, NG1097.

This is a steep- and high-sided ravine through which a lively stream runs and has, by Lewis and Harris standards, a good number of trees, mainly rowans with some tempting, but just out of reach, hazels. This was the nearest thing to natural woodland that the group visited during the week, and the rowans (*Sorbus aucuparia*) hosted the hitherto unrecorded for Harris, *Pannaria rubiginosa* and *Pyrenula occidentalis*.

Also on rowan an undescribed species of *Arthothelium* was collected (Coppins 26098, **E**). It is otherwise known only from a small collection in **BM** from near Killarney, SW Ireland, made by Isaac Carroll in 1867. Its hymenium has a strange K+ rose-pink reaction (see *Lichenologist* **11:** 32–33, 1979).

Three shade-loving saxicoles characteristic of ravines were recorded for the first time from Harris: *Enterographa hutchinsiae*, *Gyrographa* (*Opegrapha*) *saxigena* and *Opegrapha lithyrga*. Some patches of dried fronds of Hard Fern (*Blechnum spicant*) were abundantly covered by the normally corticolous *Alyxoria culmigena* (*Opegrapha herbarum*).

The Laxdale Ravine: tumbling stream, tumbling boulders and tumbling lichenologists. Photo left © Steve Price

As progress higher-up the ravine became more difficult (and wet!) it was necessary to scramble up to the moorland above. Here the heath, bedrock outcrops and boulders yielded an additional and contrasting set of lichens.

And whilst most were wrestling with wet slippery rocks, hanging from ravine walls to look at spindly trees and clambering up steep heathery slopes Maxine, John, Tracey, Heather and Nicola were drawn back to the seaside with a productive visit to **Horgabost, South Lewis** (NB0496, NB0497).

Communities on rocks on the beach, on the machair at the top of the cliffs and a richly covered outcrop in a field full of cattle rewarded them with an extensive list of taxa: *Leptogium britannicum* was good to find where the machair met the clifftop.

Leptogium britannicum at Horgabost. Photo © M. Putnam

North Harris: Gleann Lacasdail, Friday 29 April 2022, NB1800, NB1801.
This north-south glen contains a large loch and two smaller ones, with steep crags on either side. The lake-margins, associated heathland and bedrock gave a good set of lichens including plenty to scratch heads about.

Meanwhile Brian Coppins took himself off to **Sildinis, Lewis** (NB2717, NB2718, NB2618, NB2619) to an unrecorded 10km square. Here he spent several relaxed hours compiling, and from Brian one would expect no less, an impressive set of records.
.... from the diary of MS:

Of all the potential hazards of looking at lichens on Harris, the presence of ticks, which came with the presence of deer, was not one I had prepared myself for – or to search for the tick that turned out not to be there. The only thing that turned out to be more elusive than the source of my imaginary tick bites, was the metacalcareous pod Graham had out set out to find on our final day of lichen hunting.

What is a metacalcareous pod? It's calcareous rock that has been metamorphosed. According to the geological map of the island, pockets of this rock exist within larger zones of the usual gneiss and because these pockets will be much more basic than the gneiss, there is a good chance that we will find different lichens growing on them.

Gleann Lacasdail runs along a north-south direction and contains a large loch nested between steep crags that rise up on either side. I tail Tracey and Heather who are interested in the lichens that are growing on the terraces of peat hags cut into the terrain not far from the loch.

Step up to a peat hag, get down on your knees and "get your eye in" as Doug has so often encouraged me to do this week, and an extraordinary world in miniature will emerge – fantastic Cladonia floerkeana topped with maraschino cherry-red fruits, Pycnothelia papillaria which resembles the fingers of tiny elves, glossy brown Cetrarias and a rich number of even more Cladonias that resemble reindeer antlers, forked tongues, corkscrews, corals and Lilliputian goblets.

We soon got distracted by a large slab of gneiss on which what looked like some Rhizocarpon species was growing in a strange swirling pattern. A woman and her dog walked by us as we all had our eyes and hand lenses pressed to the rock. "Looking for gold?" she said, half-smiling at us. "Not gold," one of us said. "Well, whatever it is, I hope you find it."

Other sites recorded during the meeting:
South Harris: Meavag - Bun Challagrich, 23 April 2022, NG1596 (Putnam & Skinner)
Lewis: Aline Community Woodland, 24 April 2022, NB2115 (Bacciu & Putnam)
Lewis: Aline - Tarbert Cottage environs and shore, 23-29 April 2022, NB1911, NB2011 (Cannon, Coppins & Price)
Lewis: Borve - Melbost Borve, 26 April 2022, NB4057 (Cannon, Coppins & Price)
Lewis: Gleann Mór Barvas, 26 April 2022, NB3746 (Cannon, Coppins & Price)
North Harris: Tràigh Mheilein (S) 27 April 2022, NA9913 (McGill)
North Harris: Gobhaig - NE of, 27 April 2022, NB0109 (Cannon, Coppins & Price)
North Harris: Brandarsaig, 27 April 2022, NB0806 (Cannon, Coppins & Price)
South Harris: Seilebost - coast to the east, 27 April 2022, NG0896, NG0897 (Bacciu)

North Harris: Old Whaling Station (Bunavoneader), 27 April 2023 NB1304 (Putnam & Skinner)
South Harris: Uamh Ard picnic area, 29 April 2022, NG1494 (Bacciu)
North Harris: An Clisean & Allt Tomnabhal, 29 April 2023 NB1606, NB1707 (Ford)
Lewis: N. of Bridge to Nowhere - Cnoc a' Rainich, 30 April 2022, NB5350 (McCutcheon)

An impressively large number of sites was visited during the week and it has not been possible to present the full list of taxa recorded in the Bulletin. The detailed records for each site are in the BLS database and if records for any individual site are needed these can be retrieved from https://britishlichensociety.org.uk/the-society/events/bls-early-spring-meeting-2022-north-harris-outer-hebrides

The table below lists those taxa found new to either Harris or Lewis with an asterisk indicating those also new to VC110:

	Harris	Lewis
Agonimia globulifera	x*	
Alyxoria culmigena	x	
Anisomeridium polypori	x	
Arthonia phaeobaea	x	
Arthothelium sp.	x*	
Buellia griseovirens	x	
Caloplaca arcis		x
Caloplaca arnoldii subsp. *oblitterata*	x	
Caloplaca britannica	x	x
Caloplaca maritima	x	x
Caloplaca microthallina	x	x
Cercidospora epipolytropa	x	
Cladonia foliacea	x	
Cladonia ochrochlora	x	
Dactylospora parallelaria	x	
Diploschistes muscorum	x	
Endococcus macrosporus	x	
Endococcus rugulosus	x	
Enterographa hutchinsiae	x	
Fuscidea lightfootii		x
Graphis elegans	x	
Gyalecta jenensis var. *jenensis*	x	
Gyrographa saxigena	x	
Halecania ralfsii	x	
Homostegia piggotii	x	
Hypotrachyna revoluta s. lat.		x

	Harris	Lewis
Hypotrachyna sinuosa		x
Lambiella furvella	x	
Lecania aipospila	x	
Lecania rabenhorstii		x
Lecanora hybocarpa		x
Lecanora pulicaris	x	
Lecanora soralifera	x	
Lecidea auriculata		x
Lecidea diducens	x	
Lecidea grisella	x	
Lecidea turgidula		x
Lempholemma polyanthes	x*	
Lepra aspergilla	x	
Lepra melanochlora	x*	
Lepraria umbricola	x	
Leptogium cyanescens	x	x
Lithocalla ecorticata	x	
Megalaria pulverea	x	
Micarea marginata		x
Micarea melaena	x	
Micarea peliocarpa	x	
Micarea prasina s. lat.	x	
Micarea xanthonica	x	
Mniaecia jungermanniae	x	
Mycoblastus caesius	x	
Myriolecis hagenii	x	
Myriolecis zosterae		x
Myriospora rufescens		x

	Harris	Lewis
Opegrapha lithyrga	x	
Opegrapha niveoatra		x
Pannaria rubiginosa	x	
Parmotrema reticulatum	x	
Peltigera leucophlebia	x	
Peltigera praetextata	x	
Phaeospora rimosicola	x*	
Polycoccum microsticticum	x*	
Porina aenea		x
Porina chlorotica f. *chlorotica*	x	
Porina multipuncta	x	
Porpidia rugosa	x	
Porpidia speirea	x	
Punctelia subrudecta s. str.	x	
Pyrenula chlorospila	x	
Pyrenula occidentalis	x	
Rhizocarpon amphibium	x*	
Rhizocarpon infernulum f. *sylvaticum*	x	

	Harris	Lewis
Rhizocarpon lavatum	x	
Rinodina atrocinerea	x	
Rinodina freyi	*	
Romjularia lurida	x*	
Rosselliniopsis ventosa	x*	
Scytinium pulvinatum	x	
Scytinium turgidum	x	
Solorina saccata	x	
Sphaerellothecium araneosum	x	
Sphinctrina tubiformis	x	
Stereocaulon leucophaeopsis	x	
Stereocaulon pileatum	x	
Taeniolella pertusariicola	x*	
Telogalla olivieri	x	
Thelidium zwackhii	x*	
Trapeliopsis flexuosa		x
Zwackhiomyces physciicola	x*	

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BLS Autumn Field Meeting, 2022
St. Breward, Cornwall, 8 – 15 October 2022

This meeting was planned to explore sites on the western side of Bodmin Moor, the large expanse of moorland and granite tors in the centre of Cornwall. The base for the week was the village hall at St. Breward, an attractive village with a pub and a shop about 10km north of Bodmin.
There was no group accommodation so participants made their own arrangements. Several local people joined for one or more outings, the total list of participants being Nicola Bacciu (local organiser), Graham Boswell, Paul Cannon, Paul Gainey, Fred Gibson, David Guiterman, Joanna Mayes, David Pay, Maxine Putnam, John Skinner and Eluned Smith.

Special mention must be made of Eluned who provided home-made cakes and cleaned the hall at the end of the week, as well as cycling everywhere.

Sunday 9 October: Cabilla & Redrice Woods (SX 1365)

This area of ancient woodland is a reserve of the Cornwall Wildlife Trust, about 77 hectares in extent and about 6km ESE of Bodmin on the north side of the River Fowey. It is an ancient woodland with mature oaks, hazel and willow. Old mine adits support populations of, among others, Lesser and Greater Horseshoe Bats.

It is a fine example of a wet Atlantic woodland and some of the group found examples of the fungus hazel gloves (*Hypocreopsis rhododendri*) growing with the glue crust fungus *Hymenochaete corrugata* which it parasitises, on hazel, fungi that are confined to such woodlands.

Almost all the recording was done in a low-lying area of pasture woodland bordering the river centred on SX168 653.

Graham, David G., Eluned and Paul G. with the hazel gloves. Photos © M. Putnam

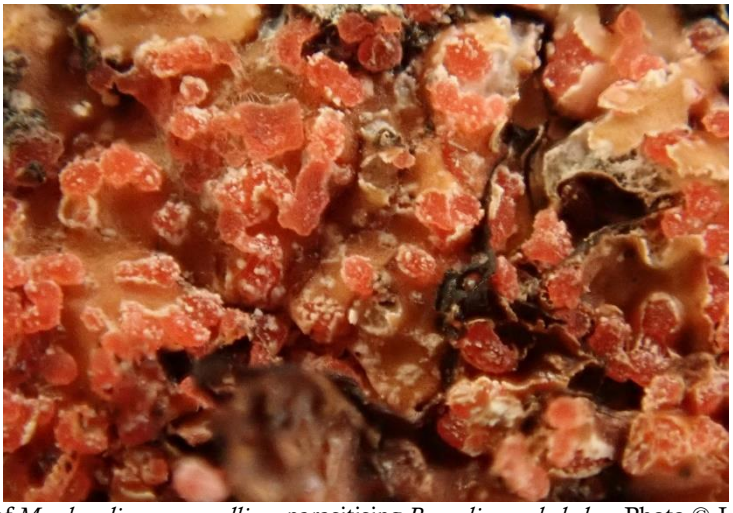
Lobaria pulmonaria was seen on only one tree but other elements of the Lobarion community were well represented with *Sticta ciliata*, *Peltigera collina*, *Sticta fuliginosa*, *Peltigera horizontalis*, *Nephroma laevigatum* and *N. parile*.

Nephroma laevigatum. Photo © J. Skinner

Fallen decorticate oaks carried *Cladonia parasitica*, *C. polydactyla* and *Loxospora elatina* and one log displayed three foliose lichens with sorediate edges – *Peltigera collina*, *Nephroma parile* and *Sticta limbata*. However, the find of the day was undoubtedly *Parmeliella parvula*, fertile on an old willow.

Monday 10 October: Rough Tor (SX 1481)

Rough Tor ('Rough' pronounced 'row' as in argument) is a prominent hill, 400m, on the west side of Bodmin Moor, 5km south west of Camelford. It is crowned with typical granite tor outcrops surrounded by boulder fields and many prehistoric



Bulbils of *Marchandiomyces corallinus* parasitising *Parmelia omphalodes*.. Photo © J. Skinner

features. One km to the south west is Brown Willy, at 417m the highest point of Bodmin Moor.

The tor was approached on a beautiful sunny day from a car park on the west side, over grassland at first then into the boulder field. On one vertical rock face *Bryoria fuscescens* was seen, just a few lonely tufts. In the shelter of a nearby boulder was a small amount of *Cetraria muricata*, another lichen that is declining. Most of the boulders were dominated by *Parmelia omphalodes*, much of it parasitised by the bright crimson bulbils of *Marchandiomyces corallinus*.

Rocks around the summit had a good varied lichen flora, the common species being *Parmelia saxatilis*, *P. omphalodes*, *Rhizocarpon geographicum*, *Fuscidea cyathoides*, *Lecanora gangaleoides*, *Pertusaria excludens*, *P. pseudocorallina*, *Rinodina atrocinerea*, *Stereocaulon evolutum*, *Sphaerophorus globosus* and *Melanelixia fuliginosa*. Soil pockets between the boulders had *Peltigera canina* (identification agreed after considerable discussion), *Cladonia potentosa*, *C. uncialis* var. *biuncialis*, *C. subcervicornis* and *C. pyxidata*. Nicola discovered the tiny rarity *Agonimia opuntiella* overgrowing the black moss *Andreaea* on vertical granite.

Following a pleasant lunch break in the sun, most of the party walked a few hundred metres north east to Showery Tor (385m), Graham and Paul having decided to hike back to St. Breward via Brown Willy.

The summit of Rough Tor belongs to the National Trust but Showery Tor is outside this area. Once again, Nicola found *Agonimia opuntiella*, this time with *Massalongia*

carnosa. The rocks were somewhat less abraded by human activity and the lichens were varied. The summit rocks bore *Candelariella coralliza*, *Xanthoria candelaria* and *Ramalina subfarinacea*. *Umbilicaria polyphylla* was recorded here as well as *Peltigera membranacea*. A descent through a group of wild ponies back to the car park ended a very pleasant day.

Tuesday 11 October: Trebartha Gardens (SX 2577)

On this visit we strayed to the east side of Bodmin Moor, to the Trebartha Estate, 10km south west of Launceston in the valley of the River Lynher. This ancient estate was purchased by the Latham family in 1941. The old hall has long been demolished but the gardens are thriving and open to the public for charities during the year.

We were warmly welcomed by Moira Latham who gave an introduction to the gardens and then led us to the American Garden (American forces were stationed in the hall prior to D Day). This had been planted with an assortment of conifers in about 1820 and cleared of rhododendron in 2014 for the building of a turbine house for a hydroelectric scheme.

Time was spent listing the lichens of the glades and boulders here, oaks bearing *Lobaria pulmonaria*, *Usnea ceratina* and *U. articulata*. We were becoming accustomed to finding the swollen-looking lirellae of *Graphis ruiziana* and here they were accompanied by the smaller lirellae of *Graphina pauciloculata*, a rarer lichen which occasionally grows with it.

Open grown oak with extensive *Ricasolia virens* (trunk) and *Usnea articulata* (branches). Photo © Putnam

After lunch we struck out across a meadow towards Lemarne, an 18th century cottage. Three large open grown oaks in this meadow were spectacular.

One was completely plastered with *Ricasolia virens*, another with *Rinodina roboris*. *Nephroma laevigatum*, *Schizotrema quercicola*, *Arthonia vinosa*, *Sticta ciliata* and *Sporodophoron cretaceum* were among the 24 species recorded from these trees. At Lemarne we were treated by Moira to tea in the garden where we admired an extraordinary Usnea-covered wooden bench, photographed by all present (see front cover and photo at right).

We were led back along a sunken lane by Moira to our cars feeling that we had only just begun to explore this huge area. Many thanks to Moira for her hospitality.

Usnea articulata on garden bench. Photo © M. Putnam

Wednesday 12 October: Port Quin (SW 9780)

This was the only coastal day of the meeting, to tiny Port Quin, an inlet on the north coast, 10km north of Wadebridge and 3km west of the tourist hotspot of Port Isaac ('Doc Martin'). Port Quin has rather a tragic history, its entire male population having been drowned while fishing one day in the 19th century, the village soon deserted. Our plan was to explore along the coastal path leading north to Kellan Head.

A brief look at the harbour slipway wall and nearby rocks produced a typical list for south-western coasts with *Caloplaca marina*, *C. thallincola*, *Lecanora actophila*, *L. helicopis*, *Arthonia calcarea*, *Diplotomma chlorophaeum*, *Solenopsora holophaea* and *Caloplaca britannica* among others. The coast path then led between blackthorn bushes covered

in *Physcia leptalea*, *Ramalina canariensis*, *R. farinacea*, *Usnea cornuta* and *U. esperantiana*, out to more open ground above the cliffs.

Fred Gibson, Paul Cannon, Maxine Putnam and David Pay among the outcrops at Port Quin.
Photo © J. Skinner

Low rock outcrops on the slopes had a rich lichen flora with *Anaptychia runcinata*, *Lecidella asema*, *Rhizocarpon richardii*, *Buellia subdisciformis*, *B. stellulata*, *Lecanora fugiens*, *Rinodina atrocinerea* and *Xanthoparmelia loxodes* among many others. The most unusual find which was made by John was *Miriquidica pycnocarpa* with a generally more northern distribution and new to Cornwall.

Suddenly at mid-afternoon the heavens opened and further lichen recording was not possible although back at the car park eleven species were recorded from wooden picnic tables before we departed.

Thursday 13 October: Cabilla Cornwall (SX 1469)

Cabilla Cornwall is an ancient upland hill farm, now a retreat, on the south-west side of Bodmin Moor, about 6km south-east of St. Breward. A small group, only five, was welcomed by the retreat's founder, Merlin Hanbury-Tenison, who introduced the site and explained his vision. The 77 hectare site has a large area of wet oak woodland bordering the Warleggan River and rises to Cabilla Tor, a wooded hill. The long term

aim is to expand the area of woodland and establish a rewilding programme with ambitious habitat restoration. Beavers have been introduced and other introductions are being considered. The financial driver for all this comes from the running of wellness and team building courses.

Merlin then led the group to the heart of the woodland beside the river and left us to explore.

Our attention was caught by good quantities of *Usnea ceratina*.
(See photo at left © M. Putnam)

Other interesting finds were *Anisomeridium ranunculosporum*, *Graphis ruiziana*, *Hypotrachyna laevigata*, *Phyllopsora rosei*, *Schizotrema quercicola*, *Sticta ciliata* and *S. fuliginosa* s. lat. This was the only site on the field meeting where *Scytinium lichenoides* and *S. teretiusculum* were found.

After lunch at the summit of Cabilla Tor where shaded rocks yielded *Porina chlorotica* and *Enterographa zonata*, the group returned to lower ground. Nicola found

Cliostomum flavidulum and decorticate oak logs had *Cladonia parasitica* and *Ropalospora viridis*. Walking back through fields to the cars we met Gloria the Cornish Pig.

It will be fascinating to see how this project develops and we thank Merlin for allowing us to explore it.

Gloria, the pig, swells the numbers attending the field meeting! Photo © J. Skinner

Friday 14 October: Minions mine sites (SX 2671)

The engine house of South Phoenix mine. Photo © M. Putnam

Again we visited the east side of Bodmin Moor, this time to look at some disused mine sites near the village of Minions about 6 km north of Liskeard. Today it is hard to imagine this peaceful moorland landscape as the industrial mining area it was in the 19th century. The mines here are all part of the Phoenix complex, mining tin and copper, and it is now difficult to identify the various engine houses and other buildings.

Six people met at the car park just south of the engine house of South Phoenix Mine (SX 261714). Four of them, led by Graham, set off to record the lichens of Phoenix United Mine site (SX 265721), slightly to the north, leaving Maxine and John in the car park which kept them occupied for about an hour. Fifteen lichens, including beautiful material of *Caloplaca chlorina*, were recorded from a small granite monument and 25 from small boulders. Moving to the spoil tips just north of the engine house, 13 species of *Cladonia* were found and four of *Peltigera*, including *P. horizontalis*. *Baeomyces rufus* and *Dibaeis baeomyces* were recorded but the saxicolous lichen flora was not particularly rich with, disappointingly, no obvious metallophytes.

Lepra aspergilla showing dirty yellow/brown reaction with KOH. Photo © M. Putnam

A full list was made from boulders in the moorland before moving to some mine workings at SX 260721 just south of the Cheesewring, a famous 'stack of pancakes' weathered granite tor. *Enchylium tenax* and *Lathagrium auriforme* were seen on the mortar of a small, ruined building and *Lepra aspergilla* identified on a granite boulder.

At the end of the day an old hawthorn gave a welcome distraction from saxicolous things. Like many hawthorns on Bodmin Moor, it was festooned with *Usnea articulata*. *Lecanora barkmanniana* and *Candelaria concolor* were probably the first signs of nitrogen enrichment to come but the most interesting find was *Micarea coppinsii*.

Maxine and John returned to the car park along a disused mine railway track. Although there were not many attendees, the sites explored were all interesting and enjoyable to visit and thanks are due to Graham and Nicola for arranging it.

Table of taxa for Cornwall field meeting sites

Taxon	Cabilla & Redrice Woods	Rough Tor	Trebartha Gardens	Port Quin	Cabilla Cornwall	Minions
Abrothallus parmeliarum						•
Acarospora fuscata		•				•
Acrocordia gemmata	•					
Agonimia opuntiella		•				
Agonimia tristicula		•				
Alyxoria ochrocheila					•	
Anisomeridium biforme	•					
Anaptychia runcinata				•		
Anisomeridium polypori					•	
Anisomeridium ranunculosporum					•	
Aquacida viridifarinosa	•					
Arthonia atra			•	•	•	
Arthonia calcarea			•	•		
Arthonia didyma	•					
Arthonia radiata			•			
Arthonia vinosa	•		•		•	
Arthopyrenia cinereopruinosa	•					
Arthopyrenia fraxinea	•		•			
Arthopyrenia punctiformis					•	
Aspicilia caesiocinerea						•
Aspicilia contorta subsp. *hoffmanniana*			•			•
Bacidia laurocerasi	•				•	
Baeomyces rufus						•
Biatoropsis hafellneri					•	
Buellia aethalea						•

Taxon	Cabilla & Redrice Woods	Rough Tor	Trebartha Gardens	Port Quin	Cabilla Cornwall	Minions
Buellia ocellata			•	•		•
Buellia stellulata				•		
Buellia subdisciformis				•		
Calicium lenticulare	•					
Calicium salicinum	•					
Caloplaca britannica				•		
Caloplaca chlorina						•
Caloplaca crenularia				•		
Caloplaca dichroa						•
Caloplaca flavescens			•	•		
Caloplaca flavocitrina				•		•
Caloplaca flavovirescens			•			•
Caloplaca holocarpa s. lat.						•
Caloplaca marina				•		
Caloplaca thallincola				•		
Candelaria concolor						•
Candelariella coralliza		•				
Candelariella vitellina f. *vitellina*		•				•
Catillaria chalybeia var. *chalybeia*		•		•		
Catinaria atropurpurea	•				•	
Cetraria muricata		•				
Chaenotheca brunneola	•		•		•	
Chrysothrix candelaris	•		•		•	
Chrysothrix flavovirens			•			
Cladonia cervicornis subsp. *cervicornis*				•		•
Cladonia chlorophaea s. lat.						•
Cladonia ciliata var. *ciliata*		•				
Cladonia ciliata var. *tenuis*						•
Cladonia coniocraea	•				•	•
Cladonia diversa						•
Cladonia fimbriata	•				•	•
Cladonia floerkeana						•
Cladonia furcata subsp. *furcata*		•		•		•
Cladonia parasitica	•				•	

Taxon	Cabilla & Redrice Woods	Rough Tor	Trebartha Gardens	Port Quin	Cabilla Cornwall	Minions
Cladonia polydactyla var. *polydactyla*	•		•		•	•
Cladonia portentosa		•				•
Cladonia pyxidata	•	•		•		•
Cladonia ramulosa			•			•
Cladonia rangiformis				•		•
Cladonia squamosa s. lat.					•	
Cladonia subcervicornis		•		•		•
Cladonia uncialis subsp. *biuncialis*		•				•
Cliostomum flavidulum					•	
Coenogonium luteum	•				•	
Coenogonium pineti	•					
Coniocarpon cinnabarinum	•		•		•	
Cresponea premnea	•					
Cyrtidula quercus	•				•	
Dendrographa decolorans			•			
Diarthonis spadicea	•		•		•	
Dibaeis baeomyces						•
Diploicia canescens			•			
Diploschistes caesioplumbaeus				•		
Diplotomma chlorophaeum				•		
Dirina massiliensis f. *sorediata*			•			
Enchylium tenax var. *tenax*						•
Enterographa crassa	•		•		•	
Enterographa zonata					•	
Ephebe lanata					•	
Evernia prunastri	•		•		•	
Flavoparmelia caperata	•		•		•	•
Flavoparmelia soredians				•		
Fuscidea cyathoides var. *cyathoides*		•				•
Fuscidea lightfootii			•			
Fuscidea lygaea		•				
Glaucomaria rupicola var. *rupicola*				•		
Graphina pauciloculata			•		•	
Graphis elegans	•		•			•

Taxon	Cabilla & Redrice Woods	Rough Tor	Trebartha Gardens	Port Quin	Cabilla Cornwall	Minions
Graphis ruiziana	•		•		•	
Graphis scripta	•		•		•	
Gyalecta truncigena			•			
Gyrophora gyrocarpa		•				
Hydropunctaria maura				•		
Hypogymnia physodes	•	•	•		•	•
Hypogymnia tubulosa	•		•			•
Hypotrachyna afrorevoluta	•	•	•		•	•
Hypotrachyna laevigata		•	•		•	
Hypotrachyna revoluta s. str.	•				•	
Japewiella tavaresiana			•			
Lathagrium auriforme			•			•
Lecanactis abietina	•		•			
Lecania rabenhorstii			•			
Lecanora argentata	•		•		•	
Lecanora barkmaniana					•	•
Lecanora campestris subsp. *campestris*				•		•
Lecanora chlarotera s. lat.					•	•
Lecanora confusa					•	
Lecanora expallens	•		•		•	
Lecanora gangaleoides		•		•	•	•
Lecanora helicopis				•		
Lecanora hybocarpa	•		•		•	
Lecanora jamesii					•	
Lecanora orosthea			•			
Lecanora polytropa		•		•		•
Lecanora soralifera						•
Lecanora sulphurea				•		
Lecanora symmicta	•					
Lecidella asema				•		
Lecidella elaeochroma f. *elaeochroma*			•	•	•	
Lecidella scabra			•	•		•
Lecidella stigmatea				•		
Lepra albescens var. *albescens*					•	•
Lepra albescens var. *corallina*					•	

Taxon	Cabilla & Redrice Woods	Rough Tor	Trebartha Gardens	Port Quin	Cabilla Cornwall	Minions
Lepra amara f. *amara*	•				•	•
Lepra aspergilla		•				•
Lepra corallina		•				•
Lepra excludens		•				•
Lepra multipuncta	•				•	
Lepraria caesioalba		•				
Lepraria finkii	•		•		•	
Lepraria incana s. lat.	•		•		•	•
Lepraria incana s. str.					•	
Leprocaulon quisquiliare			•			
Lichenochora physciicola					•	
Lobaria pulmonaria	•		•			
Loxospora elatina	•					
Marchandiomyces corallinus		•				
Massalongia carnosa		•				
Megalaria pulverea	•					
Melanelixia fuliginosa		•				•
Melanelixia glabratula	•		•		•	
Melanelixia subaurifera	•		•			
Melanohalea laciniatula						•
Micarea coppinsii						•
Micarea doliiformis			•		•	
Micaria lignaria var. *lignaria*		•				•
Micarea prasina s.lat.	•		•		•	
Myriolecis actophila				•		
Myriolecis albescens			•			•
Myriolecis antiqua			•			
Myriolecis crenulata			•			
Myriolecis dispersa				•		
Myriolecis fugiens				•		
Myriospora smaragdula		•				•
Miriquidica pycnocarpa f. *pycnocarpa*				•		
Nephroma laevigatum	•		•			
Nephroma parile	•					
Normandina pulchella	•		•		•	•

Taxon	Cabilla & Redrice Woods	Rough Tor	Trebartha Gardens	Port Quin	Cabilla Cornwall	Minions
Ochrolechia androgyna		•				
Ochrolechia parella			•	•		•
Opegrapha vulgata					•	
Pachnolepia pruinata			•			
Parmelia omphalodes		•				•
Parmelia saxatilis s. lat.		•				•
Parmelia sulcata	•		•		•	•
Parmeliella parvula	•					
Parmelina pastillifera					•	•
Parmotrema perlatum	•	•	•	•	•	•
Parmotrema reticulatum		•		•		
Peltigera canina		•				•
Peltigera collina	•					
Peltigera horizontalis	•					•
Peltigera hymenina	•	•	•		•	•
Peltigera membranacea		•	•			•
Peltigera praetextata	•				•	
Pertusaria flavicans		•				•
Pertusaria hymenea	•				•	
Pertusaria leioplaca	•				•	
Pertusaria pertusa			•		•	
Pertusaria pseudocorallina		•		•		•
Phaeographis dendritica	•		•		•	•
Phaeophyscia orbicularis						•
Phyllospora rosei					•	
Phlyctis argena			•		•	
Physcia adscendens				•		
Physcia aipolia	•		•			
Physcia caesia						•
Physcia leptalea				•		
Physcia tenella	•		•		•	•
Placopsis lambii						•
Placynthiella icmalea		•	•		•	
Platismatia glauca		•				
Polysporina simplex		•				

Taxon	Cabilla & Redrice Woods	Rough Tor	Trebartha Gardens	Port Quin	Cabilla Cornwall	Minions
Porina chlorotica f. *chlorotica*					•	
Porina lectissima					•	
Porpidea cinereoatra		•	•			•
Porpidia crustulata			•			
Porpidia macrocarpa f. *macrocarpa*						•
Porpidia platycarpoides		•		•		
Porpidia tuberculosa		•	•		•	•
Pseudevernia furfuracea s. lat.		•				
Punctelia borreri			•			
Punctelia reddenda	•		•		•	
Punctelia subrudecta s. str.	•			•	•	
Pyrenula chlorospila	•				•	
Pyrenula macrospora	•					
Pyrrhospora quernea			•		•	
Ramalina calicaris	•		•			
Ramalina canariensis				•		
Ramalina cuspidata				•		
Ramalina farinacea	•		•	•	•	•
Ramalina fastigiata				•		
Ramalina siliquosa				•		
Ramalina subfarinacea		•				
Rhizocarpon geographicum		•		•		•
Rhizocarpon reductum		•	•	•		•
Rhizocarpon richardii				•		
Ricasolia virens			•			
Ropalospora viridis					•	
Rinodina atrocinerea		•		•		
Rinodina roboris var. *roboris*			•			
Sarcogyne regularis						•
Schizotrema quercicola	•		•		•	
Sclerococcum sphaerale		•				
Scoliciosporum pruinosum					•	
Scoliciosporum umbrinum				•	•	
Scytinium lichenoides					•	
Scytinium teretiusculum	•				•	

Taxon	Cabilla & Redrice Woods	Rough Tor	Trebartha Gardens	Port Quin	Cabilla Cornwall	Minions
Snippocia nivea	•					
Solenopsora holophaea				•		
Solenopsora vulturiensis				•		
Sphaerellothecium araneosum				•		
Sphaerophorus fragilis		•				
Sphaerophorus globosus		•				•
Spirographa fusisporella		•				
Sporodophoron cretaceum			•			
Stenocybe septata	•				•	
Stereocaulon evolutum		•				•
Stereocaulon vesuvianum var. *vesuvianum*						•
Sticta ciliata	•		•		•	
Sticta fuliginosa s. lat.	•				•	
Sticta fuliginosa s. str.					•	
Sticta limbata	•					
Stigmidium microspilum	•				•	
Taeniolella punctata	•					
Tephromela atra var. *atra*			•	•		
Thelotrema lepadinum	•		•		•	
Trapelia coarctata						•
Trapelia corticola			•			
Trapelia glebulosa		•	•			•
Trapelia obtegens						•
Trapeliopsis granulosa			•		•	
Trapeliopsis pseudogranulosa			•			•
Umbilicaria polyphylla		•				
Usnea articulata			•		•	•
Usnea ceratina	•		•		•	
Usnea cornuta	•		•	•	•	
Usnea esparantiana	•		•	•		
Usnea flammea		•				
Usnea rubicunda	•					
Usnea subfloridana	•		•			
Verrucaria fusconigrescens			•			
Xanthoparmelia conspersa		•				•

Taxon	Cabilla & Redrice Woods	Rough Tor	Trebartha Gardens	Port Quin	Cabilla Cornwall	Minions
Xanthoparmelia loxodes		•		•		•
Xanthoparmelia mougeotii						•
Xanthoparmelia pulla				•		•
Xanthoria aureola				•		
Xanthoria candelaria s. lat.		•				
Xanthoria candelaria s. str.						•
Xanthoria parietina				•	•	•
Xanthoria ucrainica						•

John Skinner
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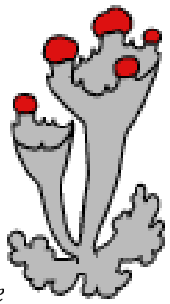
British Lichen Society
Field Meetings & Workshops Programme 2023



Field Meetings Secretary:
Graham Boswell: Base Lodge, 16 The Parks, Minehead TA24 8BS
Email togooutdoors@hotmail.com

Note: *most 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 the event.*

BLS Summer Meeting 2023 – Shropshire
Local organisers: Mary & Eric Steer
Saturday 10th – Thursday 14th July

Meeting Base and Accommodation
FSC Preston Montford, Shrewsbury, Shropshire SY4 1DX Phone 01743 852040
http://www.field-studies-council.org/prestonmontford

The centre lies 5 miles west of Shrewsbury on the A458.
The BLS has booked 5 single rooms and 6 twin rooms on a full-board basis. We have also booked a laboratory for the duration of our stay.

Cost
The cost of a single room is £264 and £224 for a shared twin room. The price includes B & B, packed lunch and evening meal.

Booking
Attendees should book with the field meetings secretary, Graham Boswell, email togooutdoors@hotmail.com or by post to Base Lodge 16 The Parks, Minehead TA24 8BS. A deposit of £50 is payable to the BLS account, CAF Bank sort code 40-52-40 account No. 00012363, referencing your payment Shropshire**.**

Transport to the meeting
Shrewsbury is very well connected to the motorway system via the A5 and M5. Train connections to Shrewsbury are frequent. Buses number 70 and X5 stop a 20 minute walk from the centre. Please endeavour to car share and arrange lifts where possible.

Maps
These OS 1:25000 maps cover the field sites currently under consideration:
Explorer 216 & 217
The OS 1:50000 maps are Landranger 136 & 137.

Provisional Programme
Sites under consideration include; Titterstone Clee, Walcott Park, Cardingmill Valley and Jonathans Hollow/Long Batch, which include woodlands, rock outcrops, parkland and a variety of built structures.

BLS Autumn Meeting 2023 – North Hampshire

Friday 6 – Monday 9 October 2023

Local contact – Duncan Wright

Based in Petersfield on the edge of the South Downs and straddling vice counties VC11 and 12 (South and North Hampshire respectively), this meeting provides the opportunity to visit sites for which records were last submitted at least 20 years ago. In many cases the records date from between 30 and 50 years ago.

Meeting Base
The meeting base is Herne Farm Leisure Centre, Petersfield (GU31 4PJ), a very well appointed facility: a large heated hall with 15 tables, plenty of power sockets (extension leads will be needed), built in projector and screen and good wifi. The modern kitchen caters for large groups on site. There are 2 toilets and adequate parking. Pubs and shops are within easy walking distance. The centre is booked for the weekend.

Accommodation
For this meeting, please arrange your own accommodation. There are several pubs, hotels and B & Bs close to the meeting base. There is a Co-op next door to the leisure centre.
The cost for this meeting is £10 payable as a deposit; this will contribute to the cost of arranging the meeting.

Booking
Please pay the deposit of £10 direct to the British Lichen Society (not the BLS) at CAF Bank Sort code 40-52-40, A/C No. 00012363

Timetable
The meeting will run Friday to Monday. Introductions and an introductory talk will take place at 1900 on Friday 6 October at the Centre. Microscopes can be set up from 1300 on Friday and taken down on Sunday evening. The local leader will also arrange site visits on Friday afternoon and Monday morning.
Further details of the field programme will be sent to attendees nearer the time of the meeting.

Maps
OL33

Winter workshop at Cober Hill
This meeting is planned for 1st–3rd March 2024. See website for more details.

Literature pertaining to British lichens – 72

Lichenologist **54**(5) was published on 29 November 2022, **54**(6) on 13 December 2022, **55**(1) on 15 March 2023 and **55**(2) on 3 May 2023.
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.
The parts of the series *Revisions of British and Irish Lichens* are freely available online from the BLS web-site: https://www.britishlichensociety.org.uk/content/1gbi3.

BRACKEL, W. VON 2021. Lichenicolous fungi from Campania (Italy). *Borziana* **2:** 31–68. Many useful notes on various lichenicolous fungi, especially the introduction of *Endococcus collematis* Brackel for collections on *Collemataceae* of *E. pseudocarpus* s. lat. *Endococcus pseudocarpus* s. str. is apparently confined to *Peltula euploca*.

CANNON, P., APTROOT, A., COPPINS, B., ORANGE, A., SANDERSON, N. & SIMKIN, J. 2022. Lecanorales: Psoraceae, including the genera *Brianaria*, *Protoblastenia*, *Protomicarea* and *Psora*. *Revisions of British and Irish Lichens* **28:** 1–11. Includes the new combination *Protomicarea commaculans* (Nyl.) Aptroot (syn. *Lecidea commaculans*).

CANNON, P., APTROOT, A., COPPINS, B., ORANGE, A., SANDERSON, N. & SIMKIN, J. 2022. Lecanorales: Tephromelataceae, including the genera *Calvitimela*, *Mycoblastus*, *Tephromela* and *Violella*. *Revisions of British and Irish Lichens* **29:** 1–10.

CANNON, P., FRYDAY, A., SVENSSON, M., WEDIN, M., APTROOT, A., COPPINS, B., ORANGE, A., SANDERSON, N. & SIMKIN, J. 2022. Lecanorales: Sphaerophoraceae, including the genera *Bunodophoron*, *Gilbertaria* and *Sphaerophorus*. *Revisions of British and Irish Lichens* **30:** 1–7.

EKMAN, S. 2023. Four new and two resurrected species of *Bacidina* from Sweden, with notes and a preliminary key to the known Scandinavian species. *Nordic Journal of Botany* 2023: e03846, pp. 1–50; open access paper. *Bacidia friesiana* is transferred to *Bacidina* as *Bacidina friesiana* (Hepp) Ekman. The traditional usage of *Bacidia friesiana* is shown to encompass two species: the other being **Bacidina caerulea* (Körb.) S. Ekman (2023). The two species differ in the pigmentation of the exciple as seen in sections. *Bacidia circumpallens* (Nyl.) Arnold has been considered a synonym of *Lecania subfuscula* but is resurrected here as *Bacidina circumpallens* (Nyl.) S. Ekman (2023). *Lecania subfuscula* is transferred to *Bacidina* as *B. subfuscula* (Nyl.) S. Ekman. These two species differ in the pigmentation on the hymenium (greenish in *B. circumpallens*). *Bacidina mendax* is shown to be a synonym of *Bacidina assulata* (Körb.) S. Ekman (2023). British specimens previously treated as '*Bacidia assulata*' are not this species but belong to an unidentified species of *Bacidia* s. str. *Bacidina delicata* is treated as a synonym of *B. inundata* [there may be a typification problem here that warrants further investigation; British specimens of *B. delicata* are certainly not *B. inundata*].

ERTZ, D. & TEHLER, A. 2023. New species of *Arthoniales* from Cape Verde with an enlarged concept of the genus *Ingaderia*. *Lichenologist* **55:** 1–15. *Fulvophyton sorediatum* is shown to belong within an expanded concept of the genus *Ingaderia* Darb. (*Opegraphaceae*) as *I. sorediatum* (Sparrius, P. James & M.A. Allen) Ertz. *Llimonaea sorediata* is also transferred to *Ingaderia* with a new specific epithet, as *I. vandenboomii* Ertz.

LEAVITT, S.D, ESSLINGER, T.L., DIVAKAR, P.K., CRESPO, A. & LUMSCH, H.T. 2016. Hidden diversity before our eyes: Delimiting and describing cryptic lichen-forming fungal species in camouflage lichens (*Parmeliaceae*, Ascomycota). *Fungal Biology* **120:** 1374–1391. Several cryptic species in the *Parmeliaceae* are described. One of these is reported from Scotland (West Ross and Skye): **Melanelixia hawksworthii* Leavitt *et al*., a species closely resembling *M. subaurifera*.

ORANGE, A. 2022. The crustose species of *Normandina* (*Verrucariaceae*). *Lichenologist* **54:** 371–378. Based on thallus chemistry, sequencing and subtle morphology, the concept of *Normandina acroglypta* is restricted to material growing on bryophytes on

rocky substrata. The more common taxon on trees is referred to *N. chlorococca* (Leight.) Orange.

ORANGE, A., CANNON, P., PRIETO, M., COPPINS, B., SANDERSON, N. & SIMKIN, J. 2023. Verrucariales: Verrucariaceae, including the genera *Agonimia*, *Atla*, *Bagliettoa*, *Catapyrenium*, *Dermatocarpon*, *Endocarpon*, *Henrica*, *Heteroplacidium*, *Hydropunctaria*, *Involucropyrenium*, *Merismatium*, *Nesothele*, *Normandina*, *Parabagliettoa*, *Placidiopsis*, *Placidium*, *Placopyrenium*, *Polyblastia*, *Psoroglaena*, *Sporodictyon*, *Staurothele*, *Thelidium*, *Trimmatothele*, *Verrucaria*, *Verrucula*, *Verruculopsis* and *Wahlenbergiella*. *Revisions of British and Irish Lichens* **31:** 1–104. Includes two new combinations: *Parabagliettoa impressa* (Stizenb.) Orange (syn. *Thelidium impressum*) and *Parabagliettoa pinguicula* (A. Massal.) Orange (syn. *Verrucaria pinguicula*). **Thelidum dionantense* (Hue) Zahlbr. (1921) is newly reported from GB&I. *Verrucaria romeana* B. de Lesd. (1911) is accepted as an earlier name for *V. squamulosa*.

VAN DEN BOOM, P. P. G. & LLOP, E. 2021. *Bacidina celtica* (*Ramalinaceae*), a new lichen species from western Europe. *Sydowia* **74:** 65–70. The species previously known in GB&I as *Bacidina squamellosa* and *Bacidia coralloidea* Coppins & Tønsberg ined., is newly described as *Bacidina celtica* van den Boom & Llop. [this species is also treated by Ekman (2023) as cited above].

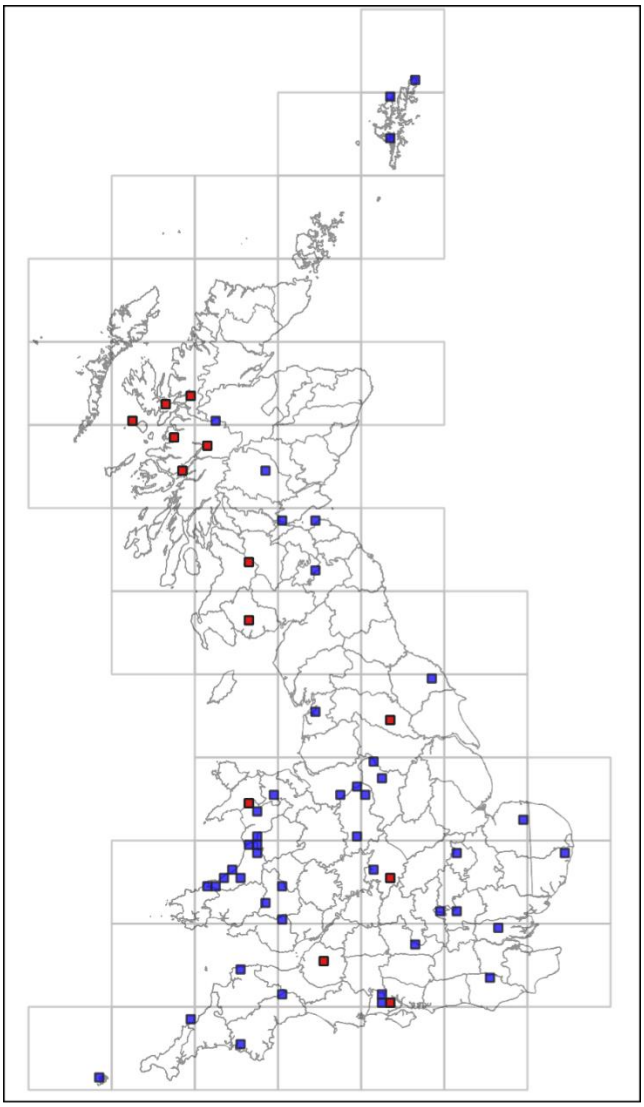
ZHURBENKO, M.P., HIMELBRANT, D.E, KUZNETSOVA, E.S. & STEPANCHIKOVA, I.S. 2012. *Bryologist* **115:** 295–312. Lichenicolous fungi from the Kamchatka Peninsula, Russia. Includes the original description of *Stigmidium buelliae* Zhurb. & Himelbrandt, a recent addition to the GB&I checklist.

Brian Coppins
lichensel@btinternet.com

New, rare, and interesting lichens

Contributions to this section are always welcome. Submit entries, at least a fortnight before the Bulletin deadline to nri@britishlichensociety.org.uk. Andy Cross is editing the NRI entries and please contact him at that email address if you have any questions regarding the new, rare, and interesting lichens section in the Bulletin.

Records of lichens with any conservation status are particularly welcome, even from previously known localities. The Conservation Status of Lichens can be seen at the Joint Nature Conservation Committee's website, jncc.gov.uk, in the 'Conservation Status of UK Taxa'.



Map of records; red = new species, blue = other records

Notes

Species written in italics and bold. When new to the British Isles, add the authority and date of publication

Habitat under what conditions the lichen is growing

Locality site name

Vice-county (VC) Number and VC Name follows that given in BLS Bulletin **79**, or use the website https://www.cucaera.co.uk/grp

Grid Reference in the following format, AB1234, AB123.456, AB1234.5678, etc. using letters for the 100-kilometre squares

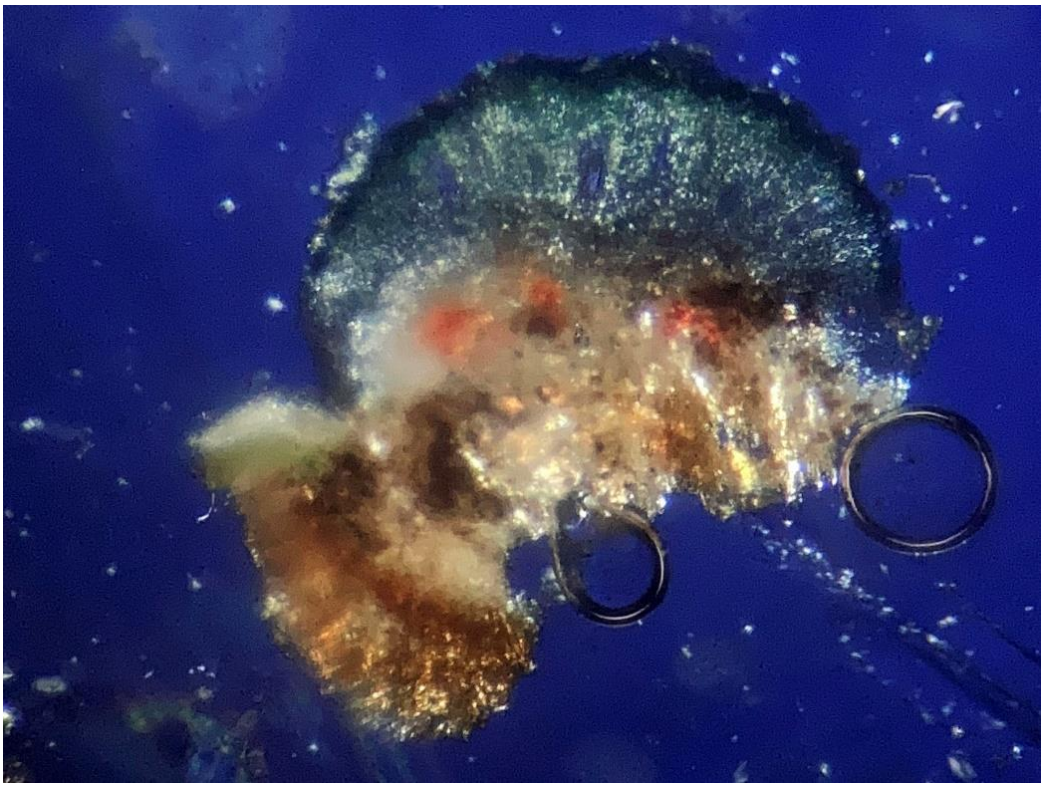
Altitude given as alt. 10m
Date as month and year, though days can be added if particularly important
Herbarium data given where housed, (if an institution, use bold (**E**) or **K**(M)) etc, photographs, or field record
Confirmation either Determined (Det.) by or Confirmed (Conf.) by
Comments as important facts related to the lichen
Status New to the Vice-county, county, province, country etc.
Recorder/s either *A. Friend* or *P.M. England* & *F.R. Ireland* In italics

New to Britain and Ireland

Endococcus collematis Brackel (2021). Previously reported from GBI as *E. pseudocarpus* Nyl., firstly in NRI 17b (from VC64) and later in NRI 20a (from VC70) and NRI 21b (from VC9). Two additional specimens have been identified: on *Lathagrium cristatum* var. *marginale*, Ubley Warren, Cheddar Complex SSSI, VC6, North Somerset, ST5055, March 1992, Coppins 23478 (**E**); on *Callome multipartitum*, near Achnacroish, Lismore, VC98, Argyll Main, NM8541, August 1980, Coppins 8148 (**E**). *Endococcus pseudocarpus* s. str. occurs on *Peltula euploca* and has broader ascospores (5–7 vs 4–5 µm); it has not been correctly reported from GBI. See Brackel in *Borziana* **2:** 31–68 (2021). The **BLS No. 2692** has been transferred to *E. collematis*. *B.J. Coppins*

Melanelixia hawksworthii S. Leavitt, Essl., Divakar, A. Crespo & Lumbsch (2016). This is a cryptic species, apparently distinguishable from *M. glabratula* and *M. subaurifera* only by DNA sequencing. Two British specimens are cited by Leavitt *et al*.: on *Fagus*, ash-alder wood by track at edge of pasture, opposite Home Farm, Glen Attadale, Loch Carron, VC 105, West Ross, NG9238, alt. 10 m, July 2010, leg. H.T. Lumbsch 2101a (**F** – holotype; **E** – isotype); on *Corylus*, Coille Gaireallach, Isle of Skye, VC 104, North Ebudes, NG6120, alt. 30–40 m, July 2010, leg. H.T. Lumbsch 20100b (**F**). For more details and discussion see Leavitt *et al*. in *Fungal Biology* **120:** 1374–1390 (2016). **BLS No. 2848**. *B.J. Coppins*

Mycoblastus sanguinarioides Kantvilas (2009): on acid bark on a *Betula* in *Quercus* – *Betula* woodland high on the side of a ravine, Coed Cymerau NNR, VC48, Merioneth, SH686 425, 18th October 2022, Sanderson 2962 (herb. Sanderson). Confirmed by T. Spribille from photographs.
A semi-cryptic clade related to *M. sanguinarius* s. str. Although similar to *M. sanguinarius* s. str. in most features, well-developed *M. sanguinarioides* has flat apothecia surrounded by a thin ring of whitish thalline tissue, while the apothecia *M. sanguinarius* s. str. have a distinctly convex disc and a constricted base. The red pigment at the base of the apothecia is often sparse and can be absent. There is one morphological character, however, that definitively distinguishes *Mycoblastus sanguinarius* s. str. from *M. sanguinarioides*: the hymenium of the latter has crystals visible in polarised light, while these are totally lacking from *M. sanguinarius* s. str.



M. sanguinarioides © N. Sanderson

Originally described from Tasmania, but recognised by Spribille *et al.* (2011) *Molecular Phylogenetics and Evolution* **59** 603–614, as also occurring in humid regions in eastern Eurasia and coastal western and eastern North America. Svensson et al (2017) *MycoKeys* **25**: 74 recorded it from Europe for the first time, from two humid and lichen rich riverine sites in Sweden and Finland. Substate data is sparce in published data, but what there is, indicates the species is mainly epiphytic. On current evidence the species should be looked for as an epiphyte in humid locations. **BLS No. 2839**.

N.A. Sanderson

Neocoleroa inundata (Vain.) Diederich (1999). Records of *Wentiomyces lichenicola* subsp. *bouteillei* on *Bacidina* spp. belong here. For example: on *Bacidina inundata*, on basalt boulder in River Irvine, near Loudon Hill, VC 75, Ayrshire, NS6113.3780, alt. 200m, May 2017, J.R. Douglass (Hb. Douglass); on *B. inundata*, on rocks in River Isla, Den of Airlie, VC 90, Angus, NO2950, alt. 80m, June 2008, Coppins 22986 (**E**); on *B. neosquamulosa* on top of cut conifer stump in felled plantation, Laurieston Forest, VC73, Kirkcudbrightshire, NX656.648, alt. 185m, March 2015, B.J. Coppins & J.R. Douglass (Coppins 26154, **E**), FCS Deadwood Lichen Project; on *B. neosquamulosa* on top of cut conifer stump in felled plantation, VC 97, Westerness, Leanachan Forest, NN191.780, alt. 140–150 m, February 2015, B.J. Coppins & A. Acton (Coppins 26156,

E), FCS Deadwood Lichen Project. There do not seem to be any confirmed GB&I records for *Wentiomyces* (*Neocoleroa*) *lichenicola* subsp. *bouteillei*, which is apparently confined to *Fellhanera bouteillei*. The BLS Database has four records of "*Wentiomyces*" on *Gomphillus calycioides* that require further investigation. For further discussion of *N. inundata* see Sérusiaux *et al*. in *Lejeunia* **162:** 1–95 (1999). **BLS No. 2847**. *B.J. Coppins*

Phaeospora lecanorae Eitner (1901). Records of *Phaeospora parasitica* on *Myriolecis* spp. belong here. For example: on *Myriolecis albescens* on concrete slab on top of garden wall, Banbury Street, Kineton, VC 38, Warwickshire, SP337.509, alt. 80m, February 2023, leg. D. Napier DN 670 (**E**); on *M. dispersa* on stone, Hetchell Wood, East Rigton, VC 64, Mid-west Yorkshire, SE378.423, alt. 90m, March 1977, leg. A. Henderson (**E**); on *M. albescens* on wall, St. Edward's Chapel, Sanday, VC104, North Ebudes, NG275.047, alt. 12 m, April 2015, Coppins 24899 (**E**); on *M. albescens* on a garden wall in West Down, Ilfracombe, VC4, North Devon, SS517.420, alt. 155m, April 2020 Herb. Putnam. For further discussion see Sérusiaux *et al*. in *Lejeunia* **162:** 1–95 (1999). **BLS No. 2846**. *B.J. Coppins*

Stigmidium buelliae Zhurb. & Himelbrandt (2012): in apothecia of *Buellia disciformis* on dead branch of *Quercus*, woodland SW of Beasdale Station, Glen Beasdale SSSI, VC 97, Westerness, NM7079.8497, alt. 100 m, January 2023, leg. A. Watson Featherstone (Coppins 26153, **E**). Originally described from the Kamchatka Peninsula in the Russian Far East, it has since been recorded from Georgia and the Austrian Tirol. For detailed description see Zhurbenko *et al*. in *Bryologist* **115:** 295–312 (2012). **BLS No. 2849**. *B.J. Coppins*

Stigmidium subcladoniicola van den Boom (2016): parasitic on *Cladonia polydactyla* on two standing dead *Quercus* in open *Fagus* – *Quercus* pasture woodland, Denny Wood, New Forest, VC11, Hampshire, SU3370.0597 & SU3329.0640, January 2023, Sanderson 2972 (Herb. Sanderson) & on *Cladonia parasitica* on the underside of a fallen tree, pasture woodland, Frame Wood, New Forest, VC11, Hampshire, SU3626.0381, February 2023, Giavarini.

Consists of tiny black perithecia, 30–50µm in diameter, growing on the host squamules, which were discoloured brown, spores 1 septate 7–8(–9) x 2.5µm, 1-septate, slightly constricted at the septum (spore size from spores outside the asci, in most asci the spores remained in the asci and appeared a bit shorter). The

fungus appears rare in the New Forest; most infected brown discoloured *Cladonia polydactyla* squamules on dead wood are infected by combinations of *Arthonia digitatae* and *Milospium lacoizquetae*. *Stigmidium subcladoniicola* was first described from The Azores but internet searches indicate it has been since reported from Thailand, Hawaii, Japan and Vietnam. **BLS No. 2845** *N.A. Sanderson & V. Giavarini*

Other Records

Abrothallus bertianus: on *Melanelixia glabratula* on *Fraxinus* trunk, Mauldsheugh Wood, Selkirk, VC79, Selkirk, NT4603.2809, alt. 120m, November 2022, Coppins 26108 (**E**). New to vice-county. *B.J. Coppins*

Abrothallus prodiens: parasitic on the thallus of *Hypogymnia physodes* on young *Betula* by a mire in pasture woodland, the Knowles, Wood Crates, New Forest, VC11, S. Hampshire, SU2664.0858, alt. 80m, October 2022, Herb. Sanderson 2950. New to south central England, the second English record, and first modern one, for a lichenicolous fungus otherwise largely found in eastern Scotland. *N.A. Sanderson*

Abrothallus suecicus: anamorph & teleomorph both present, on the apothecial discs of *Ramalina calicaris* on twigs of *Prunus spinosa* beside boardwalk through reedbed, Pentood Marsh, Teifi Marshes Welsh Wildlife Centre, Cardigan, VC 46, Cardiganshire, SN182.453, alt. 5m, February 2023. Herb. SPC. The first vice-county record. *S.P. Chambers & Y.J. Samari*

Agonimia allobata: on an older *Fraxinus* alongside a stream, within an area of over stood coppice, Monks Wood, VC31 Huntingdonshire, TL1926.8000, alt. 20m, February 2023. New to eastern England, with the nearest known population in south Oxfordshire. *N.A. Sanderson & N. Bacciu*

Agonimia flabelliformis: on base rich bark on veteran *Quercus* by a gill in a deer park, Clover Plain, Old Park, Eridge Park SSSI, VC14, East Sussex, TQ5761.3499, alt. 80m, February 2023. New to East Sussex. *N.A. Sanderson*

Agonimia flabelliformis: very fertile with moss on soil on basic shale stream bank in a boggy valley of Huntsham Wood, VC4, North Devon, ST001.182, alt. 182m, March 2023. First record for VC4. *B. Benfield*

Anisomeridium biforme: on hazel, Tittesworth Reservoir north of Churnet Inlet, VC39, Staffordshire, SJ997.603, alt. 200m, January 2023. 1st record for VC39. Herb. P Shipway. *P. Shipway*

Aquacidia viridifarinosa: on the shaded base of an older *Fraxinus* on a stream bank, within an area of overstood coppice, Monks Wood, VC31, Huntingdonshire, TL1927.8002, alt. 20m, February 2023. New to Huntingdonshire.

N.A. Sanderson & N.G. Bacciu

Arthonia anglica: five thalli, associated with *Enterographa hutchinsiae*, *Enterographa crassa* and *Pertusaria pustulata*, with the latter parasitised by *Sphinctrina tubiformis*, on a well-lit but sheltered old *Ilex* by path near the edge of a *Fagus – Ilex – Quercus* pasture woodland, Anses Wood, New Forest, VC11, S. Hampshire, SU225.123, alt. 80m, October 2022. Fourth site and fifth tree recently recorded in the New Forest for this very rare lichen, currently only known from one other site in Cornwall.

N.A. Sanderson

Arthonia apotheciorum: parasitising *Myriolecis antiqua* on sandstone wall of an outbuilding, Bowhill, VC79, Selkirkshire, NT429.278, alt. 169m, March 2023. First county record. *J. Skinner*

Arthonia calcarea: on wall of ruined church, Ayot Saint Lawrence, VC20, Hertfordshire, TL194.168, alt. 129m, February 2023. First record for the county.

M. Putnam

Arthonia excipienda: on smooth bark on a *Sorbus aucuparia* branch, in oceanic ravine woodland, Coed Cymerau NNR, Ffestiniog, VC48, Meirionnydd, SH6882.4251, alt. 80m, October 2022. Herb. Sanderson 2958. New to Wales and another addition to the remarkable assemblage of specialist smooth bark species largely confined to the Scottish temperate rainforests with disjunct populations in the woods of the Vale of Ffestiniog. *N.A. Sanderson*

Bacidia arceutina: on *Fraxinus* trunk, Mauldsheugh Wood, Selkirk, VC79, Selkirk, NT4603.2809, alt. 120m, November 2022, Coppins 26109 (**E**). New to vice-county.

B.J. Coppins

Bacidia friesiana: on *Sambucus* trunk, Mauldsheugh Wood, Selkirk, VC79, Selkirk, NT461.283, alt. 120m, November 2022, specimen not retained. New to vice-county.

B.J. Coppins

Bacidia subturgidula: on lignum exposed in small wound on trunk of standing dead *Quercus petraea* in gladed strip beside path in coastal ancient woodland overlooking the Dyfi estuary, Coed Cwm Cletwr, Tre'r-ddôl, VC46, Cardiganshire, SN663.921, alt. 80m, September 2022. Herb. SPC. New to Wales. Still present in January 2023, but with pycnidia only. *D.M. Lamacraft & S.P. Chambers*

Bactrospora corticola: a few small pycnidiate patches in dry bark crevices on east side of veteran *Quercus robur* in parkland, grounds of the former Aberdare hospital, between Robertstown & Abernant, Aberdare, VC41, Glamorganshire, SO004.033, alt. 150m, October 2022. Material consumed in the identification. First vice-county record.

S.P. Chambers & C.M. Forster-Brown

Briancoppinsia cytospora: on thallus of *Hypogymnia tubulosa* on branch of old *Quercus robur* in parkland, grounds of the former Aberdare hospital, between Robertstown &

Abernant, Aberdare, VC41, Glamorganshire, GR SO004.033, alt. 150m, October 2022. Material not retained. The first vice-county record.
S.P. Chambers & C.M. Forster-Brown

Buellia hyperbolica: two thalli on lignum on a standing dead *Quercus*, in a glade in *Fagus – Quercus* pasture woodland, Pound Hill, Mark Ash Wood SU2439.0736, January 2023, alt. 90m. A new location for this Vulnerable and Section 41 lichen in the centre of the New Forest; previously this lichen was mainly recorded along the eastern edge of the old growth meta-site. *N.A. Sanderson*

Calicium hyperelloides: on moist acid bark on a veteran *Quercus*, in *Fagus – Quercus* pasture woodland, Vinney Ridge, New Forest, VC11, S. Hampshire, SU2589.0553, alt 40m, January 2023. Second site for this Critically Endangered southern pinhead in the New Forest. *N.A. Sanderson*, *N.G. Bacciu*, & *Wessex Lichen Group*

Caloplaca cerinella: on oak twig blackened with grime from heavy traffic at roadside, Meremoor Moss, Crewe, VC58, Cheshire, SJ743.525, alt. 68m, April 2023. First record for the county. *M. Putnam*

Caloplaca concilians: on serpentinite outcrop, NE side of Little Heog, Haroldswick, Unst, VC112, Shetland, HP638112, August 1996, leg. C. & D.H. Dalby (**E**). Det. B.J. Coppins. New to vice-county. *B.J. Coppins*

***Caloplaca ferruginea* s. str.**: on mesic bark on veteran *Quercus* by a gill, in a deer park, New Park, Eridge Park SSSI, VC14, East Sussex, TQ5653.3528, alt. 70m, February 2023. First recent record from Eridge and East Sussex for this very rare and threatened lichen (the taxon in oceanic woods until recently included in *Caloplaca ferruginea* s. str. has recently been shown to be a different taxon, *Blastenia lauri*, with the rarer south eastern taxon to be named *Blastenia ferruginea*). *N.A. Sanderson*

Calvitimela aglaea: on schist outcrop, 0.5km W of Sandvoe, North Roe, Shetland Mainland, VC112, Shetland, HU356.908, August 1991, leg. C. & D.H. Dalby (**E**). Det. B.J. Coppins. New to vice-county. *B.J. Coppins*

Catillaria fungoides: on the bark of a young *Fraxinus* tree, in a deer park, Clover Plain, Old Park, Eridge Park SSSI, VC14, East Sussex, TQ5768.3505, alt. 95m, February 2023. New to Sussex. *N.A. Sanderson*

Catillaria nigroclavata: frequent on nutrient-rich bark on trunks and branches of several street trees, including *Carpinus betulus* and *Crataegus*, Heol Maengwyn, Machynlleth, VC47, Montgomeryshire, SH746.008, alt. 20m, January 2023. Material consumed in the identification. 1st Vice-county record. *S.P. Chambers & T.A. Lovering*

Catillaria nigroclavata: on fallen *Fraxinus* twig at woodland edge, Drem Drive, Luffness, VC82, East Lothian, NT487.803, alt. 10m, April 2023, Coppins 26159 (**E**). New to vice-county. *B.J. Coppins*

Chaenotheca brachypoda: on 4m. stump of woodland edge ash, Tittesworth Reservoir – N. of Churnet Inlet, VC39, Staffordshire, SJ997.603, alt.200m, January 2023. 1st record for VC39. *P. Shipway & S. Price*

Cladonia bellidiflora: in rank mire, May Moss, North York Moors SSSI, VC62 North-east Yorkshire, SE8730.9602, alt. 250m, February 2023. Det. NA Sanderson. 1st record for VC62 since 1982. *A.M. Cross & S. Smith*

Cladonia rangiferina: on top of c. 10 year old cut stump in felled plantation, May Moss, North York Moors SSSI, VC62 North-east Yorkshire, SE8809.9555, alt. 260m, February 2023. Conf. N.A. Sanderson. One young thallus that has colonised onto the top of conifer stump in a plantation felled in *c.* 2010. 1st record for VC62 and new to north-east England. *A.M. Cross & S. Smith*

Clypeococcum hypocenomycis: on squamules of *Hypocenomyce scalaris* on trunk of planted *Pinus sylvestris* in parkland, grounds of the former Aberdare hospital, between Robertstown & Abernant, Aberdare, VC41, Glamorganshire, GR SO004.033, alt. 150m, October 2022. Field record. The first vice-county record.
S.P. Chambers & C.M. Forster-Brown

Coenogonium tavaresianum: in slightly base rich flushed areas within drier bark on two veteran *Quercus*, deer park, Clover Plain, Old Park, Eridge Park SSSI, VC14,

Coenogonium tavaresianum © N. Sanderson

East Sussex, TQ5711.3503 & TQ5752.3516, alt. 80 & 100m, February 2023. New to East Sussex, a rare and probably threatened southern Atlantic – humid Mediterranean lichen of base rich bark on veteran trees. *N.A. Sanderson*

Coenogonium tavaresianum: on base rich bark on a veteran *Quercus* in pasture woodland on floodplain, Warwick Slade, New Forest, VC11, S. Hampshire, SU2682.0667, alt 25m, December 2022. A new 10km grid square record and the first from the south west of the New Forest. *N.A. Sanderson*

Corticiruptor abeloneae: on thallus of *Sticta 'dufourii'* on sheltered, base-rich rockface in old stream-gorge woodland, Coed Cwm Cletwr, Tre'r-ddôl, VC46, Cardiganshire, SN671.919, alt. c. 95m, September 2022. Material consumed in the identification. 2nd Welsh & Vice-county record. *S.P. Chambers & D.M. Lamacraft*

Crittendenia lecidellae: on *Lecidella elaeochroma* on branch of *Quercus* in parkland, grounds of the former Aberdare hospital, between Robertstown & Abernant, Aberdare, VC41, Glamorganshire, SO004.033, alt. 150m, October 2022. Material consumed in the identification. First vice-county record.
S.P. Chambers & C.M. Forster-Brown

Didymocyrtis slaptoniensis: anamorph on *Xanthoria parietina* on fallen branch, Mauldsheugh Wood, Selkirk, VC79, Selkirk, NT4628, alt. 120m, November 2022, specimen not retained. New to vice-county. *B.J. Coppins*

Diplotomma parasiticum: on *Myriolecis albescens* on dry, sandy mortar on wall top by former watermill, New Mill, Cardigan, VC46, Cardiganshire, SN187.474, alt. 35m, January 2023. Sample consumed in the identification (supported by digital photograph). 2nd Vice-county & 3rd Welsh record. *S.P. Chambers & Y.J. Samari*

Diplotomma pharcidium: on fallen dead canopy branch of *Fraxinus excelsior* on woodland floor, Coed Cwm Cilfforch, *c.* ½ km northwest of Ffos-y-ffîn, VC46, Cardiganshire, SN444.614, alt. 90m, February 2023. Sample consumed in the identification. 2nd Vice-county & 3rd Welsh record. *S.P. Chambers*

Enterographa brezhonega: on *c.* five small thalli of *Coenogonium luteum* in colony of *c.* twelve individuals, on bark on northside of old *Quercus* by tributary stream of the Afon Mwldan in valley woodland, New Mill, *c.* ½ km northeast of Cardigan, VC46, Cardiganshire, SN187.474, alt. 30m, January 2023. Herb. SPC. New to Wales.
S.P. Chambers & Y.J. Samari

Enterographa hutchinsiae: frequent on a veteran *Fagus* deep in a gill, in pasture woodland in deer park, West Ravine, Old Park, Eridge Park SSSI, VC14, East Sussex, TQ5766.3549, alt. 95m, February 2023. First lowland record from south east England outside of the New Forest. *N.A. Sanderson*

Erythricium aurantiacum: parasitising *Physcia tenella* on sycamore in the grounds of the Lancaster House hotel, Lancaster, VC60, West Lancashire, SD483.571, alt. 52m, April 2023. First record for the Vice-county. *J. Skinner & M. Putnam*

Erythricium aurantiacum: parasitising *Physcia tenella* on tree in Hilton Park service station, VC39, Staffordshire, SJ964.050, alt. 151m, April 2023. First record for the county. *M. Putnam*

Flavoparmelia soredians: on alder in the grounds of the Lancaster House hotel, Lancaster, VC60, West Lancashire, SD483.571, alt. 52m, April 2023. First record for the vice-county. *J. Skinner*

Flavoplaca arcis: fertile, on southeast-facing, sloping side of siliceous boulder in the mesic-supralittoral zone on seashore, Cwmtydu, *c.* 3½ km southwest of New Quay, VC46, Cardiganshire, SN355.576, alt. *c.* 1m, October 1997. Conf. by U. Arup. Herb. SPC & duplicate in herb. **KW** (National Herbarium of Ukraine). The first verified VC collection. Recorded to-date from 12 tetrads & 9 hectads (SN14, 15, 24, 34, 35, 44, 56, 58 & 69) in the vice-county. *S.P. Chambers*

Fuscopannaria ignobilis: at three nearby locations near Invergarry: on *Salix caprea* by track, Faichem, Ardgarry Farm, Invergarry, VC97, Westerness, NH2869.0137, alt. 107m, April 2023; on *Fraxinus* by farm track, NH2886.0114, alt. 103 m; a single sterile thallus on trunk of old *Ulmus* by road to Faichem, above Craigard, NH2926.0109, alt. 72m; specimens not retained. New sites for this priority species. *B.J. Coppins*

Graphis inustuloides: on branch of riverside hazel, Cwmnewynydd Farm – River Crai, VC42, Breconshire, SN877.230, alt. 250m, February 2023. 1st record for VC42. Herb. SG Price in **E**. *S. Price*

Laetisaria lichenicola: on *Physcia tenella* on branch of *Quercus* in parkland, grounds of the former Aberdare hospital, between Robertstown & Abernant, Aberdare, VC41, Glamorganshire, SO004.033, alt. 150m, October 2022. Field record. The 1st vice-county record. *S.P. Chambers & C.M. Forster-Brown*

Lecanora barkmaniana: on branch of *Quercus robur* in parkland, grounds of the former Aberdare hospital, between Robertstown & Abernant, Aberdare, VC41, Glamorganshire, GR SO004.033, alt. 150m, October 2022. Field record. The 1st vice-county record. *S.P. Chambers & C.M. Forster-Brown*

Lecanora jamesii: on seven *Fagus* and one *Corylus*, in pasture woodland in deer park, Old Park, Eridge Park SSSI, VC14, East Sussex, TQ5735, alt. 95 – 145m, February 2023. New to Eridge Park and colonising formerly acidified old *Fagus* trees.
N.A. Sanderson

Lecanora sinuosa: on ash bark, grounds of Basildon House, Lower Basildon, VC22, Berkshire, SU601.781, alt. 87m, February 2023. First county record.
M. Putnam & J. Skinner

Lecidea lithophila: on acid sandstone wall topping at Ashridge House, Berkhamsted, VC24, Buckinghamshire, SP9955.1204, alt. 181m, February 2023. First record for the county and second occurrence in south-east England. *M. Putnam*

Lecidea nylanderi: on lignum on a standing dead *Quercus* in parkland, in a gill within a deer park, New Park, Eridge Park SSSI, VC14, East Sussex, TQ5694.3567, alt. 105m, February 2023. New to Sussex. *N.A. Sanderson*

Lepra pulvinata: on mature oak at Newnham Park, Plympton, VC3, South Devon, SX550.580, alt. 54m, March 2011. Conf. Neil Sanderson. First record for VC3.
B. Benfield

Lichenochora galligena: on *Physcia adscendens* on *Sambucus* trunk, Mauldsheugh Wood, Selkirk, VC79, Selkirk, NT4628, alt. 120m, November 2022, Coppins 26110 (**E**). New to vice-county. *B.J. Coppins*

Lichenochora hyperphysciae: on fertile thalli of *Hyperphyscia adglutinata* on nutrient-rich bark on trunk of *Acer pseudoplatanus* in open edge of woodland adjacent to cattle pasture, between Rhyd & Penfai *c.* 1½ km southeast of Llandygwydd, VC46, Cardiganshire, SN248.427, alt. 95m, October 2022. Herb. SPC. The 2nd vice-county & Welsh record. *S.P. Chambers*

Lichenoconium xanthoriae: in apothecia of *Xanthoria polycarpa* on *Prunus* (cherry) twigs, Logan Road, Torryburn, VC85, Fife, NT026858, alt. 24m, specimen not retained. New to vice-county. *B.J. Coppins*

Lichenothelia renobalesiana: on unidentified foveolate pyrenocarp on metamorphic limestone outcrop, Loch of Strom, Whiteness, Shetland Mainland, VC112, Shetland, HU399.491, July 1996, leg. C. & D.H. Dalby (**E**). Det. B.J. Coppins. New to Scotland.
B.J. Coppins

Lobaria pulmonaria: on one old *Fraxinus* and two *Acer campestre* in a sheltered ravine, in pasture woodland in a deer park, West Ravine, Old Park, Eridge Park SSSI, VC14, East Sussex, TQ574.352, alt. 90 – 95m, February 2023. The only surviving site in East Sussex. As well as the recently recorded colony on an old *Fraxinus*, it was rediscovered on an old *Acer*, and, very promisingly, found to have colonised a younger *Acer* near the *Fraxinus*. *N.A. Sanderson*

Micarea aeruginoprasina: fertile on acid *Quercus* bark at three locations in humid oceanic ravine woodland, Bryn-melyn, Coed Cymerau NNR, Ffestiniog, VC48,

Meirionnydd, SH6854.4270, SH6873.4290 & SH6879.4290, alt 80–90m, October 2022, Herb. Sanderson 2954, 2955 & 2956. Sterile isidiate *M. prasina* s. lat. thalli were abundant on acid bark deep in this ravine but very little fertile material was found. Given that the similar *M. atroviridis* is frequently fertile, this suggests that the bulk of the material in the ravine was sterile *M. aeruginoprasina*. This confirms impressions form the New Forest that *M. aeruginoprasina* replaces *M. atroviridis* in the most humid habitats. *N.A. Sanderson*

Micarea aeruginoprasina: fertile on lignum inside a hollow *Ilex* pollard, *Fagus – Ilex – Quercus* pasture woodland, Great Wood, Bramshaw, New Forest, VC11, S. Hampshire, SU25219.15530, alt. 110m, January 2023, Herb. Sanderson 2992. First record of fertile thalli from the New Forest, previously this lichen was only confirmed by DNA sequencing of two sterile specimens from Bramshaw Wood 1km to the north. The green isidiate thallus is very similar to that of *Micarea atroviridis*, which also grows on acid substrates in old-growth woodlands but the latter appears to be much more frequently fertile. *Micarea aeruginoprasina* may account for a lot of the persistently sterile isidiate *Micarea prasina* s. lat. thalli in very sheltered humid parts of the New Forest, but cannot be reliably separated from *Micarea atroviridis* or *Micarea isidioprasina* when sterile except by DNA sequencing. *N.A. Sanderson*

Micarea atroviridis: fertile material on acid bark on *Betula* and *Crataegus*, pasture woodland in a deer park, West Ravine & East Ravine, Old Park, Eridge Park SSSI, VC14, East Sussex, TQ5841.3528 & TQ5777.3558, alt. 110 – 140m, February 2023. A newly discovered species of acid bark and lignum in old woodlands, new to Sussex. *N.A. Sanderson*

Minutoexcipula tephromelae: on *Tephromela atra* var. *atra*, on southside of trunk of *Acer pseudoplatanus* in group of planted roadside trees, beside the A487, Henfynyw, *c.* 1½ km south-southwest of Aberaeron, VC46, Cardiganshire, SN449.610, alt. 120m, February 2023. Herb. SPC. Seemingly the first corticolous occurrence. *S.P. Chambers*

Miriquidica pycnocarpa* f. *pycnocarpa: on rock outcrop, Port Quin, VC2, East Cornwall, SW969.807, alt. 20m, October 2022. New to Cornwall. *J. Skinner*

Monerolechia badia: along woodgrain of softwood fence rail in fenceline on coastal slope, above Cwm Cilfforch, *c.* 1¼ km northwest of Ffos-y-ffîn, VC46, Cardiganshire, SN441.617, alt. 60m, February 2023. Herb. SPC. The third vice-county record. *S.P. Chambers*

Mycobilimbia epixanthoides: on base rich bark on veteran *Quercus*, in pasture woodland in a gill in a deer park, East Ravine, Old Park, Eridge Park SSSI, VC14, East Sussex, TQ5826.3510, alt. 95m, February 2023. New to East Sussex. *N.A. Sanderson*

Mycoporum antecellens: widespread in on older *Fagus*, rarely *Ilex* and *Crataegus*, in pasture woodland in two deer parks, New Park & Old Park, Eridge Park SSSI, VC14, East Sussex, TQ5735, TQ5635, TQ5736, TQ5835, alt. 90–150m, February 2023. New to Eridge Park and widely colonising formerly acidified old *Fagus* trees. This species appears to be increasing in south east England. *N.A. Sanderson*

Myriolecis sambuci: on ash bark, grounds of Basildon House, Lower Basildon, VC22, Berkshire, SU601.781, alt. 87m, February 2023. First county record.
M. Putnam & J. Skinner

Nectriopsis rubifaciens: on a completely dead tuft of *Ramalina calicaris* on branch of *Quercus* at bottom of wooded slope adjacent to riverside pasture, by the north bank of the Afon Teifi *c.* 200 m west of Ferryman's Cottage, Coedmor NNR, *c.* 1 ½ km southwest of Llechryd, VC46, Cardiganshire, SN200.428, alt. 20m, December 2022. Herb. SPC. Assigned to this taxon *ad int.* as the entity on *Ramalina* is possibly a separate species. New to Wales. *S.P. Chambers & D.M. Lamacraft*

Neoechinodiscus lesdainii: on *Lecania cyrtella* on *Sambucus* trunk, Mauldsheugh Wood, Selkirk, VC79, Selkirk, NT461.283, alt. 120m, November 2022, specimen not retained. New to vice-county. *B.J. Coppins*

Neoechinodiscus lesdainii: parasitising *Lecania cyrtella* on chetnut, Norsey Wood, Billericay, VC18, South Essex, TQ688.954, alt. 90m, December 2021. New to the county. *J. Skinner*

Ochrolechia microstictoides: abutting *O. androgyna* on acidic sandstone stringcourse on north-wall of church, St Sulien's church, Silian, *c.* 2½ km north of Lampeter, VC46, Cardiganshire, SN571.512, alt. 200m, March 2023. Field record. The first saxicolous record of the species for the vice-county. *S.P. Chambers*

Orcularia insperata: frequent on twigs of *Quercus* in parkland, grounds of the former Aberdare hospital, between Robertstown & Abernant, Aberdare, VC41, Glamorganshire, SO004.033, alt. 150m, October 2022. Specimen not retained. The first vice-county record. *S.P. Chambers & C.M. Forster-Brown*

Peltigera malacea: on top of an old wall and attaining 25% cover in a 60 cm x 80 cm area, over two stone slabs, amid *Hypnum cupressiforme* moss, in a section kept clear by occasional *Lepus europaeus* passage. Dull, west of Aberfeldy, VC88, Mid-Perthshire, NN80445.48907, alt. 100m, February 2023. Field record, Conf. B.J. Coppins. First record of this RDB Endangered lichen in VC88 since the mid-19th century. *O. Moore*

Pertusaria coronata: on three old *Quercus* trees in parkland, in gill within deer park, New Park, Eridge Park SSSI, VC14, East Sussex, TQ5653.3528, TQ5654.3543 &

TQ5658.3542, alt. 80 – 95m, February 2023. First recent records for Eridge Park for this regionally rare specialist of field trees. *N.A. Sanderson*

Pertusaria leioplaca: a single thallus on trunk of sycamore, Bretton Clough – Stanage House Clough, VC57, Derbyshire, SK209.789, alt. 275m, March 2023. First record for VC57. *C. Levy & Sorby NHS Outing*

Phaeographis smithii: on twig of hawthorn, Tittesworth Reservoir, north of Churnet Inlet, SJ997.603, VC39, Staffordshire, alt. 200m, January 2023. First record for VC39. *P. Shipway & S. Price*

Phaeospora parasitica: on thallus of *Rhizocarpon petraeum* on concrete stonework of dam, Alwen reservoir, *c.* 4 km north of Cerrigydrudion, VC50, Denbighshire, SH955.528, alt. 370m, January 2023. Material consumed in i.d. The first vice-county record. *S.P. Chambers & Cennau Cymru/Wales Lichen Recording Group*

Physcia tribacioides: at least c. 30 thalli excluding merged lobules, on the trunk of one *Carpinus betulus* cv. 'Fastigiata', Heol Maengwyn, Machynlleth, VC47, Montgomeryshire, SH746.008, alt. 20m, January 2023. First recorded on the same tree in March 2009 (see NRI Bull. 104, April 2009) when there was a just single thallus, 13 x 10 mm, now much increased and forming a sizeable colony. *S.P. Chambers & T.A. Lovering*

Physcia tribacioides: records from VC46, Cardiganshire; (i) colony of several dispersed thalli on living and dead, dry, hard bark, on two *Salix cinerea* trunks, & one thallus on east-facing side of branch of *Acer pseudoplatanus*, trees either side of minor road *c.* 250 m north and south of Cruglas, *c.* 1½ km southwest of Post-bach, SN385.510 & SN384.514, alt. 265m, January 2023. Herb. SPC. A seemingly improbable situation on otherwise unremarkable roadside trees in 'sheep country' at moderately high-altitude 6½ km inland; (ii) thallus, *c.* 3 cm diam., on southside of trunk of *Fraxinus excelsior* in sheep pasture, and large colony of *c.* 35+ thalli on southside of trunk of nearby trackside *F. excelsior,* by Sychpant, between Henfynyw and Aberaeron, GR SN467.612 & SN467.613, alt. *c.* 125m, February 2023. Field records. The first and second vice-county records. *S.P. Chambers*

Piccolia ochrophora: on *Sambucus* bark in old scrub, Brisley Common, VC28, West Norfolk, TF959.219, April 2022. New to the county. *R. Yaxley*

Porina collina: in wound tracks on acid bark on three *Betula* and on slightly flushed bark on acid an older *Quercus*, in oceanic ravine woodland, Coed Cymerau NNR, Ffestiniog, VC48, Meirionnydd, SH6889 4243, SH6888.4235, SH6886.4234 & SH686.426, alt. 40 – 70m October 2022, Herb. Sanderson 2951 & 2952. A distinctive *Porina* with dark orange-brown fragile and irregular granular isidia, soon forming

confluent masses, originally described from upland rocks, but here found on flushed acid bark on older *Betula* and *Quercus* trees in ravine woodland. Photo overleaf.

N.A. Sanderson

Porina collina © N. Sanderson

Pronectria oligospora: on *Punctelia subrudecta* on branch of *Quercus* in parkland, grounds of the former Aberdare hospital, between Robertstown & Abernant, Aberdare, VC41,

Glamorganshire, GR SO004.033, alt. 150m, October 2022. Material consumed in the identification. First vice-county record. *S.P. Chambers & C.M. Forster-Brown*

Protoparmelia hypotremella: on two post mature *Quercus* trees in parkland, one with a fertile thallus, in gill within a deer park, New Park, Eridge Park SSSI, VC14, East Sussex, TQ5696.3503 & TQ5688.3571, alt. 75 & 105m, February 2023, Herb. Sanderson 2984. New to East Sussex and third English record. This colonising species does appear to favour older trees, but is not actually confined to high quality sites and should be looked out for generally. *N.A. Sanderson*

Protounguicularia nephromatis: on *Nephroma laevigatum* on *Salix caprea* by track, Faichem, Invergarry, VC97, Westerness, NH2869.0137, alt. 107m, April 2023, Coppins 26158 (**E**); also with *Refractohilum galligenum*. Third British record and new to vice-county. *B.J. Coppins*

Punctelia borreri: on apple bark in the Millennium orchard, Fairfield Nature Reserve, Lancaster, SD4660, alt. 17m, April 2022 and on alder in the grounds of the Lancaster House hotel, Lancaster, VC60, West Lancashire, SD483.571, alt. 52m, April 2023. First records for the vice-county. *J. Skinner& M. Putnam*

Rinodina isidioides: on well-lit base rich bark on a veteran *Quercus*, in a glade in *Fagus* – *Quercus* pasture woodland, Vinney Ridge, New Forest, VC11, S. Hampshire, SU2581.0545, alt 40m, March 2023. A new site in the New Forest for this Near Threatened and Section 41 lichen and one quite distant from the main population in the New Forest in the north of the Forest. *N.A. Sanderson & A.M. Cross*

Sagiolechia protuberans: on limestone scree, Coombs Dale, VC57, Derbyshire, SK223.743, alt. 200m, October 2003. First record for VC57. Literature record from *BLS Bulletin* ***96:*** 2005, p.5. *O.L. Gilbert*

Sclerophora farinacea: growing on the eastern side of a post-mature *Acer campestre* in Monks Wood NNR, VC31, Huntingdonshire, TL193.800, alt. 20m, February 2022 and February 2023. The population on this tree was very small and despite further survey efforts it was not found elsewhere in the nature reserve. *Sclerophora farinacea* was growing on flakes of weakly flushed bark in close proximity to *Chaenotheca hispidula* with which it shares the photobiont *Trentepohlia*. The original specimen, collected as part of a survey for Natural England's Long Term Monitoring Network, was determined by Neil Sanderson and the material consumed during this process. Rediscovery of a lichen previously evaluated as Regionally Extinct within Britain and new to Huntingdonshire. *N.G. Bacciu & N.A. Sanderson*
(See page 24 of this Bulletin)

Scutula circumspecta: in small wound tracks on an ancient *Fagus* in a gill, in pasture woodland in a deer park, West Ravine, Old Park, Eridge Park SSSI, VC14, East

Sussex, TQ5747.3523, alt. 90m, February 2023. New to East Sussex and a significant range extension for this Vulnerable and Section 41 lichen. *N.A. Sanderson*

Scytinium magnussonii: *c.* 9 tiny tufts growing a few inches above ground level on the chamfered west-facing side of two sandstone plinths beneath a marble and a sandstone headstone in burial yard, St Tygwydd's church, Llandygwydd, *c.* 2½ km northwest of Cenarth, VC46, Cardiganshire, SN242.443, alt. 35m, October 2022. Herb. SPC. The first British record from a non-riverine habitat. *S.P. Chambers*

Skyttea nitschkei: parasitising *Thelotrema lepadinum* on a veteran *Quercus* deep in a gill, pasture woodland in a deer park, West Ravine, Old Park, Eridge Park SSSI, VC14, East Sussex, TQ5759.3537, alt. 100m, February 2023. New to Sussex and south east England and a considerable range extension for this western species. *N.A. Sanderson*

Sphaerellothecium araneosum: parasitising *Ochrolechia parella* on granite of All Saints church wall, The Town, Bryher, VC1, Isles of Scilly, SV880.149, alt.5m, March 2023 and on a granite tor, Tean, VC1, Isles of Scilly, SV907.165, alt. 8m, March 2023. First records for the Isles of Scilly. *M. Putnam*

Sphaerellothecium cinerascens: a lichenicolous fungus, staining a strip of *Cladonia parasitica* deep grey-blue on a standing dead oak, in a glade in *Fagus – Quercus* pasture woodland, Vinney Ridge, New Forest, VC11, S. Hampshire, SU2585.0555, alt 40m, January 2023. Third record of this apparently extremely rare obligate *Cladonia* parasite in the New Forest. *N.A. Sanderson & Wessex Lichen Group*

Sphaerellothecium minutum: on *Sphaerophorus fragilis* on large boulder beside the Hafan incline at the head of Cwm Cyneiniog, *c.*½ km southwest of Cerrig yr Hafan, VC46, Cardiganshire, SN729.879, alt. 355 m. September 2022. Field record. The 2nd Welsh & vice-county record. *S.P. Chambers*

Staurothele hymenogonia: on limestone in wall of ruined church, Ayot Saint Lawrence, VC20, Hertfordshire, TL194.168, alt. 129m, February 2023. First record for the county. *M. Putnam & J. Skinner*

Stigmidium microspilum: on numerous *Graphis scripta* thalli on *Carpinus* boles, together with *Arthonia didyma* and *Porina aenea,* det. B.J. Coppins, within Titsal Wood SSSI, Shadingfield, VC25, East Suffolk, TM425.836, March 2022. Herb. R. Yaxley. confirmed by B.J. Coppins and retained in (**E**). This record is further east than previous records by 64km. New to the county. *R. Yaxley*

Strigula jamesii: on smooth bark on trunk of young ash tree, Tittesworth Reservoir – Troutsdale, VC39, Staffordshire, SK000.587, alt. 200, February 2023. First record for VC39 and for the local region. Conf. B.J. Coppins, Herb. S.G. Price in **E.** *S. Price*

Taeniolella arthoniae: parasitising *Dendrographa decolorans* growing on dry bark on three old *Quercus* in parkland, in two deer parks, New Park & Old Park, Eridge Park SSSI, VC14, East Sussex, TQ5688.3571, TQ5711.3503 & TQ5760.3493, alt. 90 – 105m, February 2023. New to East Sussex. *N.A. Sanderson*

Taeniolella cladinicola: on podetia of *Cladonia uncialis* ssp. *biuncialis* in damp *Vaccinium myrtillus* lichen-moss heath vegetation on metal mine spoil heap in forestry plantation, Esgair Fraith SSSI, VC46, Cardiganshire, SN740.913, alt. 435m, September 2022. Field record. The 3rd vice-county, 4th Welsh record, & the 1st record from a metal mine habitat. *S.P. Chambers & D.M. Lamacraft*

Taeniolella delicata: on senescing thallus of *Lecidella elaeochroma* on twig of *Salix cinerea* in scrub beside disused railway line adjacent to upland conifer plantation, *c.* 300 m west-northwest of Llyn Tryweryn, Cwm Prysor, c. 7 km east of Trawsfynydd, VC48, Merionethshire, SH782.386, alt. 380m, September 2022. Herb. SPC. The same thallus also hosted *Crittendenia lecidellae* (reported in NRI, BLS Bulletin 131). New to Wales. *S.P. Chambers & Cennau Cymru/Wales Lichen Recording Group*

Taeniolella toruloides: parasitising *Thelotrema lepadinum* on a veteran *Quercus* deep in a gill, pasture woodland in deer park, West Ravine, Old Park, Eridge Park SSSI, VC14, East Sussex, TQ5759.3537, alt. 100m, February 2023, Herb. Sanderson 2985. New to Sussex and south east England. *N.A. Sanderson*

Trapelia collaris: one small lignicolous thallus on eastside of softwood fencepost near wheel-pit building on former metal mine, Esgair Fraith SSSI, VC46, Cardiganshire, SN739.911, alt. 410 m. September 2022. Field record. The first non-saxicolous record for the vice-county. *S.P. Chambers & D.M. Lamacraft*

Trapelia corticola: on mossy pine stump in coniferous plantation, Upper Derwent – Westend Valley, VC57, Derbyshire, SK1493, alt. 300m, October 2004. 1st record for VC57. Literature record from BLS Bulletin 96;2005, p.5. *O.L. Gilbert*

***Trapelia glebulosa* s. str.**: on flat tops of stone blocks impressed in ground in gravel pit, Pwll-y-gravel, *c.* ½ km northeast of Capel Cynon, VC 46, Cardiganshire, SN386.501, alt. 280m, January 2023. Herb. SPC. Identical to a collection (Orange 22874) of the species from VC41, Glam., in herb. SPC. The first record of *T. glebulosa* s. str. for the vice-county. *S.P. Chambers*

Tremella phaeographidis: on thallus of *Phaeographis dendritica* on fallen branch of *Quercus* under trees on minor road by Pontbren Pwll-crwyn, *c.* 1 km northwest of Cenarth, VC46, Cardiganshire, SN258.425, alt. 15m, October 2022. Field record. The second vice-county & Welsh record. The first record was also an October one. *S.P. Chambers & Y.J. Samari*

Trichonectria hirta: on thallus of *Lepraria finkii* on dry north-side of *Corylus avellana* stem in stream dingle secondary woodland on tributary stream of the Afon Mwldan, *c.*1 km northwest of Penparc, VC46, Cardiganshire, SN199.492, alt. 80m, November 2022. Herb. SPC. The first vice-county record. Otherwise in Wales it is listed for VC35 Mons. in the Welsh Census Catalogue (1999) but without a corresponding 'dot' on the BLS online map, and the online NBN map has an 'unverified' record for VC41 Glam. also not shown on the BLS map. *S.P. Chambers*

Usnea dasopoga: on north-facing side of mature larch in plantation around the edge of May Moss, May Moss, North York Moors SSSI, VC62 North-east Yorkshire, SE8815.9557, alt. 260m, February 2023. Det. N.A. Sanderson. First modern record for VC62. *A.M. Cross & S. Smith*

Usnea esperantiana: *c.* four thalli on twigs of bushes of *Prunus spinosa* beside boardwalk through reedbed, Pentood Marsh, Teifi Marshes Welsh Wildlife Centre, Cardigan, VC46, Cardiganshire, SN182.453, alt. 5m, February 2023. Field record. The second vice-county record. *S.P. Chambers & Y.J. Samari*

Usnea esperantiana: on shrub by footpath, NW edge of Newlands Wood, Great Alne, VC38, Warwickshire, SP11156.61758, alt. 115m, December 2022, specimen in **E**; confirmed B.J. Coppins. New to vice-county. *S. MacDonald*

Usnea fragilescens: on north-facing side of mature larch in plantation around the edge of May Moss, May Moss, North York Moors SSSI, VC62 North-east Yorkshire, SE8815.9557, alt. 260m, February 2023. Det. N.A. Sanderson. First record for VC62. *A.M. Cross & S. Smith*

Usnea wasmuthii: on north-facing side of mature larch in plantation around the edge of May Moss, May Moss, North York Moors SSSI, VC62 North-east Yorkshire, SE8815.9557, alt. 260m, February 2023. Det. N.A. Sanderson. First record for VC62. *A.M. Cross & S. Smith*

Usnea wasmuthii: on shrub by footpath, NW edge of Newlands Wood, Great Alne, VC38, Warwickshire, SP11156.61758, alt. 115m, December 2022, specimen in **E**; confirmed B.J. Coppins. New to vice-county. *S. MacDonald*

Verrucaria bulgarica: on a calcareous shale outcrop, Upper Torrs, Ilfracombe, VC4, North Devon, SS50988.47212, alt. 78m, January 2023. A Nationally Rare taxon, part of the community growing with the Nationally Rare *Alyxoria subelevata*. New to the vice-county. Supported by digital image. *J. Skinner & M. Putnam*

Vezdaea aestivalis: on moss on a calcareous shale outcrop, Upper Torrs, Ilfracombe, VC4, North Devon, SS509.472, alt. 78m, January 2023. First recent record for the vice-county. *J. Skinner & M. Putnam*

Xanthoparmelia conspersa: patch, *c.* 8 x 5 cm, on flat cut top of hardwood fencepost, field edge by the A482 *c.* ½ km south of Aberaeron, VC46, Cardiganshire, SN459.619, alt. 25m, February 2023. Field record. The first lignicolous record for the vice-county. *S.P. Chambers*

Zyzygomyces aipoliae: records from Wales; (i) on *Physcia aipolia* on well-lit twig of old *Fraxinus excelsior* at edge of woodland, Coed Aberedw, *c.* 4 km southeast of Builth Wells, VC43, Radnorshire, SO079.472, alt. 170m, May 2005; (ii) on *P. aipolia* on twig of old *Quercus petraea* on wooded slope, Glandyfi, *c.* 1 km northeast of Eglwys Fach, VC 46, Cardiganshire, SN692.966, alt. 30m, October 2002. Both herb. SPC. In VC46 Cardiganshire, *Z. aipoliae* is currently known from 15 hectads (SN34, 35, 54, 55, 56, 57, 58, 65, 67, 68, 69, 74, 76, 77 & 78) and is as widespread as *Z. physciacearum* but by tetrad totals is less than half as frequent as that species. New to Wales. *S.P. Chambers*

Minutes of the ANNUAL GENERAL MEETING

Saturday 4th March 2023 Royal Botanical Gardens Edinburgh
Hybrid meeting with Zoom

Welcome to all by the President Mr Neil Sanderson, who warmly thanked the previous President, Vice president and members of Council for organising this AGM.

Members Present: Neil Sanderson; Fay Newbery; Duncan Wright; Rebecca Yahr; Paul Cannon; Eluned Smith; April Windle; John Skinner; Maxine Putnam; Judith Allinson; Christopher Ellis; Nathan Chrismas; Steve Chambers; Brian Coppins; Ann Claypole; Peter Crittenden; Theo Llewelyn; Sascha Hansen; Chris Cant; Martin Westberg; Gesa von Hirschheydt; Craig Postlethwaite; Terence Hackwill; Andrew Cross; Caitlyn Johnstone; Eric Steer; Mary Steer; Simon King; Gareth Powell; Mark Stephens; Jessica Allen; Michela Sisti; Caitlyn Johnstone
By Zoom: Janet Simkin; Pat Wolseley; David Hawksworth; Peter Scholz; Geoffrey Haigh; Ishpi Blatchley; Di Napier; Ray Woods; David Guiterman; A. Clark; Maurice Claypole; M. Morando; Raymond Griffiths; Christian Vonarburg; Heather Paul; Fiona Worthy; Paul Whelan; Kare Homble; Christina Campbell; Steve Price; Isobel Clark; Dave Lee; Ginnie Copsey; Graham Pyatt; Martin Jackman; Sue Thomas; David Hill; Stephen Crabtree

Apologies for absence: Richard Brinklow; Mark Seaward; Bryan Edwards; Gothamie Weerakoon

The Minutes of the AGM on 29th January 2022 were published in the Summer Bulletin volume **130**. Following a minor correction to the list of Officers, adoption of the Minutes was proposed by Neil Sanderson and seconded by Maxine Putnam and approved unanimously by the members present both in the lecture theatre and on Zoom.

The President's Report – Neil Sanderson

The Society notes with great sorrow the deaths of several members including Alan Orange, Ann Allen, David Lewis and Brian Green. Neil reported the sad news of the untimely death of the respected lichenologist Alan Orange. A modest man, he was a prolific author and a world-renowned expert on the Verrucariaceae. There will be obituaries in the Lichenologist and Bulletin. Neil also reported the deaths of Professor David Lewis, a Sheffield University mycologist and long-time member of the BLS; Brian Green who used to oversee publications and Ann Allen who studied the lichens in the southwest of the country for many decades and who was a great support to Barbara Hilton during her Presidency.

Officers, Council and Committee members were thanked for their service, having worked hard since the last AGM to encourage new members and to support our charitable aims. Neil said that the many achievements of the past year are mainly a result of projects started by his predecessors. He paid particular thanks to the outgoing Communications Secretary Sandy Coppins and welcomed John Skinner to this busy role in managing enquiries. Duncan Wright is doing sterling work as our new Treasurer, supported by a newly formed Finance Committee.

Neil thanked Graham Boswell for the resumption of field meetings after the quiet years of covid. There were many different events held throughout the UK to commemorate the late Frank Dobson, especially the meeting in Sussex. The Richmond Publishing Company which he and his daughter Sue Davey ran for many years has ceased trading and the lichen stock is now administered by the Secretary via the website shop. Reprints of the popular 7th edition of the Field Guide will be available from April 2023.

The website has been restructured by Chris Cant and thanks go to him, Juliet Bailey and the Website Working Group for this technological reorganisation. The BLS database is about to reach an important milestone and Neil thanked the Data Committee sincerely for their valuable work in adding thousands of records. He reminded members to send in their lichen records.

Very important and crucial to the future of the Society is the work of the EPC and especially Judith Allinson's Zoom meetings; introducing people to lichens, to each other and to all our distance learning resources. At the other end of the scale, DNA Sequencing workshops, advanced courses and surveys have been organised.

The Conservation Committee has been busy responding to consultations and in project steering groups.

Finally, Neil thanked Rebecca Yahr and Fay Newbery for organising this AGM and he was warmly applauded from the floor.

Reports of Officers and Committee Chairs

Treasurer *- Duncan Wright*

Duncan presented a two-page Summary Statement of Financial Activities for the year ended 30 June 2022 prepared with the previous Treasurer, John Skinner. The full Annual Report and Accounts may be viewed on the Charities Commission website. He gave his sincere thanks to his predecessor for a smooth handover and reported that the new CIO is running well.

There is about £651,000 mostly in the CAF Bank and a large proportion, some £400,000, will be moved to a Finance Committee-approved investment platform to gain extra interest. He recommended that our Society stays with Bromhead, our current firm of accountants.

The Treasurer proposed the adoption, seconded by Rebecca Yahr, of the Annual Report and Accounts for the year ending 30th June 2022 and this was approved. There is no plan to increase the membership fees.

The President thanked Duncan for presenting the financial report and for all his hard work organising our finances.

Membership Report from the RSB *– Eluned Smith*

The membership has increased to 661, of which 425 members are based in the UK. The categories of membership, fees and subscription rates are printed on the back page of the Bulletin.

Conservation Committee *- Bryan Edwards*

The Conservation Committee has been busy responding to consultations, doing lichen surveys and contributing lichen expertise to various national organisations. This is so important in raising public awareness and moving lichens and lichen conservation up the national agenda.

The BLS will object to the renewed application to develop the nationally-important-for-lichens Coul Links dunes in Sutherland into a golf course. The President thanked Bryan, April Windle and Andy Acton for their positive involvement with the proposed South West Rainforest Alliance. He outlined a new Red Data Committee of seven experts who, during the coming months, will work on the listing of threatened lichen species.

Data Committee *- Paul Cannon & Janet Simkin*

The Data Committee oversee the development and expansion of the BLS database. It holds nearly 2 million occurrence records and requests for data are increasing, welcome, and resulting in useful research being presented at meetings. There will

be a new version of the spreadsheet so please send in your lichen records, yours might be the two millionth record! Brian Coppins was thanked for his work updating the names in the Taxon Dictionary which must coordinate with the UK Species Index and NBN. Nathan Chrismas asked whether there was a plan to incorporate barcoding data alongside traditional data. Paul replied that with the growing interest in barcoding the DNA in different lichen species, the Society will probably develop a new resource in this area. The Committee were warmly thanked by the President.

Education and Promotions Committee - *April Windle & Raymond Griffiths*
The President praised Ray and April for producing a thorough and detailed report of the many activities of the Committee this year. They are pleased that the website has been restructured recently, but feel that it should now be redesigned to be more attractive and user-friendly to younger audiences. Some relatively new members have joined various subcommittees, including Nathan Chrismas, Caz Walker and Mark Stephens, and others are running Lichens for Absolute Beginners groups. April is helping to raise the profile of lichenology in the UK, with appearances in magazines, podcasts and Countryfile on BBC One.

Judith Allinson's popular fortnightly Zoom meetings continue to attract new members. Caz Walker is co-ordinating the many new groups of lichen learners and has updated the details on a Local Groups page on the website.

The BLS continues to manage Twitter, Facebook, YouTube and now LinkedIn accounts. The BLS YouTube channel has more than twenty interesting videos now. A new GCSE in Natural History will be introduced by the OCR exam board in 2025 and the BLS is officially supporting this. April is a member of the panel advising OCR about curriculum content. The President praised the many activities of the Committee and this was warmly applauded by the members.

Bulletin Editor - *Maxine Putnam*
Maxine appreciated the loyalty and initiative of many BLS members who contributed to two very colourful Bulletins in July and December last year. Andy Cross has taken over the New, Rare and Interesting Lichens section from Chris Hitch, who was warmly thanked for his many years of service. The Bulletins have a 'For Sale' section and this is also on the website, with an up-to-date list of publications which are available from the Secretary, Eluned Smith.

The Lichenologist - *Chris Ellis*
Chris reported that he and John Skinner had solved the communication problem between Cambridge University Press and the Royal Society of Biology which had caused consternation among members due to the absence of two print copies of the Lichenologist last autumn.

There is now a new *Lichenologist* cover image for 2023 which is *Ricasolia virens,* provided by David Genney.

A recent advance which will be beneficial to researchers is the shortened peer review time of just a fortnight. We can look forward to seeing interesting research, with submitted papers which are accepted by the Lichenologist now being published online early as FirstView so readers do not have to wait until an issue is produced.

After many years David Hill is retiring from his role as Book Review Editor, and Chris said this will now be undertaken by Jo Taylor who is a Managing Editor of the Lichenologist.

Chris and the team have been greatly saddened by the death of Alan Orange who had been Associate Editor for more than 20 years. He said that Alan had been a kind, thoughtful strategist, giving considered opinions on Board matters and expert opinions on specialised papers and that his contribution to the Lichenologist will be sorely missed.

Chris paid tribute to his Co-Editor Leena Myllys and his conscientious team including Jo Taylor, Justine Fox, David Hill and others. The President thanked them for their continued hard work and this was warmly endorsed by the membership.

Website Editor - *Neil Sanderson*

Neil reported that the new, updated Conservation pages are now on the website, and he thanked Chris Cant, the Webmaster, for redeveloping the website and adding more content. The BLS needs a new Website Editor so please can suitably interested members get in touch.

Field Meetings - *Graham Boswell*

The Autumn 2022 Meeting was ably organised by Nicola Bacciu and was held in St. Brewards Village Hall, Cornwall with 14 attendees who enjoyed many lichens in a variety of habitats.

The Winter Workshop at Cober Hill Hall in February 2023 was a useful 2-day microscope event for 18 people where dozens of difficult specimens were confirmed by Brian Coppins and Neil Sanderson. It was preceded by an enjoyable field outing organised by Dave Minter to East Arncliffe Woods, where our appreciation of the surroundings was enhanced by knowledgeable members of several Natural History Societies.

Future meetings are:

- Spring Meeting to the Southern Scottish Uplands in Moffat 23rd – 30th April 2023
- Summer Meeting at FSC Preston Montford 10th – 14th July 2023
- Autumn Meeting in Hampshire

There are spaces available on the meetings so please book a place via the Field Meetings Officer, Graham Boswell.

Graham thanked all the local and workshop leaders, and the kind volunteers who offer to write meeting reports for the Bulletins.

Neil reported on the recent fascinating and popular DNA Barcoding Workshop run by Brian Douglas and Matthew Wainhouse in Worcestershire. This technology will become increasingly important in lichenology, and more workshops are planned. There is a link to some Zoom lectures on the website.

Archives *- Fay Newbery for Mark Seaward*

The members of the Archive Working Group have been very busy this year collecting material from our Archivist, Mark Seaward in Leeds and the Natural History Museum and taking it to the Royal Botanical Gardens in Edinburgh where it will be housed.

Herbarium Curator *– Richard Brinklow*

Richard presented a report detailing the welcome lifting of covid sanctions at the Dundee Museum. The herbarium contains some 800 taxa which are listed on the website. While they are in good condition, many specimens are very old and Richard made a request for more and larger specimens collected in accordance with the constraints of responsible conservation. He was warmly thanked by the President.

Librarian *- Theresa Greenaway*

Neil thanked Theresa for her work with the BLS Archive Group involved in organising material being sent from RBG Wales to RBGE. Theresa reminded members that our large library at RBG Wales is there to be used, and that she can send out books for members to borrow. There is a partial list on the website.

Communications Secretary *- John Skinner*

John reported an increasingly busy workload of enquiries since taking over from Sandy Coppins in June 2022.

Dr Kozanek from Slovakia would like to liaise with the BLS to make 3D images of lichens, calling the project '50 Lichens of the UK'. The quality of the foliose and fruticose lichen images in particular is impressive and the Society is proceeding with this venture. Similar work is being done at RBG Kew, where fresh specimens of fungi and lichens are digitised, dried and their DNA sequenced.

Secretary *– Eluned Smith*

Eluned introduced herself to the new members present, explaining that she had taken over the Minute writing from Pat Wolseley in 2016 (four sets per annum) and was now responsible for holding some of the BLS stock and had been selling posters

and books since October 2022. Plenty have been sold to attendees at the Autumn and Winter meetings. She and Judith Allinson attended an Association for Science Education in January 2023 at Sheffield Hallam University where there was a table sale of lichen books and posters. Many biology teachers were met and awareness of the importance of lichens and fungi in the school curriculum was raised. There was interest by secondary school science teachers in the new GCSE in Natural History which is being introduced in 2025. Many of Claire Dalby's beautiful posters were given away to teachers on condition that they are displayed in their schools. The new 7th editions of Dobson in paperback will be available from April 2023.

Election of Officers and Trustees

The President proposed John Skinner, the new Communications Secretary, as an Officer of the Society and this was seconded by Duncan Wright and confirmed unanimously by all the members present. All other Officers were re-elected by unanimous vote by the members.

There are currently nine Trustees. Each year three resign and are replaced thus ensuring an ongoing circulation of people who can act as a strategic resource if the President or Officers need advice or ongoing support. They must act as an independent backstop to ensure that the Society is acting in accordance with its Constitution. After several years of helpful service, three Trustees are leaving and the President thanked Ester Gaya, Heleen Plaisier and John Skinner for their valuable contributions to the Society. This year, we need to elect four new Trustees. Andy Cross was proposed by Neil Sanderson and seconded by Brian Coppins. Simon King was proposed by Mark Stephens and seconded by Fay Newbery. Paul Whelan was proposed by Fay Newbery and seconded by John Skinner. Duncan Wright was proposed by Rebecca Yahr and seconded by Maxine Putnam. All new Trustees were elected unanimously by the members and applauded.

Finally, the President thanked the Council and Officers for their voluntary work this past year and everyone for coming to the meeting, and he spoke briefly about the forthcoming programme of talks and field trip to Bowhills. The local organiser, Rebecca Yahr paid tribute to Heleen Plaisier, Caitlyn Johnstone and Fay Newbery for organising the weekend's events in and around the beautiful setting of the Royal Botanical Gardens Edinburgh.

Date and Place of AGM 2024

The AGM will be a hybrid meeting to be held at the University of Nottingham on 19th – 21st January 2024

NOTICE OF HYBRID ANNUAL GENERAL MEETING JANUARY 2024

Ann Allen – an appreciation

Ann Allen, long-time member of the British Lichen Society, died aged 93 on 18 February 2023. Born in Indianapolis, USA, Ann spent most of her life in the UK. She is remembered for her many contributions to the BLS and her enthusiasm for the lichens of rocky shores.

Ann's enthusiasm for learning developed early in her home town of Bedford, Indiana. She graduated as Valedictorian from Bedford High School (1947) and Cum Laude in Botany from Depauw University, Indiana (1951), a degree that included a teaching certificate. She took up photography early and a camera became her companion. Ann participated in 'The Experiment', a US scheme in International Living to rekindle relationships between nations after World War 2. She spent the summer of 1950 with a Catholic family in Ravensburg; lasting friendships developed and her perspectives broadened. As post-graduate she studied plant genetics at Smith College, Massachusetts (1951–53). Following research and demonstrating at both Indiana University and Woods Hole Marine Biological Laboratories, Massachusetts, she registered for a Ph.D. at Indiana University gaining a Fulbright Scholarship (1955–57) to study in both Indiana and Queen Mary College (QMC), London. Her research on *Spirogyra* investigated nuclear cell division, resulting in her Ph.D. (1958). While at QMC in the East End, results of bombing pitifully evident, she questioned her own beliefs including her faith and converted to Roman Catholicism.

Ann had grown to like the UK and after teaching for several years followed by a short spell researching at Liverpool University she settled in 1963 to teaching and living here. She recognised curiosity in young people and stimulated discovery. As head of science Ann planned field trips and a highly specified new science block. I first knew Ann at about this time. She had a busy professional life until retirement from full-time teaching in 1990, continuing part-time for a number of years at a tutorial college.

Ann's familiarity with lichens developed from exploring marine life at the lowest tides and working upwards as the tide came in, noting adaptation of species including lichens throughout the tidal range and into the terrestrial zone. Ann visited Sark every summer, exploring its rocky shores and clear waters. She wrote leaflets for visitors on its shores, invertebrates, lichens, the Gouliot Caves (that led to a spot on the BBC *Coast* programme); also a small book on Sark flowers. Ann photographed, collected seaweeds, observed zonation patterns and kept records of lichen communities. She was very independent and thorough in fieldwork and had tremendous drive. Ann's first 'island' paper was on lichen distribution in supralittoral zones of Sark (Allen & Hilton 1987). Numerous visits with Peter James and myself were made to the lesser Channel Islands and led to reports on the lichens of Sark (James *et al.* 1999), Alderney (James *et al.* 2001) and Herm (James *et al.* 2003). Particular species were reported on: a sorediate variety of *Sclerophytomyces circumscriptus* (Sparrius *et al.* 2005); and *Lobaria pulmonaria* and *Teloschistes* species (Allen 2008).

Ann removed to North Devon (1991) and Lundy became accessible. As a small island it provided, like the lesser Channel Islands, an isolated and undisturbed community. The first Lundy paper listed species (James *et al.* 1995) and the second described its lichen communities (James *et al.* 1996). New, rare and interesting species were reported (James *et al.* 2005). Ann's book, *Lundy Lichens* (Allen 2007) introduced visitors to lichens, including the island speciality, *Teloschistes flavicans*. The Royal Horticulture Society's garden at Rosemoor was also close to Ann's home and she reported on its lichens for the then Director of Rosemoor (Allen & Hilton 2005), listing its lichens and identifying conservation issues.

A paper on the lichens of the Isles of Scilly built on earlier visits by Peter James and by Christian Printzen (Allen *et al.* 2010). It includes a comparison of Scillies' lichen communities with those of other islands along southern and western coasts, with comments on the significance of Scillies species to British records.

Membership of the BLS gave Ann many opportunities to contribute to ongoing projects of the Society, whose aims include 'promoting the teaching and study of lichens'. Towards this Ann adapted student projects on lichens for the BLS website, assisted by the work of Tom Chester, Pat Wolseley and others. These provide the basis of the 'projects for schools' on the BLS website https://britishlichensociety.org.uk/resources/lichen-projects-schools.

Ann joined the Churchyards sub-committee of the BLS, fostered by Tom Chester and cultivated through an annual 'Workshop Outing'. Ann and I attended a good many workshops, in enjoyable company and with knowledgeable lichenologists pointing out key features of new or rare species. Ann organised a visit to Montecute, South Somerset, where lichens on churches of biscuit-coloured Ham Stone were compared with those on blue Lias-limestone, also a feature locally (Allen & Pedley 2007). Encouraged by Ishpi Blatchley, Ann recorded lichens within Exeter (North

Devon) and Truro (Cornwall) Dioceses, contributing to national data as well as raising awareness in local parishes. Adjacent to her home in North Devon, Ann observed patterns in the lichens on the faces of limestone headstones, finding differences across the east and west faces that related to the weather and conditions on these surfaces (Allen & Hilton 2016).

Concern about churchyard conservation in the early years of the new millennium was spurred by the deliberate flattening of gravestones that 'wobbled'. With Jeremy Gray and myself, Ann prepared reports on lichens in a large number of churchyards containing vulnerable headstones in the south-west, particularly Cornwall. Parishes were informed and also some borough councils, e.g. Restormel, advising them about the lichens on headstones and conservation issues resulting from flattening. In 2009 the Ministry of Justice issued guidance on good practice on managing gravestones, to reduce risk of injury, avoid distressing bereaved families and to ensure the historical and environmental heritage of burial grounds.

During 2010, the International Year of Biodiversity, BLS members surveyed lichens in gardens. Ann and I drew together the results (Allen & Hilton 2011) from 45 private gardens and six public gardens. Additionally, 11 lichenologists visited Highgrove – home of the then Prince of Wales (now King Charles). South-western gardens provided the highest diversity and the Midlands came a close second. Significant factors included garden size, range of substrates and habitats. Two new records for England were found, both from Highgrove: *Caloplaca demissa* and *Epicladonia simplex* (a lichenicolous fungus, found on *Cladonia parasitica).*

Ann's contributions to knowledge and the lives of others were influenced by her formal education and also her upbringing and environment. While very young Ann read exciting tales of pioneers in Indiana and later was entranced by classics and poetry. Inquisitive about her environment and enjoying freedom to wander she identified flowers, trees and butterflies in her locality. She learned to play the snare drum, trumpet and piano competently. Ann reflected on her early life in *Rockbridge, A 1930's Childhood*, 2011 pub. Xlibris. At times she composed poetry: *Pull up the Blinds, Poems*, 2017 pub. Mirador, includes a selection written 1947 to 2016.

Ann retained her US citizenship and never lost her faith; she spoke of how experiences in her youth remained significant throughout her life. She developed many of her early interests, including her love of music, with opera and concert-going, and the natural environment. An explorer of her surroundings she recorded her observations systematically and fluently in writing and also by photography. In her darkroom, with Radio 3 in the background, she created prints – black and white as well as colour, exhibiting in North Devon, the Channel islands, London and Portugal. Ann was a gifted and effective teacher. A rare blend of scientist and artist, in her generation she has informed and enriched the lives of many.

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Robin Crump 1943 – 2023
A personal reminiscence

It was always a pleasure to meet Robin and it was always a pleasure to spend time in his company. Robin's name appears on the first page of my first lichen notebook. It was 2003 and we were both attending a Frank Dobson lichen course at Slapton Lee Field Studies Centre. I was there as a complete beginner and Robin was attending

because he had heard that this may be the last course that Frank would tutor. Robin, as Warden of the FSC Centre at Orielton in Pembrokeshire, had many years behind him of encouraging and hosting numerous lichen courses tutored by Frank and other BLS members. Since that time we maintained a regular, if all too infrequent, contact visiting each others homes and spending time together on BLS meetings. I guess there

|
Robin at Wooltack Point studying one of his shoreline fixed-point quadrats. Skomer Island is in the background. Photo © Steve Price

was a bit of "you show me lichens on your Pembrokeshire limestone and I, in the Peak District, will show you my mine".

In 2009 Robin introduced me to his 'local patch' on Stackpole Head. This included showing me the lichens *Heterodermia leucomelos* and *Teloschistes flavicans* and it was here that he pointed out what was my first sighting of *Fulgensia fulgens*. This particular specimen was not fruiting but, to no avail, I dropped to my knees to take the obligatory photograph. Whilst being encouraged to get up and look at a much more beautiful specimen, one with apothecia, I noticed some little black dots and a sample was taken. This turned out to be the lichenicolous fungus *Lichenochora epifulgens* and new record for Britain and Ireland. Thank you Robin.

On another memorable outing in Pembrokeshire I accompanied Robin to look at his shoreline fixed-point quadrats. These had been established to monitor the recovery

of the coastal rocks of the Skomer area in the aftermath of the 1996 Sea Empress oil-spill. We were dropped off from an inflatable dingy in hidden bays and at various headlands below the sea-cliffs (with a promise that the boatman would return!)

Fulgensia fulgens infected with the lichenicolous fungi *Lichenochora epifulgens* on Stackpole Head, November 2009. Photo © Steve Price

Marine biology was Robin's scientific background and he was so proud when in West Angle Bay he encouraged me into a rock-pool to show me '*his*' cushion-star: *Asterina philactica* Emson & Crump, 1979 – do look it up on the internet, it is a most attractive little beast.
Robin, it was a real pleasure to know you.

Steve Price
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Alan Orange 19th June 1955 – 5th February 2023

Alan died earlier this year, but he was an integral part of the Rockers' Workshop. The Workshop was organised to train Lichen Apprentices in montane and saxicolous lichens. Although there was a serious side to the event, it was called 'rockers' as a nod to 'Mods & Rockers', and so a dedicated T-shirt was felt to be appropriate and of course, had to be in black to add to the general camaraderie and fun of the gathering. Alan designed the distinctive front of the t-shirt: a series of spores of saxicolous lichen species likely to be encountered during the Workshop:
Ropalospora lugubris, *Staurothele areolata*, *Fuscidea cyathoides*, *Rinodina luridescens* and *Rhizocarpon badioatrum*.

The back of the T-shirt followed convention, listing the name of the event, the dates and locality of the two main venues, the names of all 23 participants – and the names of the sponsoring organisations.

In the summary write-up (Bulletin **97**, 2005), there is mention that Alan Orange worked with Alan Fryday to produce keys to genera (*Lecidea*, *Porpidia*, *Rhizocarpon* and pyrenocarpous species). Alan also brought along a mobile TLC kit and he ran TLC sessions in side room at Kintail. So, this is an acknowledgement to the memory of Alan Orange and his contribution to the Rockers' Workshop. We shall all miss a truly gifted, much loved friend and colleague.

Look on the BLS website https://britishlichensociety.org.uk/the-society/partnerships and go to the Scottish Lichen Apprenticeship Scheme – and follow through to the Rockers' Workshop. The *Bulletin* write up is available as a pdf, recounting the event, and Alan's contributions.

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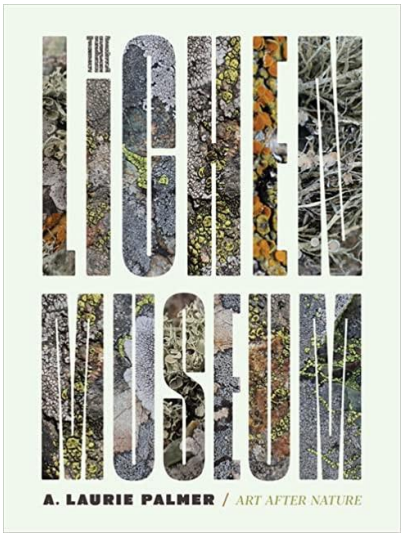
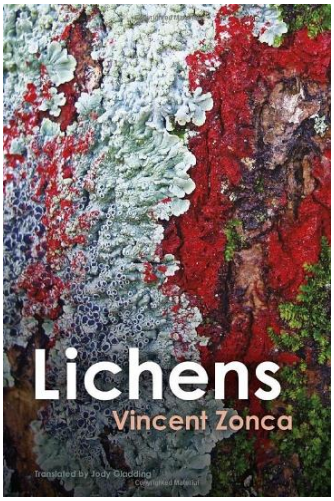
Book Reviews

"The Lichen Museum" by A. Laurie Palmer, University of Minnesota Press (ISBN paperback 978-1-5179-0866-9 hardback 978-5179-0867-6), 176 pp. B&W and colour illustrations. $24.95. Kindle £12.97, paperback £21.10 and hardback £84.09 from Amazon.





"Lichens: Toward a Minimal Resistance" by Vincent Zonca (Translated from French by Jody Gladding), Polity Press Hardback (ISBN paperback 978-1-5095-5344-0 hardback 978-1-5095-5345-7), 261pp B&W and colour illustrations. Kindle £12.34, Paperback £17.99 and hardback £50.00 from Amazon.

I am reviewing two books together because of their similarity and differences. They are books about lichens from a literary perspective. One is personal and the other is wide ranging but superficially they have very similar coverage of material and approach. I think one of the aims is to widen interest in lichens which is excellent. Both books have copious lists of notes at the end of each chapter with references and comments. They get their information about lichens from well-known lichenological

literature and well-known lichenologists. The are obviously intended as scholarly works.

The Lichen Museum is unique. Written in the first person by an artist, it is about her encounters with lichen as much as lichens themselves. Or in her own words "The Lichen Museum, as a project, aims to learn from lichens how we might become better humans". She shows us the delights of learning about lichens and sets her interest in lichens in a wider world of literature, philosophy and poetry. This book is for non-scientists and introduces the reader to the history of lichenology as well as the biology of lichens. The uses of lichens (and their uselessness) have their place too.

There are notes detailing the sources which cover the scientific literature as well as wider reading. The author has also consulted British, Irish and US lichenologists personally too. It is nice to have Alan Orange quotes after losing him earlier this year. As suggested by the title, the author sees lichens in nature like exhibits in a museum to observe rather than as an active and integral part of life around us.

After an introduction to the book and its writing, the first chapter "Watching" describes how one encounters lichens in the world. The second "More than One" introduces the symbiotic nature of lichens. The third "Lichen Time" their evolution and growth, the fourth "Place" ecology and fifth "Likeness" a comparison with other symbiotic organisms and free-living fungi; then "Refuse" their uses and the difficulty in cultivating them and lastly "Un/common Sun" with describes lichens as photosynthetic organisms. But here she digresses for pages in themes not closely related to lichens. As with all books, we have opinions about omissions and inaccuracies but, for me, I do not think these are important enough to matter to this book. The personal approach of the author, taking us on her journey discovering lichens to producing this book, makes it a work of literature too. I recommend it highly as a great read.

In contrast to *The Lichen Museum*, *Lichens: Toward a Minimal Resistance* book appears to be bonkers. It is superficially similar in that it aims to cover the human interaction with lichens and has a surprisingly large number and range of quotations, but it is from a much wider literature, literature that is probably unfamiliar to most lichenologists. Is this really what lichens mean to people? The text is filled with obscure metaphors and analogies. Allusions to poetry, art, music and literature come as a little strange to me as a scientist. It seems as if the author has done a computer search to find all the literary works that mention the word " lichen" and cut and pasted a quotation, and then arranged these references into themes. In this, this book contrasts with *The Lichen Museum* where the relevance is very clear to the story the author is telling. I am sure useful information about lichens could be gleaned by reading this book but only if one can separate it from the fanciful imagination of the author. The translation from the French feels odd in places as though it was done electronically by a computer – I wish I had the ability to read the original French text.

Turning to the actual content, Part 1 "First Contacts" has sections "Origins", Winters", "Weeds", "A Scientific Challenge: Remaining or Raising in the Ranks", "Customs and Beliefs" and "Lichen Erotics". Part 2 "To Describe, Name and Represent" includes "A Challenge to Representation", Music – Mushroom" and "The

Far East, Moses and *Wabi-Sabi*". Do I need to itemise the other 2 parts! Buy the book and see. But I should say that in Part 4 he writes a more scientific and comprehensible account of the lichen symbiosis which lies in contrast to many other sections of the book. Here he gives a brief and limited account of the lichen symbiosis, and other symbioses, taken from historic and modern literature which is a foundation to the rest of the book like a runway from which his literary and philosophical imagination can take flight. The ideas he gleaned about individuality and co-existence are fully explored. Using literary quotations myself, I quote, tongue in cheek, from Alexander Pope's Essay on Criticism (much of it written when Pope was 18 years old!):

A little learning is a dangerous thing;
Drink deep, or taste not the Pierian spring:
There shallow draughts intoxicate the brain,
And drinking largely sobers us again.
Fired at first sight with what the Muse imparts,
In fearless youth we tempt the heights of Arts;
While from the bounded level of our mind
Short views we take, nor see the lengths behind,
But, more advanced, behold with strange surprise
New distant scenes of endless science rise!

These books are not for people wanting to learn about lichens but what they do do is to offer an awareness of lichens to readers who may not have noticed them and unaware about their amazing nature. But then do not read these books as if they are about lichenology. Instead, recommend them as books for non-lichenologists to emphasise how important an interest in lichens can be to a better understanding of the world, including perhaps politics, art and literature?

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Publications

How to purchase an item:

1) **Email Eluned** at ehsbiol@gmail.com to inform her of what you wish to buy and the address for delivery. You should receive a confirmatory email.
2) **Payment**
There are two options:

Bank transfer to British Lichen Society, sort code 40-52-40, account no. 00012363 (Label your payment 'pub purchase')

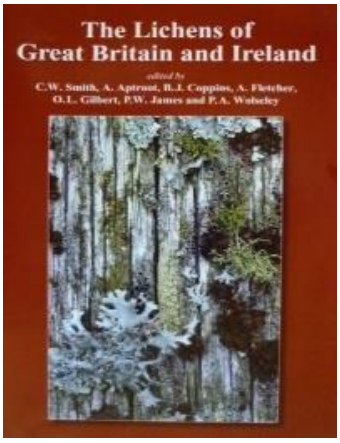
By cheque, payable to 'British Lichen Society' (not 'BLS'), sending it to E.H. Smith BLS, Tutnall House, Claines Lane, Worcester, WR3 7RN

There was a price increase by the Royal Mail in April and most postage costs have risen slightly. Please email Eluned for P&P costs as many orders have multiple books, weigh and therefore cost differently, so one price does not fit all. P&P will be kept as low as possible.

Cat.1. The Lichens of Great Britain & Ireland. Ed. Smith et al. (2009). Hardback, 700pp. **Out of Print**

The third edition of this core reference work is being issued in parts as freely available downloads on the BLS website. Thirty parts have now been produced.

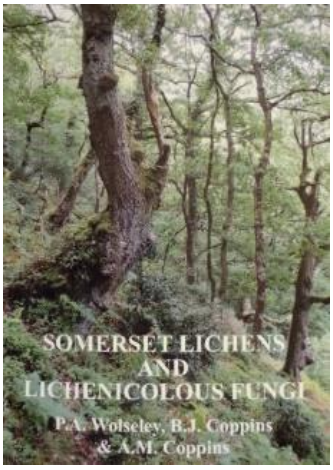
See https://britishlichensociety.org.uk/identification/lgbi3



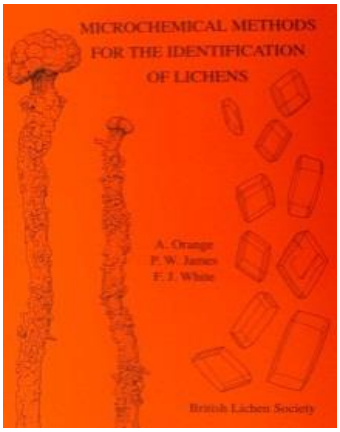
Cat.2. Somerset Lichens and Lichenicolous Fungi
by P.A. Wolseley, B.J. Coppins and A.M. Coppins

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.



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.

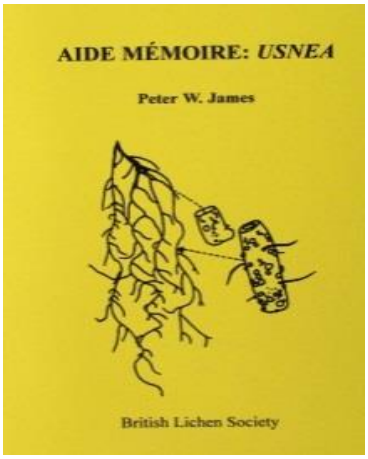
Available as a downloadable pdf :

https://britishlichensociety.org.uk/the-society/bls-publications/bls-books

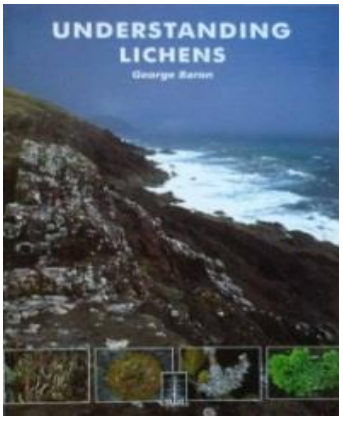
Cat.13. Usnea 'Aide Memoire' by P.W. James

A5 booklet with drawings and many useful tips for identifying the British species of this difficult genus.

£1.00. Postage & Packing £1.50 UK.



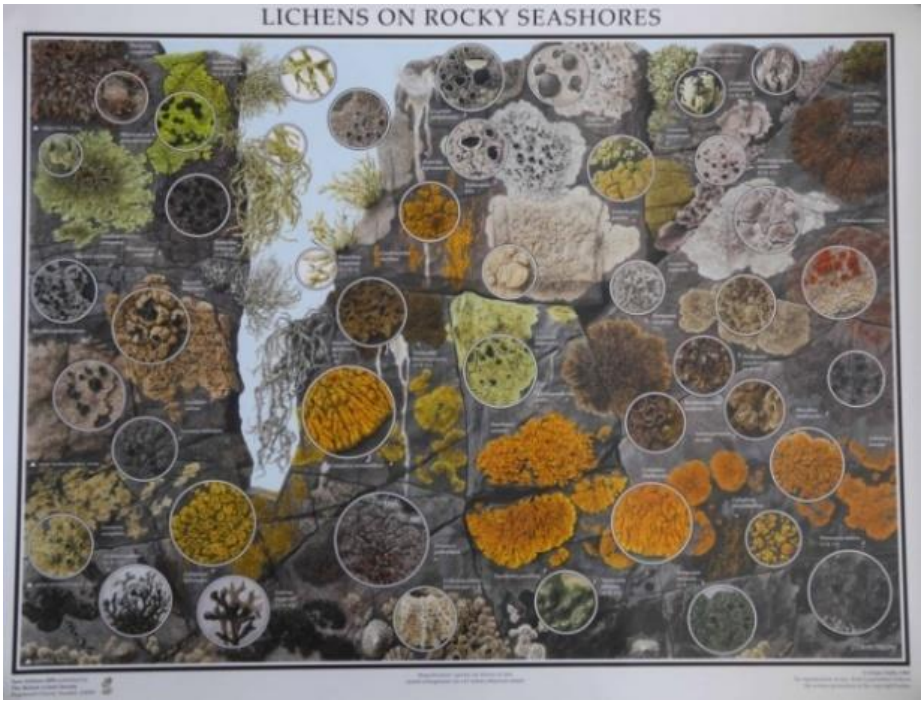
Cat.15. 'Understanding Lichens' by George Baron (1999). Paperback, 92pp.
£1.50 P&P £1.50.



An excellent introduction to lichenology, from the basic biology of lichens to their environmental importance as well as the history of the science.

(This book is sent out free to new BLS members in their welcome pack from the RSB.)

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.
Price £2.50 each, P&P (for up to 8 posters) £7.50 UK.
Up to 6 posters can be rolled into a strong cardboard tube costing £1.20. Postage varies according to weight of tube, starting from £4.50.

Cat.25. Greetings Cards/Notelets by Claire Dalby

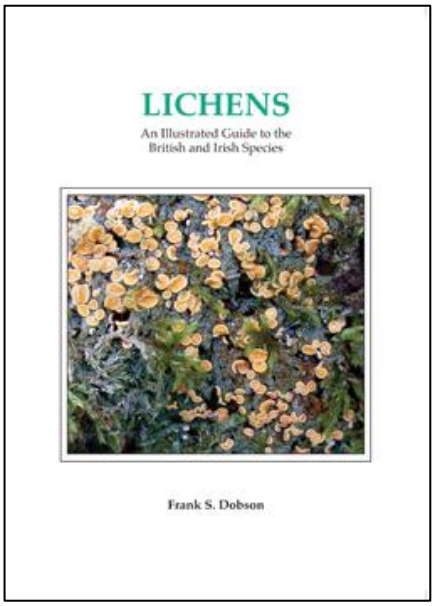
A set of five cards with envelopes, featuring five exquisite pen and ink illustrations of British lichens.

£2.50 per set. Postage & Packing £2.00 UK.

Cat 28. BLS Metal Pin Badge

£1 each or 5 for £3.00. P&P £1.50

Cat.31 Lichens – An Illustrated Guide to the British and Irish Species 7th Edition (reprint 2023)

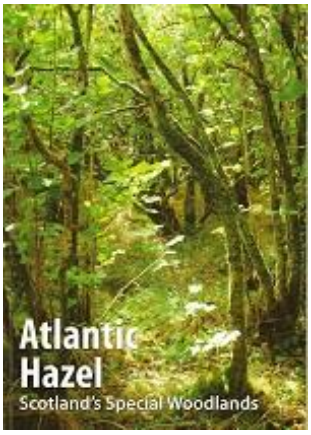


The new edition of this popular book provides an

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.
Price £30, Members only price £25. P&P £3.50 in the UK.

Cat. 32 – Atlantic Hazel - Scotland's Special Woodlands
Sandy and Brian Coppins (2012) 108pp.
Atlantic Hazel - out of stock



What is 'Atlantic hazel'? It is hazel that occurs in the oceanic areas of the western British Isles. But, it is more than that. Hazel occurs widely all down the west side of Britain and Ireland, but only in a very few places does it achieve particular characteristics that mark it out as a distinctive habitat of high biodiversity value. You know when you step into an Atlantic hazelwood in Argyll, that this is somehow 'different'; you are struck by the greenness, the lushness, the strangeness of a dwarf wood. This is part of the 'Celtic rainforest'. This book unashamedly promotes lichens, and really the whole story

of the ‘discovery’ of the Atlantic hazel woods is the discovery of its special lichen flora.

Price: £5.00, Postage & Packing £4.50 UK

Cat. 35. Fungi of Northern Cyprus £2.00 P&P – on application.

Cat. 36. *Synopsis Methodica Lichenum* by Acharius £1.00 plus P&P

Cat. 37. *Lichenographia Britannica* by Turner and Borrer (1839) This English language facsimile hardback edition has an introduction by Hawksworth and Seaward, written in 1978. £2.00 plus P&P.

Publication of the Winter 2023 Bulletin

Copy for the Winter 2023 Bulletin should reach the editor (contact details on the inside front cover) by 1st October 2023

BRITISH LICHEN SOCIETY - 2023 MEMBERSHIP DETAILS

Applications for membership should be made through the Society's website where information about membership and a secure 'mySociety' portal is provided: *http://www.britishlichensociety.org.uk/join-and-renew.* **Queries on membership matters** including applications not using the internet should be made via the BLS membership administration (details at the bottom of this page). **Changes of postal address and email** can be updated in your personal online account or be sent to the membership administration.

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Bulletin only subscriptions. Rate for 2023: **£30 / $50**
The Lichenologist only subscriptions are available to institutions via Cambridge University Press.

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