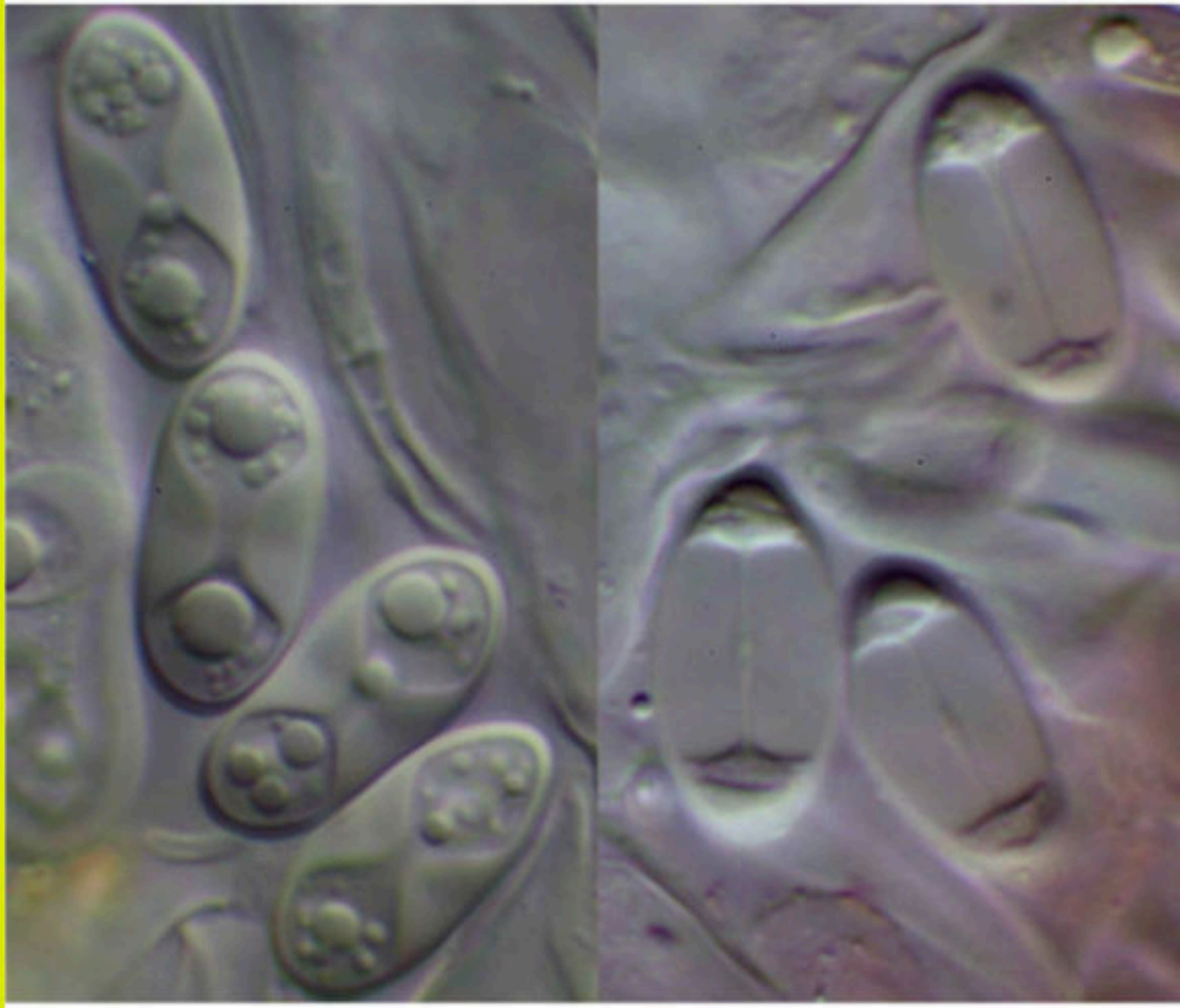
British Lichen Society *Bulletin* no. 120 Summer 2017

British Lichen Society *Bulletin*



no. 120: Summer 2017

British Lichen Society Bulletin no. 120

Summer 2017

Welcome to the Summer 2017 Bulletin. As always, thank-you to everyone that has contributed articles – I'm sure you'll agree that this is another interesting and broad-ranging issue. And a special thank-you goes to my two new Assistant Editors, Maxine Putnam and Tony Holwill. They put together part of this issue, and if all goes well, the plan is that they will take over the reins for the next couple of years. Their help is massively appreciated.

There is a short article towards the end of this *Bulletin*, and its brevity masks what has been a very substantial achievement already in 2017. As many of you will know, the National Biodiversity Network (NBN) Gateway morphed into the NBN Atlas in April 2017, involving a very substantial software upgrade. As part of this process, the backlog of BLS records in the queue to be incorporated has now been almost eliminated due to sterling efforts by Janet Simkin and Brian Coppins, and there are now over 1.5 million BLS lichen records accessible through the NBN website. Congratulations to them, and also to all who contributed records to the BLS database.

The *Lichens of Great Britain and Ireland* was published by the Society in 2009, and the last stocks of the book have now been exhausted. We are planning a further reprint in the summer. However, there have been considerable advances in our understanding of lichen systematics in the past ten years and the names used in LGBI are increasingly out of sync. Council is therefore considering how best to set up a project for a new edition of the book. This is not a trivial undertaking, and it is likely to be four or five years before a new volume sees the light of day. We will need lots of help from a broad range of lichenologists, contributing genus accounts, proof-reading, testing keys etc. Expect to hear more about this in the next few months.

Lots of other things are happening in the lichen world. Members of the Conservation Committee have been busy revising guidelines for recognition of lichens in SSSI designations. A small group led by Les Knight is currently exploring the potential of using the filter functions of Excel spreadsheets to generate multi-access keys for lichens. Mark Powell is working with Frank Dobson on a seventh edition of his *Lichens* field guide. Frank says it will be the last, but he's said that before…

Finally, back to the Summer issue. This time there is a focus on field meetings, with reports from Sleat (Skye) and the North York Moors. Also, two strongly contrasting accounts, of lichens from an inner London cemetery and an island off the coast of SW Ireland. A new red-listing initiative for lichens from the Iberian peninsula is welcomed – it's great that the BLS has such an important profile outside of our own islands, that such articles are contributed. And don't miss the *Usnea* moustaches…

Front cover: Does it matter what mounting medium you use for microscopy? These images are of ascospores from the same apothecium of *Caloplaca cerina* – the left-hand ones in water and the right-hand ones in KOH. The take-home message is: when you're writing about lichens, tell us how you make the slides!

I will arise and go now, and go to ….. Sherkin Island!!

How did two amateur lowland churchyard lichenologists (Ken Sandell and Ishpi Blatchley) and a marine biologist (Chris Spurrier) come to be watching a video of Thai primary school children singing a song in praise of Skibbereen's double skulls silver medalists in the company of the owner/director of Sherkin Island Marine Station? The trip to the SW corner of Ireland was the brainchild of Chris who had visited the Island many times in his youth to work at the Marine Station for the season. Recently he had returned, noticed that the lichens of Sherkin were relatively unrecorded and enlisted the aid of Ishpi who he knows through their local Field Club. Ken was recruited to help and the three of us landed on Sherkin on a beautiful summer day in August 2016. Our intention was to survey as many of the habitats on the island as possible in the six days available and to relocate the six Red Data Book species which had been recorded from the island over the years. We had limited success in this second aim.

We were based at the Marine Station which has an extensive library and laboratory facilities. We were kept well fed and entertained by Matt Murphy, the owner of the Marine Station. Although close to the prime coastal lichen sites, the Marine Station is a 2 km walk from the two pubs!

Our home for the week – the kitchen/dining room and bunk house. ©C. Spurrier.

We had brilliant weather throughout our stay so were able to take full advantage of the long days; the island is small enough to be able to walk everywhere although the road home at the end of a day lichening seemed very long!

Sherkin is a small island (one of several in Roaringwater Bay), a ten-minute ferry crossing from Baltimore, Co Cork. The island is about 4 km long and 1.5 km wide. The backbone of the island is a ridge orientated NE to SW rising to just over 100 m; this ridge can be seen to continue on Clear Island to the south. The land falls precipitously to the sea to the S and SW but to the NW the gradient is gently sloping with farmland, lower cliffs and several sandy bays. The lower ground forms two chunky arms enclosing Kinish Bay, giving the island the appearance of an adjustable spanner. The underlying and exposed rocks are of Old Red Sandstone formation, grey, fine- to medium-grained in texture with some slatey areas and quartz intrusions in places. As the geology is all acid the vegetation is predominantly heathy in the uncultivated parts and pasture with dry-stone walls on the lower ground. There is little woodland – occasional small pine plantations, some mature sycamore and wayside ash in the more settled and sheltered areas at the centre of the island, and some elm and scrub; there are few hedges as such - the roadsides being a riot of colour with fuchsia and montbretia which seemed to glow in the sunshine.

Diary

Names follow those in Smith, C.W., Aptroot, A., Coppins, B.J., Fletcher, A., Gilbert, O.L., James, P.W. and Wolseley P.A. (Eds). (2009). *The Lichens of Great Britain and Ireland*, 2009. British Lichen Society.

August 24

We arrived on the late afternoon ferry and were met by Matt Murphy and one of his sons (Robbie) and driven to the Marine Station. Matt led us on a conducted tour of the various buildings: a very impressive library, laboratories and the living quarters plus kitchen/dining room. We were made extremely welcome with a fridge full of perishables and boxes of necessities for our stay.

We wandered down to the sea shore – Drolain Point, and realising how confused we were with the various marine *Caloplacas* we returned to base to study the books! Matt entertained us to a typical Irish tea of boiled ham, cabbage and potatoes with liberal helpings of parsley sauce, red wine and finished off with apple pie, after which we returned to our bunkhouse for a good night's rest.

August 25

We woke to a glorious morning and after a good breakfast we returned to Drolain Point. In typical lichenologist's style, the dry-stone wall en-route to the seashore attracted our attention. We spent some time refreshing our knowledge of acid rock communities including good populations of *Caloplaca crenularia*, *Rhizocarpon richardii*, *Pertusaria pseudocorallina* being very common. Eventually we got to the sea shore (the grey zone) at Drolain and *Caloplaca marina* and *C. thallincola* were found. After much discussion *C. microthallina* was also positively identified. On mentioning that we should look out for *Lecanora zosterae* on old thrift stems, Chris decided to make this his task

and managed to find a very nice little *Gyalecta* which later turned out to be *G. biformis* – new to Ireland!! *Lecanora zosterae* was found on another thrift stem and other lichens more typical of marine habitats were also found – *Anaptychia runcinata*, *Lecidella asema*, *Caloplaca ceracea* and *C. crenularia*, *Rhizocarpon richardii*, *Lecanora fugiens*, *Lichina confinis* and *L. pygmaea*. A closer look at the rock outcrops here provided a list of typical acid-loving species: *Pertusaria pseudocorallina*, *Lecanora rupicola*, *Lecanora gangaleoides*, *Ochrolechia parella* – as well as the extremely common *Ramalina siliquosa*; interspersed with this was *R. cuspidata* with its black pycnidia. *Parmotrema perlatum* and *P. crinitum* were found on a south facing ridge with *Peltigera membranacea* and *Placynthiella oligotropha* on the ground. Going over the ridge we were excited to find a good population of *Heterodermia leucomela* amongst moss and grass overgrowing a vertical rock outcrop facing north.

Heterodermia leucomela. ©Robbie Murphy.

Trees are not very common on Sherkin Island but a young elm thicket close to our bunk house supported *Opegrapha atra*, *Caloplaca cerina*, *Pyrenula chlorospila* and the ubiquitous *Lecidella elaeochroma*.

After lunch we walked up the road from the Marine Station towards the junction known as The Cross. The stone walls were well covered with the usual common acid-loving species including *Buellia aethalea* and *B. ocellata*, and *Fuscidea cyathoides* but excitement was generated by excellent fertile material of *Opegrapha gyrocarpa*. Lignum of fence posts provided another habitat – *Lecania cyrtella*, *L. naegelii* and *Lecanora symmicta* were added and extremely fertile *Diploicia canescens* made a good

photographic opportunity. *Collema* and *Leptogium* species were collected from the wall top near the 'pop-up' café. As inveterate lowland churchyard people we couldn't resist a concrete farm gatepost with many familiar species – *Caloplaca flavescens*, *Lecanora albescens*, *L. campestris* and *Verrucaria macrostoma* f. *macrostoma*!!!

A row of sycamore trees on a green lane kept us busy for a while. Here *Pyrenula chlorospila* and *P. macrospora*, *Enterographa crassa* and *E. hutchinsiae*, *Graphina anguina*, *Phaeographis smithii*, *Normandina pulchella*, *Arthonia cinnabarina*, and *Physcia aipolia* were recorded. These were the most mature and well covered trees on the island. A further similar group near The Cross failed to add any additional species.

Chris's birthday was celebrated with a meal at the Islander's Rest. Walking back to the Marine Station in the dark was a wonderful experience. With no light pollution the myriad of stars looked as if you could just reach up and pluck them from the sky. The light from the Fastnet Lighthouse 20 km to the south flashed across the sky.

August 26

Another glorious day so it was decided to go to the highest point on the island, Slievemore, and to look for the RDB species *Teloschistes flavicans* recorded by Pat McCarthy in 1975 and Akeroyd *et al*. in 1986 (Sherkin Marine Station herbarium specimen). On the way, fence posts added *Lecanora saligna* and *Lecidella elaeochroma* as a lignicolous species, *Collema tenax* on a path, *Caloplaca crenulatella* on concrete and *Physcia adscendens* on a letterbox. We passed St Mona's church but disappointingly it was whitewashed and the churchyard was bare of memorials.

View from the southern end of Slievemore looking northwards towards Baltimore on the mainland. ©C. Spurrier.

At the end of the road we headed for the summit of Slievemore. Knee-deep in bell heather and Western gorse, and with areas dominated by purple moor grass the ascent and subsequent descent were very hard going. A seepage area yielded an *Ephebe* on a wet rock face which turned out to be *E. hispidula,* a new hectad (W02) and vice county (H3) record, together with an interesting pinkish lichen which was *Ionaspis lacustris*. A poorly vegetated area towards the summit had a selection of *Cladonia* species – including *C. portentosa*, *C. furcata*, *C. uncialis* ssp. *biuncialis*, *C. cervicornis* ssp. *cervicornis*, *C. cervicornis* ssp. *verticillata* all of which were fairly common. The rock outcrops had the usual range of species. *Flavoparmelia caperata* and *Parmotrema perlatum* were both extremely common while *Parmelia saxatilis* was less so. *Hypogymnia physodes* occurred on heather stems. *Cetraria aculeata* was uncommon as were *Baeomyces rufus*, *Sphaerophorus fragilis* and *Usnea* sp. In one area *Pycnothelia papillare* was dominant over several square metres, the only site on the island that it was found. Found here but otherwise surprisingly rare on the island were *Porpidia tuberculosa*, *Micaria lignaria*, *Lecidea grisella* and *Trapeliopsis glebulosa*. These last two species were found in a recently burnt area. We realised that this was not typical habitat for *Teloschistes flavicans* and eventually we headed for home disappointed at not re-finding that species.

August 27

Lichen community on the cliffs near The Dock including *Dermatocarpon miniatum*. ©C. Spurrier

Having missed the *Teloschistes* on Slievemore we headed for Horseshoe Harbour where there was another record for *T. flavicans* on a 'rock outcrop by farm'. On the way, the 'new wall' adjacent to Kinish Bay was looked at. With a high percentage of mortar in

the matrix, many calcicolous species were found here – *Caloplaca arcis*, *C. oasis*, *C. flavescens*, *Aspicilia calcarea*, *Lecania inundata*, *Placynthium nigrum*, and *Protoblastenia rupestris*. Arriving at the road down to Horseshoe Harbour we noticed that a rock outcrop opposite a farm had been completely demolished for a new farm building. Disappointed, we went on to look at the rock outcrops above the harbour. The usual suite of lichens was here but also some interesting differences. *Rhizocarpon geographicum* was more common here together with three *Xanthoparmelia* species – *X. conspersa*, *X. delisei* and *X. verruculifera*. *Rinodina atrocinerea* was present on a low-lying rock outcrop and *N. pulchella* was noted growing over moss on another rock outcrop. Despite searching, no *T. flavicans* was found. Leaving the harbour and walking north towards The Dock, an abandoned house added more lime-loving species. Vast amounts of *Toninia aromatica*, *Verrucaria macrostoma* and *Opegrapha calcarea* were noted while a roadside willow yielded *Ramalina lacera*.

The seashore near The Dock (the northernmost part of the Island) added *Dermatocarpon miniatum*, *Collemopsidium foveolatum* on barnacles, *Trapeliopsis pseudogranulosa* and the marine *Verrucaria – V. maura* while *Lichina confinis*, *R. siliquosa* and *R. cuspidata* were also present.

Light was going as we walked back towards the Marine Station calling in at the Jolly Roger pub to avoid the rain – our only soaking during the week.

August 28

Rock outcrops at the southern tip of Slievemore where *Telochistes flavicans* and *Heterodermia leucomela* were found. Looking south over Badger Island to Clear Island beyond. ©C. Spurrier

After consulting Matt and Robbie about access to the southernmost tip of Slievemore we made another attempt to re-find *T. flavicans*, but this time we got a lift to the southern end of the island. Our ascent over cow-grazed grassland boded much better for the success of our mission. We crossed a small stream where a flat stone was found with an as yet undescribed *Verrucaria* sp. and after a steady climb, Ken's call of 'come this way – you won't be disappointed' led us around a headland opposite Badger Island and there was a plentiful supply of *T. flavicans* on rock outcrops facing east.

A nearby outcrop facing north had abundant *X. parietina* but the *Teloschistes* seemed to prefer a slightly more sheltered position low down and was present on several rock outcrops half buried in the grassland. Associated with the *T. flavicans* were *A. runcinata*, *F. caperata*, *Parmotrema perlatum* and *P. reticulatum*, *Ramalina siliquosa* and *R. cuspidata* whilst on a nearby rock another population of *Heterodermia leucomela* was found together with *Collema furfuraceum*.

Collema furfuracea. ©C. Spurrier

It was interesting that rocks supporting *X. parietina* did not support *T. flavicans*. Buoyed up with finding such a healthy population of the *Teloschistes* we continued southwards descending on a grassy slope towards Reenabulliga Point with Poulacurra Bay on our left. More delights were in store. As the terrain became more rocky, *Ramalina subfarinacea* was common on a horizontal rock surface looking like a somewhat shaggy carpet, *Xanthoria aureola*, *D. miniatum*, *Solenopsora vulturiensis* and *S. holophaea* were found. On the rock outcrops overlooking Poulacurra Bay were several populations of *Degelia ligulata* (probably this is the species recorded as *D. atlantica* in 1975 as the split of *D. ligulata* from *D. atlantica* occurred post 1975).

Degelia ligulata. ©I. Blatchley

Plenty of *R. geographicum* was found at this southern part of the island and amongst the *Cladonia* species seen here was *C. foliacea*. Also found was *Vahliella leucophaea* and a lovely pyrenocarp with prominent fruits liberally dusted with quite coarse pruina. This is an as yet undescribed *Verrucaria/Hydropunctaria* species and it has been sent to Alan Orange for identification. After a very satisfactory day, we returned to base for a second Irish meal with Matt.

August 29

This was our last full day together. We needed to follow up two records from the Marine Station's monthly data set recorded from the rocky shore transects at Kinish Bay. Our route took us past the Islander's Rest where ash and sycamore trees provided a few extra records including *Pertusaria leioplaca*, *P. hymenea* and *Leptogium pulvinatum* on a wall top near the Jolly Roger pub. A pine plantation provided sheets of *Dimerella lutea* on one tree while *Opegrapha vulgata* was common on many trees; *N. pulchella* and *Fuscidea lightfootii* were also present together with an unidentified *Buellia* sp. Following the road towards Kinish Bay, the stone walls had the usual suite of species. *Cladonia pyxidata* was covering a low wall and *Collema cristatum* was found on the top of a breeze block wall.

The trees and shrubs within a garden yielded *Usnea esperantiana*, reported by Paul Whelan in Lichens of Ireland (2011) as being particularly fond of gardens! There were other early colonising nitrophilous species such as *Physcia tenella*.

We returned across a deserted island to the Marine Station as the whole population had decamped to Skibbereen to join the hordes welcoming home the Donovan brothers: Ireland's only silver medalists at the 2016 Olympic Games. Having failed to find the transect on the east side of Kinish Bay we made our way to the west side where we did find one of the long standing rocky shore transects. In the late 1990s *Ochrolechia frigida* (1995/1997) and *Ophioparma ventosa* (1999) had been recorded here. Although the position of the transect was found (marked by metal pegs) a thorough search of the area did not reveal either lichen.

August 30

The last day – this was shortened by the need to pack up and leave for other destinations. Having taken Ken to catch the early morning ferry to Baltimore, Ishpi and Chris returned to the Abbey. Although the Abbey is in ruins, the exterior walls are basically intact and there is a graveyard enclosed within. Forty-five species were recorded some of which had not been encountered on previous days; new species included *Collema fuscovirens*, *Lecanora crenulata* and *Lepraria lobificans*.

The Castle near The Islander's Rest is in a worse state of repair than the Abbey and only a small amount is accessible for survey. No new species were found, the walls being dominated by *Diploicia canescens* much of it fertile.

Having returned to the Marine Station to sort out samples, Ishpi left on a late afternoon ferry, while Chris remained on the island for another two days sorting out herbarium specimens and looking up previous lichen records.

We extend grateful thanks to Matt Murphy for his unstinting hospitality including our accommodation, food and laboratory facilities; and to other members of the Murphy family for help with finding lichen records at the Marine Station, transport, photography and general bonhomie. We also thank Steve Chambers, Brian Coppins, John Douglass, Vince Giavarini, Alan Orange, Mark Powell, Holger Thüs and Rebecca Yahr for help with lichen identification. Mark Seaward, Howard Fox, Mike Wyse-Jackson (National Parks and Wildlife Service) and Damian McFerran (LichenIreland) are thanked for their help and the use of their datasets.

A fuller account of the Lichens of Sherkin Island will shortly be available on the Sherkin Island Marine Station's website *www.sherkinmarine.ie*.

Brief site descriptions

Site 1 Drolain Point W005257 The area west of the Marine Station with rocky shores, rock outcrops, dry-stone walls, grassy banks and a small area of scrubby elms. (24/8 and 25/8).

Site 2 The road from the Marine Station W007258 to the Cross W016252 with dry-stone walls, mortared walls, wooden fence posts and concrete gateposts. Some walls had broad mossy and soily tops. (25/8).

Site 3 An avenue of sycamore trees bordering a grassy driveway W016252. (25/8).

Site 4 Slievemore centroid grid reference W008238 The highest point of the island rising to about 100 m. Mixed heathy vegetation (*Erica*, *Calluna*, *Molinia*), lush in places but sparse in others. Rocky outcrops in higher areas. (26/8).

Site 5 The 'New Wall' W021252. A mortared retaining wall between the road and an arm of Kinish Bay. (27/8).

Site 6 Horseshoe Harbour W027255. An area of grassland with boulders and low rock outcrops to the north of Horseshoe Harbour. Hedges bordering the road and grassland. (27/8).

Site 7 The Abandoned House W026261. A substantial boarded-up house in good repair with adjacent roadside walls. (27/8).

Site 8 Near The Dock W023273. A sheltered rocky foreshore with low grassy cliffs at the most northerly point of the island. (27/8).

Site 9 Poulacurra/Teloschistes site W002233. An exposed heathy headland opposite Badger Island with low rocky outcrops. (28/8).

Site 10 Poulacurra/Reenabulliga W003232. A sloping area of grassland facing SE with low rocky outcrops with seepage areas, leading to a stepped rocky cliff (grey zone only examined). (28/8).

Site 11 North-east area of the island. W023260: a small pine plantation; W021262: a breeze-block and stone wall of a farmyard; W026260: walls and banks near the Jolly Roger pub; W026259: walls and trees near Islander's Rest Hotel. (29/8).

Site 12 Roadside gardens and damp woodland. W023254: gardens with ornamental trees; W019250: damp woodland of elms with mossy trunks. (29/8).

Site 13 The Abbey and Castle. W027257: ruined Abbey walls with memorials in graveyard within the ruins; W027260: walls of ruined Castle. (30/8).

Ken Sandell, Ishpi Blatchley and Chris Spurrier
email: ishpi.blatchley@gmail.com

Taxon	**Site**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
Acarospora fuscata		•										•		•
Acarospora impressula *		•												
Acrocordia gemmata				•									•	
Acrocordia salweyi *			•											
Agonimia tristicula *														•
Amandinea punctata									•					
Anaptychia runcinata		•			•		•		•	•	•			
Anisomeridium polypori *				•								•	•	
Arthonia cinnabarina				•										
Arthonia radiata		•		•			•					•	•	
Arthopyrenia punctiformis													•	
Aspicilia caesiocinerea							•							
Aspicilia calcarea *						•		•						•
Bacidia arceutina *			•											
Bacidia laurocerasi				•										
Baeomyces rufus					•					•	•			
Belonia nidarosiensis *														•
Bilimbia sabuletorum			•											•
Botryolepraria lesdainii *								•						•
Buellia aethalea		•	•		•		•		•	•	•	•		•
Buellia griseovirens			•											
Buellia ocellata		•										•		
Buellia stellulata		•												
Buellia sp.												•		
Caloplaca arcis * #						•		•						•
Caloplaca ceracea		•			•	•	•		•					
Caloplaca cerina var. *cerina* *		•										•	•	
Caloplaca citrina s. lat.		•	•			•		•				•		•
Caloplaca crenularia		•	•		•		•			•	•			•
Caloplaca crenulatella					•									
Caloplaca flavescens		•	•			•		•						•
Caloplaca holocarpa s.str. * #		•					•			•				•
Caloplaca marina		•							•		•			
Caloplaca microthallina		•												
Caloplaca oasis *			•			•		•				•		•
Caloplaca thallincola		•							•		•			
Caloplaca verruculifera											•			
Candelariella vitellina forma *vitellina*		•	•		•		•		•	•	•	•		•

Taxon / Site	1	2	3	4	5	6	7	8	9	10	11	12	13
Catillaria chalybeia var. *chalybeia*	•			•						•			•
Catillaria lenticularis	•						•						•
Cetraria aculeata				•									
Cladonia cervicornis subsp. *cervicornis*				•					•	•			
Cladonia cervicornis subsp. *verticillata*				•									
Cladonia chlorophaea s. lat.						•							•
Cladonia ciliata var. *tenuis*								•	•				
Cladonia coccifera s. lat.				•									
Cladonia floerkeana				•									
Cladonia foliacea										•			
Cladonia furcata subsp. *furcata*	•			•		•			•	•			
Cladonia portentosa				•		•							
Cladonia pyxidata											•		
Cladonia ramulosa *				•									
Cladonia rangiformis	•			•									
Cladonia squamosa s. lat.									•				
Cladonia squamosa var. *squamosa*													•
Cladonia subcervicornis									•				
Cladonia uncialis subsp. *biuncialis*				•									
Cliostomum griffithii					•							•	
Collema crispum var. *crispum*		•									•		
Collema cristatum var. *cristatum*		•										•	•
Collema furfuraceum									•	•			
Collema fuscovirens *													•
Collema tenax var. *ceranoides*		•		•									
Collema tenax var. *tenax*				•	•						•		
Collemopsidium foveolatum								•					
Degelia ligulata * RDB										•			
Dermatocarpon miniatum								•		•			
Dimerella lutea											•		
Diploicia canescens		•									•		•
Enterographa crassa			•									•	
Enterographa hutchinsiae *			•										
Ephebe hispidula * #				•									
Evernia prunastri		•	•									•	
Flavoparmelia caperata	•			•		•			•	•	•	•	
Fuscidea cyathoides var. *cyathoides*	•	•		•		•			•	•			
Fuscidea lightfootii *											•		

Taxon	Site	1	2	3	4	5	6	7	8	9	10	11	12	13
Graphina anguina				•									•	
Graphis scripta				•									•	
Gyalecta biformis * # $		•												
Heterodermia leucomela RDB		•								•				
Hypogymnia physodes					•									
Hypotrachyna revoluta s.lat.					•									
Ionaspis lacustris *					•									
Lecania cyrtella *		•	•											
Lecania inundata * #						•								
Lecania naegelii		•	•		•									
Lecanora actophila											•			
Lecanora albescens			•			•		•				•		•
Lecanora argentata * #												•		
Lecanora campestris subsp. *campestris*		•	•			•		•						•
Lecanora chlarotera			•	•								•	•	
Lecanora confusa			•										•	
Lecanora crenulata * #														•
Lecanora dispersa		•	•			•		•						•
Lecanora expallens *			•	•	•							•	•	
Lecanora fugiens		•									•			
Lecanora gangaleoides		•			•		•			•	•			
Lecanora hagenii		•												
Lecanora helicopis									•		•			
Lecanora intricata										•				
Lecanora polytropa		•			•		•			•				•
Lecanora rupicola var. *rupicola*		•	•				•			•				•
Lecanora saligna * #					•									
Lecanora sulphurea											•			
Lecanora symmicta			•		•					•				
Lecanora zosterae *		•									•			
Lecidea grisella							•							
Lecidella asema		•									•			
Lecidella carpathica * #			•											
Lecidella elaeochroma forma *elaeochroma*		•	•	•			•		•			•	•	
Lecidella scabra		•	•		•	•	•			•		•		•
Lecidella stigmatea *			•			•		•				•		•
Lepraria incana s. lat.									•			•		•
Lepraria lobificans														•

Taxon	Site	1	2	3	4	5	6	7	8	9	10	11	12	13
Leptogium lichenoides												•	•	
*Leptogium pulvinatum**			•									•		
Lichina confinis									•		•			
Lichina pygmaea		•												
Melanelixia fuliginosa		•					•							
Melanelixia subaurifera				•									•	
Micarea lignaria var. *lignaria* *					•						•			
Normandina pulchella				•			•		•			•	•	
Ochrolechia androgyna					•					•				
Ochrolechia parella		•	•		•	•	•			•	•	•		•
Opegrapha atra		•		•								•	•	
Opegrapha calcarea		•			•						•			•
Opegrapha gyrocarpa			•							•				
Opegrapha lithyrga *					•									
Opegrapha vulgata				•								•		
Parmelia omphalodes					•					•				
Parmelia saxatilis		•	•		•					•	•			
Parmelia sulcata		•	•										•	
Parmotrema crinitum		•			•					•				•
Parmotrema perlatum		•	•	•	•		•		•	•	•	•	•	•
Parmotrema reticulatum										•				
Peltigera membranacea		•					•							
Pertusaria albescens var. *corallina* *					•					•	•			
Pertusaria amara forma *amara*				•						•				
Pertusaria corallina					•									
Pertusaria flavicans					•						•			•
Pertusaria hymenea												•	•	
Pertusaria leioplaca *				•										
Pertusaria pertusa												•	•	
Pertusaria pseudocorallina		•	•		•		•			•	•	•		•
Phaeographis smithii				•									•	
Phaeophyscia orbicularis						•								
Physcia adscendens		•												
Physcia aipolia *				•								•	•	
Physcia caesia						•								
Physcia leptalea				•								•	•	
Physcia tenella												•	•	
Placopyrenium fuscellum			•											

Taxon	**Site**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
Placynthiella oligotropha * #		•												
Placynthium nigrum *						•								
Polysporina simplex *													•	
Porpidia cinereoatra *		•	•											
Porpidia crustulata		•											•	
Porpidia macrocarpa forma *macrocarpa*					•									
Porpidia tuberculosa					•									
Protoblastenia rupestris		•				•		•						•
Pycnothelia papillaria					•									
Pyrenula chlorospila		•		•									•	
Pyrenula macrospora		•		•								•	•	
Ramalina canariensis			•											
Ramalina cuspidata		•							•		•			
Ramalina farinacea				•								•	•	
Ramalina fastigiata				•									•	
Ramalina lacera									•			•		
Ramalina siliquosa		•	•		•		•		•	•	•		•	•
Ramalina subfarinacea										•				
Rhizocarpon geographicum					•		•							•
Rhizocarpon reductum		•	•		•		•		•	•	•		•	•
Rhizocarpon richardii		•			•		•				•			
Rinodina atrocinerea							•							
Scoliciosporum chlorococcum *		•												
Solenopsora holophaea											•			
Solenopsora vulturiensis		•									•			•
Sphaerophorus fragilis					•									
Teloschistes flavicans RDB										•				
Tephromela atra var. *atra*		•	•		•		•		•	•	•	•	•	•
Toninia aromatica		•						•						•
Trapelia glebulosa					•									
Trapelia placodioides *												•		
Trapeliopsis pseudogranulosa *							•		•					
Usnea esperantiana *													•	
Usnea flammea *					•									
Usnea florida													•	
Usnea subfloridana					•								•	
Vahliella leucophaea											•			
Hydropunctaria / Verrucaria sp. *(with AO)*											•			

Taxon	**Site**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
Verrucaria sp. *(with HT)*										•				
Verrucaria fusconigrescens		•										•		•
Verrucaria macrostoma forma *furfuracea* *		•										•		•
Verrucaria macrostoma forma *macrostoma*		•	•					•				•		•
Verrucaria maura		•							•		•			
Verrucaria muralis *			•											
Verrucaria viridula			•											
Xanthoparmelia conspersa							•							
Xanthoparmelia delisei							•							
Xanthoparmelia pulla					•									
Xanthoparmelia verruculifera					•		•							
Xanthoria aureola		•									•			
Xanthoria parietina		•	•	•	•	•	•	•	•	•	•	•	•	•

$ 1 new to Ireland record (*G. biformis*)

3 RDB species (*D. ligulata*, *H. leucomela*, *T. flavicans)*

10 new VC (H3 West Cork) records

* 46 new hectad (W02) records

2 undescribed species (with Alan Orange AO, and Holger Thüs HT)

Wanted: portraits of British lichenologists

While finishing the biographic part of the forthcoming work 'History of lichenology', I have found it surprisingly difficult to locate portraits of British lichenologists, though I have been generously assisted by several British colleagues, particularly David Hawksworth. Still there are several central persons of whom I have no portrait. This is so unsatisfactory that I have decided to call on everyone in The British Lichen Society to search in every possible corner to secure a good presentation of these outstanding British lichenologists, many of whom were important also internationally. I assume there may be old forgotten albums, particularly among family members, but even in institutions. A fine example of this latter is the photo of William Mudd (1830-1879), the author of the important 'Manual of British Lichens' in 1861. This was found in the archives of Cambridge Botanic garden where he was curator from 1865.

William Mudd (with top hat, in the middle), amongst the garden staff in the Cambridge Botanic Garden in 1876. Courtesy of Cambridge Botanical Garden.

In the following I will present those I need portraits of, all central persons in British lichenology in their time. As far as possible I record their careers in detail, as portraits may have been left along that route:

James Mascal Morrison **Crombie** (1830-1906), the author of the famous 'Monograph of British lichens', completed by Annie L. Smith. This was for long the standard British lichen flora. He was born in Aberdeen, Scotland and studied theology in Edinburgh. He was ordained in the Church of Scotland in 1862, and served subsequently in parishes in the Braemar region (exactly where is unknown to me). He appears like many in the clergy to have had botanical interests, and while in service at a local church, he happened to take part in a rescue operation for the Irish admiral Theobald Jones (1790-1880), an enthusiastic amateur cryptogamist. After the successful rescue, the thankful Jones presented Crombie with the newly published manual of British lichens by Mudd (see above), which awakened Crombie's interest for lichenological studies. Crombie then took up further studies at the University of Edinburgh and earned an M. A. in 1869. He then left Scotland and subsequently (1879-1891) took up a position as lecturer at St. Mary's Hospital in London (where no portrait has been traced). At this time he also worked at the Natural History museum (but he appears not to have had any official employment there) where the keeper of the herbarium S. W. Carruthers (1830-1922) strongly supported his lichenological activities. Crombie was a fellow of the Linnean Society, and died in Ewhurst, Surrey.

William **Hudson** (1734-1793), the author of 'Flora anglica'(|762), a basic work in British botany. Here he introduced the Linnaean system and nomenclature to British botany. He thus became the first author after the start of our nomenclature (1753) to name British lichens in this system. He was born in Kendale in Westmoreland where his father was an innkeeper. After finishing Kendal Grammar School he moved to London as an apprentice to an apothecary, and was so successful that when the proprietor died he took over and ran the business with the widow, living with her (without marrying) to public embarressment. In the years 1757-1768 he also acted as sublibrarian at the British Museum which gave him access to many rare and important botanical works. In the years 1765-1771 he was 'Praefectus horti' in the Chelsea Physic's Gardens in London. He was a central person in botany in his time and became a a Fellow of the Linnean Society as well as of the Royal Society. His house was completely destroyed by a fire, and he lost both his herbarium and library. He died in London, without children of his own.

Charles **Knight** (1808-1891) was involved in pioneering lichenological work in New Zealand, but he was born in Rye, Sussex, though he grew up in Hawkhurst, Kent where his widowed mother remarried in 1810. In 1828 he started medical studies in London, but emigrated to Canada already 1830 where he is recorded as working as a surgeon. Little is known about him before he returned to London in 1840. That year he is registered as member of The Royal college of Surgeons in London. However, he left England the following year, travelling on the ship 'Lord Glenelg' bound for Adelaide, Australia. It was on board this ship he met and befriended the coming governor of South Australia, Sir George Grey (1818-1898). Actually Knight took over the command of the ship after a mutiny on board in Cape Town as a result of the captain's drunkenness. He managed to get the ship safely to its destination and the impressed Grey employed him as his personal secretary. Knight followed Grey when he was transferred to New Zealand as governor in 1845. Here Knight was made auditor of the nation, and in fact controlled the economy of the country, particularly later

(1855) when he became manager of the Colonial Bank of Issue. He was also involved in the establishment of meteorological services in NZ. Knight was a widely respected public servant of whom there simply must exist a portrait (but where?). In his spare time he enjoyed himself with botany and particularly bryophytes and lichens. He was a friend of Sir Joseph Hooker's and assisted him in the editing and publishing of the Flora of New Zealand, for which he secured a governmental grant. Knight was a fellow of the Linnean Society and president in the Wellington Philosophical Society in 1873-1874. He died in his home in Wellington, NZ, leaving five children.

James **Stirton** (1833-1917) was the most important explorer of Scottish lichens in his time. He is recorded to have added no less than 50 species new to the British flora, mainly from Scotland. He also revised numerous foreign collections. He was born in Coupar Angus, Perthshire where his father was a wood merchant and had a sawmill. After basic schooling locally James studied medicine in Edinburgh where he graduated as a doctor (MD) in 1858. Thereafter he moved to Glasgow where he established as an obstetrician and gynaecologist. In 1876 he was appointed lecturer at the Royal Infirmary and was finally in 1889 made professor of midwifery at Anderson's College Medical School (St. Mungo's) which he held for 15 years. He enjoyed botanizing in the mountains of Scotland, and is recorded to be the botanist who has climbed Ben Lawers most times. He was a very active member in the Glasgow Society of Field Naturalists (founded in 1871), where he also was president for one period (and ought to have been portrayed). He was a fellow of the Linnean Society. Stirton died in Glasgow, leaving two childless daughters .

I would highly appreciate if someone could submit portraits of any of these four gentlemen or information about where they can be found.

Per M. Jørgensen
Dept. of Natural History, Bergen University Museum, Allègt.41, Box 7800, N-5020 Bergen, Norway.
e-mail: per.jorgensen@uib.no

An exploration of crotal: lichens through the medium of Gaelic

Cristie Moore, Pupil Support Assistant at Breadalbane Academy, and the children of Primary 5 and 6 share how the John Muir Award has helped Gaelic learners engage with lichens and citizen science…

With a sky full of rain clouds our intrepid group of budding lichenologists set out for the Birks of Aberfeldy accompanied by local lichenologist Dr Oliver Moore. Our aim was to complete an OPAL (Open Air Laboratory) Air Survey as part of our John Muir Discovery Award and also think about renaming some of the lichens. Gaelic names for most lichens are no longer known and they are referred to as crotal. This may look familiar as the term crottal is used in English for a number of lichen species from the genus *Parmelia*.

The group consisted of Primary 5 and 6 pupils from the Gaelic Medium Education class at Breadalbane Academy in Aberfeldy. These children are immersed in the language and many of their subjects are taught through the medium of Gaelic until Primary 3 when English reading and writing are introduced. Learning through the medium of Gaelic helps pupils when tackling other languages and gives them the opportunity to learn about other cultures. The Gaelic language is an important part of Scotland's heritage and anyone looking on a map is bound to find evidence of it in the place names. These Gaelic place names may sometimes refer to a feature such as a hill, a colour or the name of a tree or animal which gives us an insight into past use. For example, Meall Dubh (the black round hill) or Beinn Eagagach (the jagged or notched mountain) are found locally in Perthshire.

The John Muir Award is the main engagement initiative of the John Muir Trust where participants are encouraged to connect with, enjoy and care for wild places. The John Muir Trust is a conservation charity dedicated to protecting and enhancing wild places. There are three levels to the John Muir Award and we have been working towards the Discovery Award. Our initial activity was focused on the Birks of Aberfeldy, which is an area of mature mixed woodland with a steep sided gorge and many waterfalls. Birks is Scots for birch trees so you can imagine how numerous they are. The area was made famous by Robert Burns with his poem 'The Birks o' Aberfeldie'. To get prepared for visiting the Birks we had pored over maps, noting the close contour lines and the blocks of trees. Previously, we had taken the whole class on an amazing journey around the Birks, enjoying the signs of other life such as the holes in the banks, our first primroses of the year, fungus on fallen logs and even collected whatever litter we could find on the way. However, our purpose today was all about collecting scientific data in order to contribute to a larger project. OPAL is an initiative that encourages citizen science and has many different surveys for people to take part in. We decided to tackle the Air Survey using lichens. All the materials needed to take part can be downloaded and printed from the OPAL website (www.opalexplorenature.org).

More recently Scottish Natural Heritage (SNH) and Bòrd na Gàidhlig with Gaelic Educator Roddy Maclean have been collating all the Gaelic names for some groups of organisms such as ferns and dragonflies, the aim being to help preserve them and encourage their use. With so few Gaelic names still in existence for the different species of lichens we wanted to take on the challenge of renaming a few. 'We have Gaelic names recorded for some commoner genera or species of lichen, such as lungwort, dog-lichen and old man's beard (feusag nan gobhar or 'goats' beard' in Gaelic)' says Roddy, 'but, to encourage more use of our language in connection with nature, we need to expand its vocabulary in the modern age.'

On the walk from school to the Birks we hunted out lichens and Dr Moore explained what to look for to help with identification of the different groups. The children were fascinated by not being able to get a species of *Lepraria* to absorb water and marvelled as a specimen came out dry after being immersed in a puddle.

Once on site we discussed the method and were given a training session in how to spot the nine lichens mentioned in the survey. The first part of the survey asks you to log characteristics of the site such as the post code, is it near a building site etc. Then the survey began in earnest and we broke into two teams. Each team identified the tree they were working on and measured the circumference at a height of 1.3m above ground level. Lucky for us Beth was exactly 1.3m tall and was happy to move between

trees as a human tape measure. Using a scale on the recording sheet we then gave results on the quantities of each of the nine lichens both on the tree trunk and on the twigs. As you can see from our lichen moustaches the damp weather didn't put us off.

A week later, we entered our data onto the OPAL website and then began looking at our lichen specimens more closely, and from a Gaelic perspective, in our make shift laboratory. A quick search using the online dictionary at learngaelic.net showed that there are a few names for some of the more showy or common lichens such as grìoman (*Lobaria pulmonaria*) and lus-gionach (*Peltigera canina*) [greedy plant] but many of the

names as with other species groups seem to have been lost over time. The Gaelic language can be really descriptive particularly when referring to the natural environment. With this in mind we took time to examine and draw the lichens and look at their English names before giving them Gaelic ones. This generated enthusiastic discussion. Elspeth thought the *Evernia prunastri* looked like many hands and was subsequently named tòrr lamhan to reflect this. The leafy *Xanthoria parietina* became tonnan peant because it looks like spilled paint. We also made *Xanthoria* tarts to resemble the

reproductive structures and to keep our energy up as we worked. Fortunately, no one thought to add anything to resemble lichenicolous fungal parasites of the apothecia to our tarts.

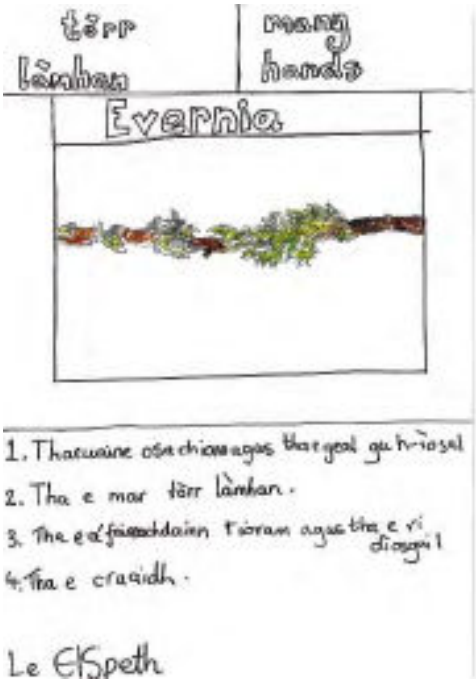
The children then spent time with the Gaelic High School teacher at Breadalbane Academy, Mr MacSween. Mr MacSween is a native Gaelic speaker originally from the Island of Scalpay who was able to help the children with their vernacular. Table 1 demonstrates the descriptive nature of the Gaelic language.

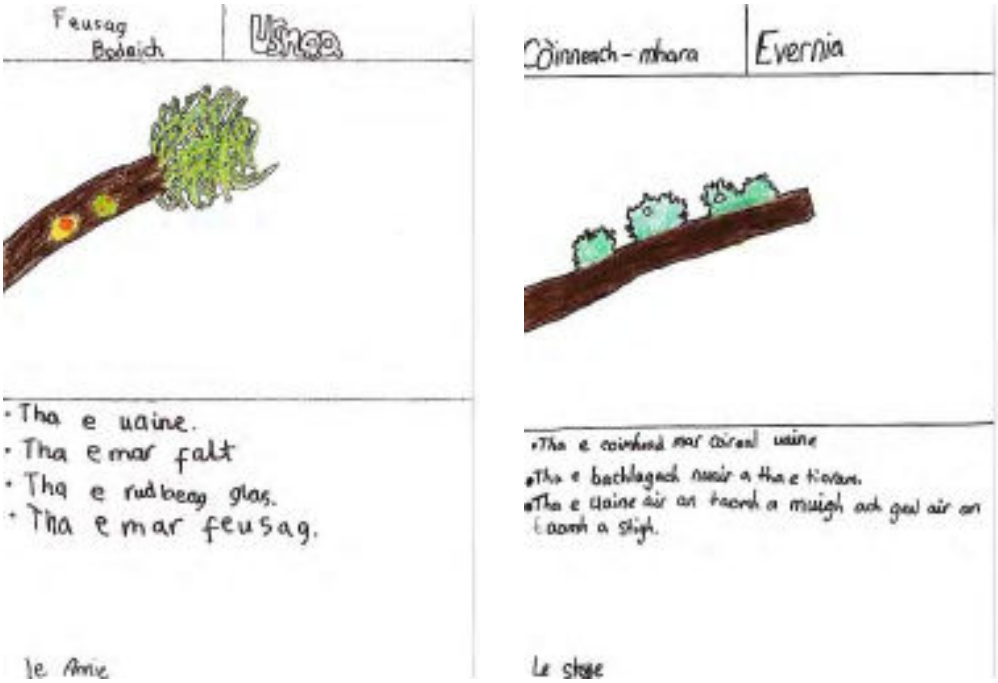
Latin name	**English name**	**Childrens suggestions of Gaelic names and descriptions**	**English translations**	**Actual Gaelic name**	**English translation**
Usnea	Old man's beard	Feusag bodaich Glas-uaine air fad Geugan mar snàthlan	Old man's beard Grey-green all round Branches thread like	Feusag nan Gobhar (*Usnea barbarata*)	Grey beard
Evernia	Oak moss	Còinneach-mhara Glas-uaine gu h-àrd Maothan còmhnard iallach	Sea moss Grey-green on top Lobes flattened, strap like	Crotal Daraich	Oak lichen
Melanelixia		Duilleagan marbh Maothan dorcha donn fuaighte ri rùsg Nas soilleire anns na h-àitean far an deach an snathadh	Dead leaves Dull brown lobes, closely attached to bark Paler areas show where surface is rubbed		
Flavoparmelia	Common greenshield lichen	Pàipear rocach Maothan leathann ubhal-uaine Uachdar preasach air a bheil spotan pùdarach a' fàs	Wrinkled paper Broad applegreen lobes Wrinkled surface on which powdery surface spots may develop		

Parmelia		Maothan glas gu h-àrd Dorcha donn gu h-ìosal Maothan tana fuaghte ris an rùsg Patran le loighnichean geal air uachdar	Lobes grey on top Dark brown below Lobes thin, loosely attached to the bark Pattern of white lines on the surface	Crotal-sgiathach (*Parmelia sulcata*) Crotal-sgiathach saillteach (*Parmelia saxatalis*)	Shield lichen Salted shield lichen
Leafy *Xanthoria*	Common orange lichen; yellow scale	Tonnan peant Maothan buidhe/orains Maothan leathan sgaoilte Le beagan spotan orains	Waves of paint Lobes yellow/orange to greenish yellow Lobes broad, spreading A few orange spots present	rùsg-buidhe nan creag (*Xanthoria parietina*)	Yellow scale of the rock
Cushion *Xanthoria*		Trompaidean buidhe Maothan buidhe agus uaine glas Maothan beaga agus dosrach Le mòran spotan buidhe	Yellow trumpets Lobes yellow to green-grey Lobes small and clustered Many orange spots present		
Physcia		Leatas glas-uaine Maothan glas gu h-àrd, geal gu h-ìosal Cinn nam maothan an àird a' fàs pùdarach Bàrr roinneagan dubh air oirean nam maothan	Grey-green lettuce Lobes grey on top, white underneath Lobe ends raised up becoming powdery Black-tipped whiskers on the lobe edges		

*This seems unusual as black lichen could refer to any number of black crustose lichens and the English name of heather rags seems much more appropriate.

We also added in descriptive sentences so that we could create an identification guide.





The John Muir Award tied our activities together. Getting involved in citizen science, baking, language and research, as well as getting creative and having fun helped us to meet the four challenges of the Award. It also fostered an interest in lichens among the participants and an appreciation of their beauty and importance. Perhaps one day these children may go on to become the next generation of lichenologists.

If you would like to find out more about the John Muir Trust please go to www.johnmuirtrust.org and to get involved with the John Muir Award visit www.johnmuiraward.org. Participants involved in the John Muir Award are highly diverse, from families working towards a Family Discovery Award to school groups and adult volunteer groups and individuals. The John Muir Award receives funding support from Scottish Natural Heritage.

Acknowledgements
We are extremely grateful to the following people for their help with this article: Oliver Moore, Roddy Maclean, Finlay MacSween, Janet MacSween, Giliain MacDonald and Toby Clark.

Cristie Moore, Annie, Elspeth, Olive, Skye, Beth and Ewan

Porina pilifera – a rare lichenicolous species or simply overlooked?

Some lichens are inconspicuous, hidden in their habitat and difficult to recognize unless by coincidence. This is a little story about one of those not very attractive lichen species living in obscurity and masked on the surface of leaves – *Porina pilifera.*

The distribution areas of *Porina pilifera* in tropical Central America extends from the vegetation surrounding a waterfall near La Gamba and the Esquinas rainforest along a trail to the Rio Bonito in southern Costa Rica (Neuwirth & Pfaller 2006) to a gallery forest along Rio Frio (Neuwirth & Stocker-Wörgötter 2014) along the border with Nicaragua.

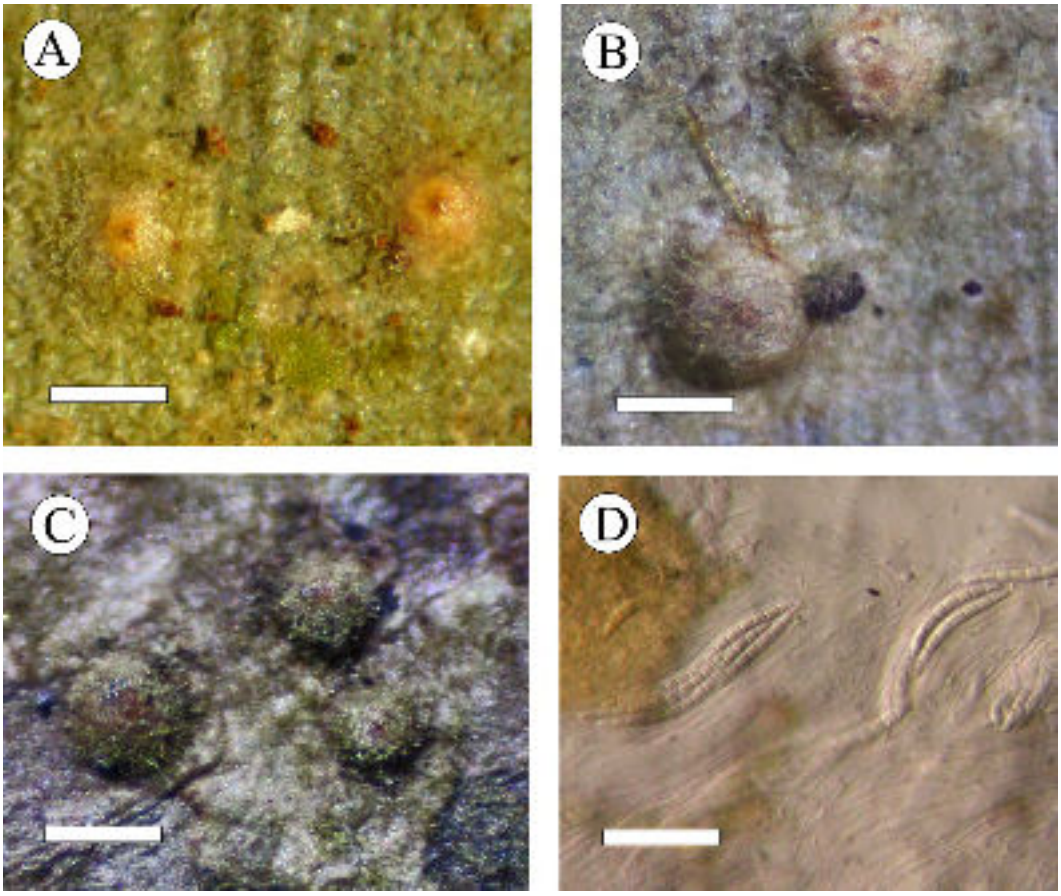
The preferred substrates seem to be palm leaves in the understorey of lowland rainforests at the Pacific coast or in vegetation collateral to waters. As a minute, foliicolous species developing long bristle hyphae and growing on the upper surface of leaves, it can only be identified with a hand lens in its natural habitat.

The species belongs to the *Porina epiphylla* group showing characters of thallus structure and spore septation resembling the palaeotropical *Porina palmicola*, but differing in having longer bristle hyphae on the thallus and basal part of the perithecia. Furthermore, the smaller spores are distinguishing features. *Porina virescens* differs by its yellowish grey, dense tomentum on the thallus, the variable ascospore septation (7-septate or more) and the occurrence in the Palaeotropics. Other species of the *Porina epiphylla* group do not develop so many hairs or a tomentum, so *Porina pilifera* is the only pilose representative in this group found so far in the Neotropics (Lücking 2008). For a detailed description see Neuwirth & Pfaller (2006).

I found this species in 2004 for the first time and was pleased to publish this *Porina* as new to science in the Lichenologist (Neuwirth & Pfaller 2006). Subsequent studies in the northern part of Costa Rica in the year 2010 proved the existence of *Porina pilifera* at other sites of the country, but until several months ago Costa Rica seemed to remain the only country in which the species could be found.

Indeed, the surprise was great when I recently recognized *Porina pilifera* while revising my lichen collection from Venezuela from the year 2005. Two of the specimens contained samples of the foliicolous lichen that I had obviously overlooked at first analysis. And what is more, Venezuela is currently only the second country where the species has been found. A colleague working there kindly confirmed that the species had not yet been collected from Venezuela.

It would be of great interest for lichen research to find out from colleagues whether they have collected hidden, unidentified specimens of this species in the Neotropics and deposited them in their lichen herbaria. Perhaps we could find more samples of this species. I have been sceptical as to whether this lichen really is rare and rather prefer the hypothesis that *Porina pilifera* has simply been overlooked. The species is probably distributed in neotropical rainforests, as well as outside them in vegetation dominated by humid, ecological conditions, more frequently than we assume.



Porina pilifera (Photos Gerhard Neuwirth). A: Thallus and young perithecia with dense hair around the ascocarpes (holotype; La Gamba, Costa Rica 2004). B. Mature perithecia (Rio Frio, Costa Rica 2010). C: Mature perithecia (Venezuela 2005). D: Ascospores of specimen C. Scales: A=0.3 mm; B=0.4 mm; C=0.4 mm; D=30 µm.

Acknowledgement

I am grateful to Jesus Hernandez (Venezuela) for confirming this species as new to the lichen flora of Venezuela.

References

Neuwirth, G. & Pfaller, K. (2006): *Porina pilifera* (Porinaceae), a new foliicolous lichen from Costa Rica (Central America). — *The Lichenologist* **38**(5): 417-420.

Lücking, R. (2008) Foliicolous lichenized fungi. *Flora Neotropica* **103:** 335–336.

Neuwirth, G. & Stocker-Wörgötter, E. (2014): Rare lichen taxa from Costa Rica. – *Mycosphere* **5**(6): 711-718.

Gerhard Neuwirth

gerh.neuwirth@tele2.at

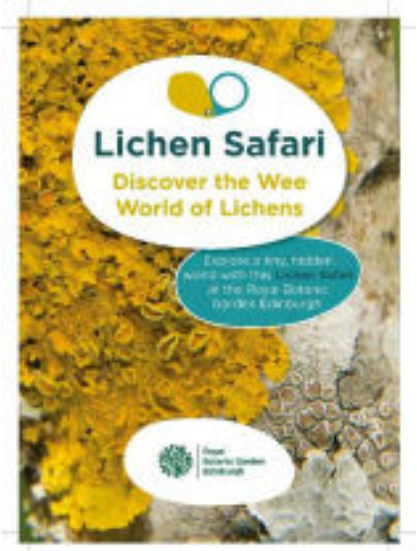
Engaging the Public at RBG Edinburgh

A couple of recent projects at the Royal Botanic Garden Edinburgh (RBGE) have resulted in products aimed to inform and inspire the public about lichens.

Lichens: Making the Invisible Visible

In February last year, Frances Stoakley finished a 1 year traineeship in lichens and air pollution with The Conservation Volunteers and RBGE, with the joint goals of training in lichen identification and biology, and in getting out on the street and in the parks to talk to people about lichens. Over her traineeship, Frances did her own research about lichens and air pollution around Edinburgh, and ran a series of events and workshops, culminating in a citizen science, elementary level air survey using lichens to help people see the connections between lifestyle choices and the environment using lichens. Please get in touch if you would like copies.

Her huge enthusiasm resulted not only in outreach to over 1000 citizens in Edinburgh, but also provided the impetus to keep the momentum in lichen education rolling.



The Wee World of Lichens trail booklet, available at RBGE. 20 pp, £1.

The Wee World of Lichens

At the end of February this year, a new interpretive trail, The Wee World of Lichens, was launched at RBGE, for visitors aged 9-99. This fascinating story actually begins in 1709 when the conspicuous woodland lichen *Ramalina fraxinea* was last collected in Edinburgh. Fast forward to the 1970s, when my predecessor Brian Coppins started working here at RBG Edinburgh, when the few lichens in the city included the lead-loving *Stereocaulon pileatum* growing on coping stones along polluted residential roads or *Lecanora conizaeoides* eking out a living on the acid-rain soaked trees. Now, after the waxing and waning of industrial pollution and acid rain, lichens once more add colour, texture and diversity to our Garden, and it is high time visitors get to hear about them. The Friends of RBGE supported Frances Stoakley, who had just finished a traineeship in lichens and public engagement, to establish six sites for the installation of interpretive panels in the Garden in Edinburgh and develop content for the trail

guide. The trail booklet is rich with information and images and is for sale for a nominal fee at all visitor welcome team stations. The best part is, with the purchase of the trail guide, visitors get to borrow one of our handlenses to get a close-up look at the fascinating wee world of lichens. Come along and see if you can find *Ramalina fraxinea*, back in the Garden after 300 years!

The Wee World of Lichens trail stop 5, in the Alpine Garden.

Lichens in the City

Filmmakers Laura and Serge Gowing-Jakobson of Wild Leaf Reels have teamed up with the Royal Botanic Garden Edinburgh lichen team to produce a fun and informative short film 'Lichens in the City'. The film had its premiere at the launch of the Wee World of Lichen trail, and we hope it will promote general interest in lichens and the fascinating stories lichens all around us can tell. Enjoy it and share it! It is available free online at *https://vimeo.com/169541839*

What is a lichen, anyway? Kristine Bogomazova, Frances Stoakley and Sally Eaton explain, in the new film, Lichens in the City, by Wild Leaf Reels.

Becky Yahr
r.yahr@rbge.ac.uk

Fertile *Scytinium palmatum* (*Leptogium palmatum*) in the British Isles

Scytinium palmatum is the new name for *Leptogium palmatum* which is described in The Lichens of Great Britain and Ireland 2009 as rare. Also "apothecia are unknown in the British Isles".

This lichen grows well at Findhorn, Moray, in Scotland along the side of mossy, sandy, shingly tracks on the coast and also in sand near clumps of marram grass. The dark brown minutely shrubby tubular wrinkled lobes can be seen under *Calluna* and growing well with another local specialty, *Peltigera malacea*. Both lichens seem to like the same habitat at Findhorn.

Apothecia of *Scytinium palmatum*. Image © Heather Paul

Sometimes *S. palmatum* has pale bleached patches and I have been interested to see if anything lichenicolous was growing there. With this in mind I collected a specimen on 5th October 2016 and was most surprised to see apothecia when examined under a microscope. Brian Coppins determined this for me and we believe this may be the first finding of fertile material in the British Isles. Following this I surveyed 34 patches of *S. palmatum* at various places in Findhorn and found 11 fertile thalli. Most of these were growing near together but one was about a kilometre away. I also went to the edge of the beach at Nairn and examined approximately 30 thalli there. None were fertile.

Heather Paul
paulheather12@yahoo.co.uk

Notes on *Peltigera leucophlebia* in the Hartside area, NW Pennines

The species has been characterised in the UK as 'very local in mossy, calcareous, coastal and upland habitats in the north and west' [Alan Silverside: *www.lichens.lastdragon.org*]. The current lichen *Flora* simply says it occurs on '… mossy rocks, often in ± calcareous habitats'. Having noticed it variously in Loo Gill, Hartside (NY64) over several years, I decided to assess its frequency and microhabitats throughout the valley, from the headwaters downwards, including the main tributary gills and open moorland. Limestones of the Carboniferous Series outcrop in bands (blue in the map) from the higher level moorlands down to the Gill itself; sandstones of the same geological Series are interbedded. There are also dolerite intrusions (shown deep red). Glacial drift phenomena add to the complexities. The area is well known for the fierce and often persistent 'Helm Wind' - a cold, drying airflow from an easterly direction.

My explorations were mainly in tetrad NY64G and yielded at least 40 'locations' - and there must have been more, a separate 'location' for this purpose is defined by being at least 10 metres from the nearest continuous patch. Workings (for limestone or barytes),

associated spoil heaps and old quarries and limekilns occur at various points, and grassy sink-holes are frequent in some of the open moorland. These were included in the 'survey', but I found the lichen at only one of these features (a quarry in NY64F, and then not on a worked face). *Google Earth* combined with geological maps proved a productive way of targeting suitable areas.

Although not often as lush as some Lake District National Park mountain populations, perhaps due to lower rainfall in the Pennines, the species clearly has a strong presence here. The most significant concentrations of locations were a) on low outcrops on the north side of the tributary stream Ricker Gill (8 locations) and b) in very short turf over limestone in open moorland at around 400-500 metres, with 12+ locations (and probably more unfound). The largest continuous patch I encountered was in turf [at NY63204352] was over $2m^2$ in extent, with many hundreds of thalli, a small area of which appears above: I can't recall seeing so large a continuous amount anywhere else. The remaining 24 were scattered in the main Loo Gill valley. Site aspects were mainly fully exposed to the west or south, on sloping ground or low rock outcrops. No locations were in especially shady situations, and all were on the richer ground – with underlying limestone or dolerite.

Habitat for *Peltigera leucophlebia*

The sequence of locations extends from 515m. a.s.l. and continues downwards to not far above the confluence of Loo Gill with the Raven Beck (*ca*. 280m.), and extends into all four 1 × 1 km monads of tetrad NY64G. Other *Peltigera* species variously present in the valley included *P. membranacea, praetextata, hymenina, rufescens* and *neckeri*, all except *P. membranacea* (which also extends into more acid grassland) being relatively infrequent. *P. leucophlebia* was usually the most abundant of the genus here in terms of abundance where it occurred. Accompanying lichens were few, most often *Cladonia rangiformis,* or *P. membranacea,* or both.

Wild Thyme *(Thymus polytrichus)* was a constant vascular plant associate, and although far more widespread than the lichen, was a key indicator of potentially suitable ground. (That species appears in virtually all images of the lichen that I have ever taken or viewed, so much so that I begin to wonder whether there is more to it than coincidence. I have also wondered whether scents of the Thyme and/or the lichen might deter some grazers.) Grassland locations were in short turf on slopes of varying incline, often on thin dry soils where limestone just touches the surface (below).

Though limited in extent, these break the monotony of *Nardus*/*Juncus* acid grassland in the open moorland, mainly at altitudes c. 400-500 metres. Despite the presence of various grazers - sheep, rabbits, voles, molluscs - the lichen appears well able to survive undamaged in these close-cropped conditions, though thalli in such situations are often smaller than those found in more open location types. Largest thallus sizes tend to occur where they can cascade over rock outcrops and/or steep slopes, unfettered by competition from other elements of the flora, and free from trampling by sheep.

There is no reason to suppose that Loo Gill is exceptional with regard to this species in the north-west Pennines, so other sites having similar geology and altitude might be expected to yield similar results. Rawes (1981), referring to the species under the now rejected name of *P. aphthosa,* considered it 'common' on base-rich soils of the Moorhouse National Nature Reserve of the high Pennines. My findings in the Loo Gill area would seem to add weight to his comment. Upland grassland is not specifically mentioned in either of the species accounts cited in the first paragraph. When in this habitat, the lichen can be easy to overlook when half-buried amongst a sward of green, or even to overlook for related *Peltigera* species when dry and brownish in colour. The Cumbria uplands, grasslands included, appear to be a significant area in England for this northern species.

Reference:

Rawes, M. (1981) Aspects of the ecology of the Northern Pennines: botanical species lists from Moorhouse National Nature Reserve. *Moorhouse NNR Occasional Paper No. 12*.

David Clarke
davidclarke6970@gmail.com

Our Lichen Friends

REALLY! Do lichens have friends? So, what is defined as a friend – 'one joined to another in mutual benevolence and intimacy; one, who is on good terms with another, not hostile or at variance.' (The Oxford Shorter Dictionary)

Well, yes I suggest lichens can comply with this definition especially those I meet very regularly on the **Bristol Downs Lichen Trail.** Of the ten selected Trail lichens, four of them could be classified as 'friends'. The two foliose lichens at venue 2 on the hawthorn, *Physcia tenella* and *Xanthoria parietina.* And at venue 5, two crustose species *Lecanora chlarotera* and *Lecidella elaeochroma.*

At venue 2 there are numerous hawthorn bushes; after the contorted twigs drop their leaves in autumn the abundant lichens are noticeable. *Physcia* is a subtle grey colour with lobes about 1mm wide, which have long cilia on the raised lobe tips. It nestles closely to the vibrant yellow/orange of the spectacular *Xanthoria* with its abundant apothecia, both very different in form but complimenting each other and readily colonising the open aspect of the hawthorn twigs.

Left: *Physcia tenella* and *Xanthoria parietina* (venue 2). Right: *Lecanora chlarotera* and *Lecidella elaeochroma* (Venue 5).

An old sad looking ash tree is at Trail venue 5, supporting the second pair of friends; *Lecidella elaeochroma* and *Lecanora chlarotera*. Brittle with age the smooth lichenised lower branches are breaking off at an alarming rate but still provide a viable resource for lichen hunters.

At first glance the bark appears to be covered in a map with areas outlined in black forming a mosaic. On closer observation two lichen species are visible; *Lecidella*, with its small black raised discs and *Lecanora,* with brown to orange discs resembling tiny 'jam tarts'. *Lecidella* is responsible for the black outline, the prothallus, separating it from its 'partner' to create the stunning mosaic. These lichens colonise other substrates and consistently are found as described. The terminology 'friends' is familiar to participants of the Trail and helpful in supporting their understanding of basic lichenology.

A recent Trail event was held on February 26, with 17 people from Keynsham Wild Life Trust. My objectives as leader are to ensure people have an enjoyable 2 hours but also to appreciate the diversity and spectacular forms of the lichens. The 10 lichens were selected to be observed by the naked eye but on guided tours hand lenses are used and as someone commented, they were transported into a 'magical world of colour and detail'. Oliver Gilbert, author of ' The Lichen Hunters' writes:

> *Their ultimate beauty is only revealed with a hand-lens. All species exhibit a ravishing display of colour, textures, symmetry and sculptured form, a kind of perfection normally associated with a butterfly's wing.*

Practice in using the lenses is essential and before starting the trail everyone is given the opportunity to learn about the three thallus forms on named twigs and be familiar and confident in using their lenses. This introduction is invaluable as interest is aroused, any anxieties are resolved and people eagerly start off on their lichen adventure.

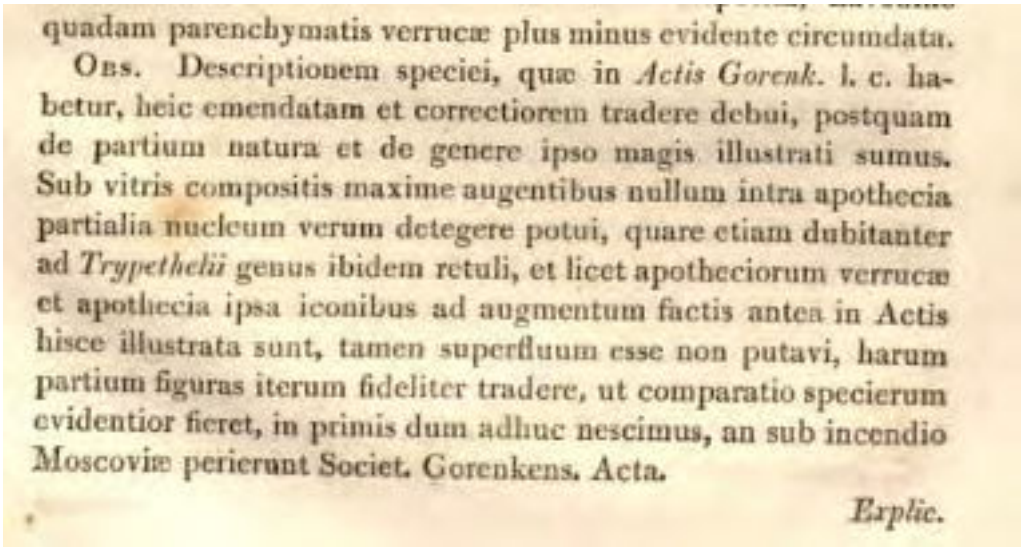
So, in conclusion, relating to my role for the BLS as educator and promotor, my style of presentation on the Trail and the use of lichen 'friends', hopefully will be remembered, valued and inspire further exploration of these fascinating species.

Sheila Quin
Sheilaquin@msn.com

Trivial Pursuits:

Q. What effect did the Great Fire of Moscow, 1812, have on lichenology?
A. As a result of the fire in Moscow, a paper prepared by Acharius was destroyed and he susequently published his only paper in an English journal: *Trans. Linn. Soc. London* **12**: 35-47 (1818).

I attach an extract from the article where the fire is mentioned (bottom of p. 46):



quadam parenchymatis verrucæ plus minus evidente circumdata.

Obs. Descriptionem speciei, quæ in *Actis Gorenk.* l. c. habetur, heic emendatam et correctiorem tradere debui, postquam de partium natura et de genere ipso magis illustrati sumus. Sub vitris compositis maxime augentibus nullum intra apothecia partialia nucleum verum detegere potui, quare etiam dubitanter ad *Trypethelii* genus ibidem retuli, et licet apotheciorum verrucæ et apothecia ipsa iconibus ad augmentum factis antea in Actis hisce illustrata sunt, tamen superfluum esse non putavi, harum partium figuras iterum fideliter tradere, ut comparatio specierum evidentior fieret, in primis dum adhuc nescimus, an sub incendio Moscoviæ perierunt Societ. Gorenkens. Acta.

Explic.

Alan Archer
alanw.archer@bigpond.com

Summer Vacation Scholarship Report: Hidden microbial eukaryote diversity in lichens from different environments

During summer 2016 I received a 10 week long Summer Vacation Scholarship from the British Lichen Society to carry out work with Dr Joe Taylor at the University of York, looking at the eukaryotic microbial community associated within lichens from different habitats. The aim of the project was to record the diversity of eukaryotic life associated with lichens using molecular biology techniques, with the hypothesis' being; Lichens will be hot-spots of eukaryotic microbial diversity and that these communities will vary between different habitats. We were also specifically looking for potential parasites of the algae host within the group Chytridiomycota which are known to parasitize many other algal species (Barr, 2001). Little work has been done to detect Chytridiomycota within many British lichens or to see if the abundance and diversity of Chytridiomycota is related to environment the lichens were found in.

A preliminary survey of lichens was conducted around the University of York's Heslington West campus. Lichens were sampled from a variety of habitats, both natural such as weeping willow and birch trees, and also artificial such as railings and brick walls (Figures 1,2). More samples were collected from the nearby Spen Farm and Hetchell woods, to then compare with lichens from agricultural and woodland environment. The lichens were identified using field guides and the KOH spot test. After preliminary sampling a decision was taken to focus on *Xanthoria parietina* because it was present at all locations, is not a rare or endangered species and is high abundance makes it ecologically quite important. We also looked at *Parmelia sp.* for comparison which was present alongside *Xanthoria* on weeping willow trees.

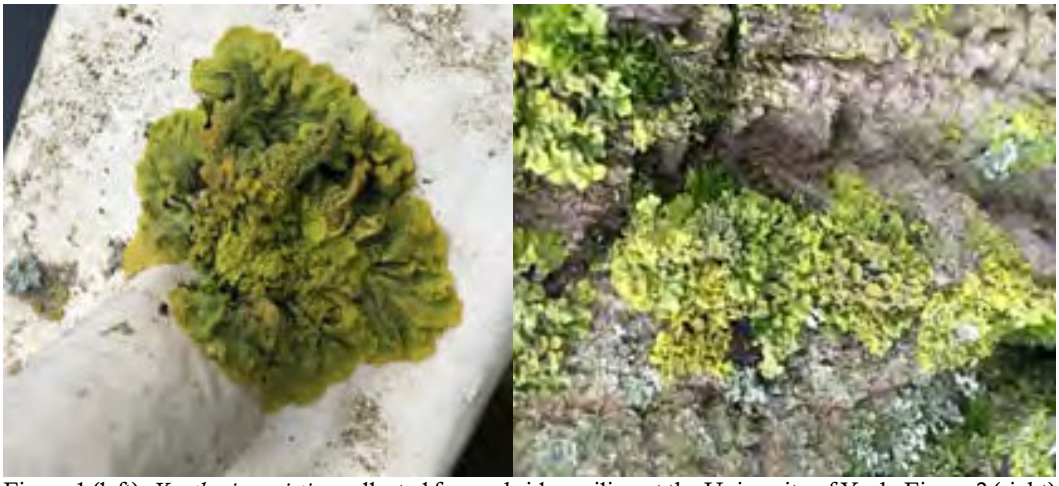


Figure 1 (left): *Xanthoria parietina* collected from a bridge railing at the University of York. Figure 2 (right): *Xanthoria parietina* collected from a birch tree at the University of York.

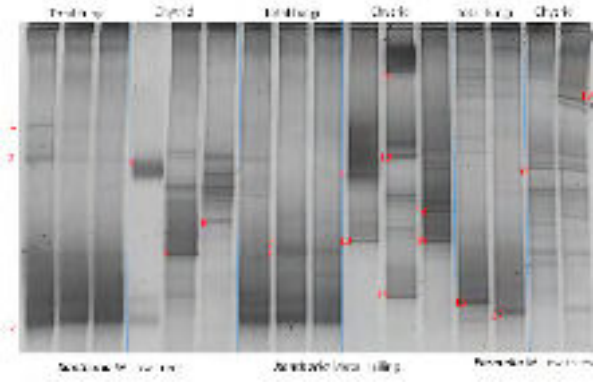
Samples of lichen thallus (1.5cm^2) were collected, divided and half used in DNA extraction for PCR and the rest used for chlorophyll analysis. Prior to DNA extraction lichens were rinsed in molecular grade water to remove large and unattached organisms from the surface. Polymerase chain reaction (PCR) was conducted with the primers ITS3/ITS4 (Kowalchuk & Smit 2006) used to amplify the total fungal community and ITS3/ITS4Chytrid (Nikolcheva & Bärlocher, 2004), and FF390W/ERF3 (Ishii et al. 2015) which are a way to target our group of interest and show preferential amplification for the Chytridiomycota fungi. The primers had modifications for carrying out denaturing-gradient gel electrophoresis (DGGE) which was run for each primer set (Figure 3 and 5). This is a way to visualise the microbial community, with each band effectively representing one taxon or species. The more bands, the more species are present in the sample. We could then physically cut the bands from gel and sequence the DNA from them to get the taxonomic identification of each band (Figure 4 and 6).DGGEs were used to select samples for high-throughput sequencing to look at the total eukaryotic community including the protists as well as the fungi, the results of which will be hopefully published in the *Lichenologist*. We did multiple comparisons between locations using DGGE (Best gels, Figure 3 & 5) which clearly show that there is diversity of fungi associated with the lichen samples.

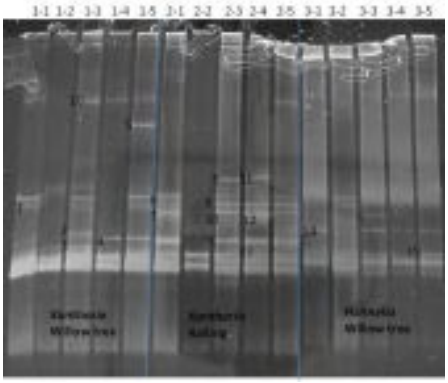
The ITS primers showed there is similarity in overall fungal composition in the colonies we looked at particularly between replicates from the same species on the same substrate, with a clear dominant band which was the lichen fungus. Overall there was a clear difference between species suggesting different lichen species harbour a unique associated fungal communities. Communities between locations were similar for the University samples but samples from the woodland and agricultural land were clearly different with a higher diversity of fungi in the woodland samples. The Chytridiomycota specific primers, showed a lot more variation between samples for both the ITS and 18S primer sets (Figure 3 and 5) and also a lot of variation between different colonies of the same species, on the same surface.

The key discovery from this work was that a diversity of Chytridiomycota was associated with the lichens we looked at and that these were present across all the locations. However, the majority of the Chytridiomycota taxa we found (See phylogenetic trees, 4 and 6) were within the order Spizellomycetales. While there are some parasitic taxa, many of this order are saprotrophs so further work would be needed to see if these are parasites of the algal host within lichens. Interestingly members of this group are able to degrade chitin and so it could be possible they are either parasitizing the fungal host or breaking down dead fungal matter. We also found several other non-lichenous Ascomycota taxa associated with the lichens in the order Pleosporales.

This work highlights that lichens are complex ecosystems with a range of associated fungi. Recent work published in Science has shown that some lichens have a third, Basidiomycete partner in the symbiosis (Spribille et al. 2016). While we didn't detect any Basidiomycota there were other Ascomycota present associated with the lichens as well as the Chytrids. Further work would be needed to know whether these

taxa are involved in the symbiosis or present and abundant within the cortex of the lichens.





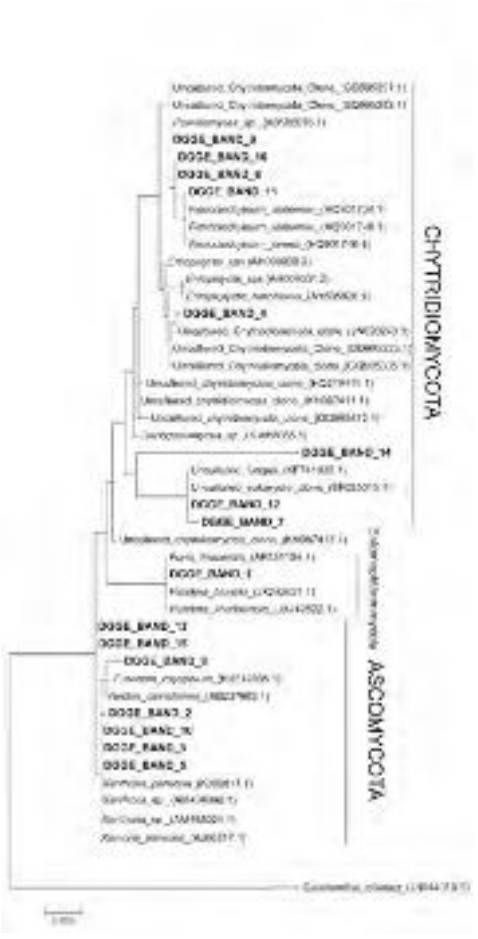


Figure 3 (previous page, top left). DGGE gel, showing samples of *Xanthoria f*rom a willow tree (Lanes 1-6) and a railing (Lanes 7-12) as well as from *Parmelia* from a willow tree (Lanes 13-16), amplified with primers for total fungi and preferential for Chytridiomycota targeting the ITS2 region. Bands cut out for sequencing are numbered.

Figure 4 (bottom left). Maximum Likelihood Phylogenetic tree of sequenced DGGE band isolates produced from primers for the ITS2 region of the rRNA operon and nearest culturured and uncultured relatives. *Cantharellus cibarius* was used as an outgroup.

Figure 5 (top right). DGGE gel, showing samples of *Xanthoria f*rom a willow tree (Lanes 1-5) and a railing (Lanes 6-10) as well as from *Parmelia* from a willow tree (11-15), amplified with primers specific for Chytridiomycota and basal fungi targeting the 18S rRNA region. Bands cut out for sequencing are numbered.

Figure 6 (bottom right). Maximum Likelihood Phylogenetic tree of sequenced DGGE band isolates produced from primers for the 18S region of the rRNA operon and nearest cultured and uncultured relatives. *Canthaellus cibarius* was used as an outgroup.

Overall the studentship was very successful, I gained experience in a range of molecular techniques as well as developing a passion and interest for lichens, so I am very grateful for the BLS for providing the funding for this work. In addition to this, and perhaps most importantly, we have made some interesting discoveries.

References

Barr, D.J.S. (2001). Chytridiomycota. In Systematics and Evolution (pp. 93-112). Springer Berlin Heidelberg.

Ishii, N., Ishida, S. and Kagami, M. (2015). PCR primers for assessing community structure of aquatic fungi including Chytridiomycota and Cryptomycota. Fungal Ecology, 13, pp.33-43.

Kowalchuk, G. and Smit, E. (2008). Section 3 update: Fungal Community Analysis using PCR-Denaturing Gradient Gel Electrophoresis (DGGE). In Molecular Microbial Ecology Manual (pp. 2673-2690). Springer Netherlands.

Nikolcheva, L.G. and Bärlocher, F. (2004). Taxon-specific fungal primers reveal unexpectedly high diversity during leaf decomposition in a stream. Mycological Progress, 3(1), pp.41-49.

Spribille, T., Tuovinen, V., Resl, P., Vanderpool, D., Wolinski, H., Aime, M.C., Schneider, K., Stabentheiner, E., Toome-Heller, M., Thor, G. and Mayrhofer, H. (2016). Basidiomycete yeasts in the cortex of ascomycete macrolichens. Science, 353(6298), pp.488-492.

William Wright
william.wright@hotmail.co.uk

Dr Joe Taylor University of York/ University of Salford.
drjoetay@gmail.com

Towards a Red List of lichen-forming and lichenicolous fungi in Spain and Portugal

Abstract
Many species of lichen-forming fungi are currently threatened by habitat loss, pollution, and climate change. Red Lists represent an important tool for conservation strategies of species and their habitats. To date, no Red List of these organisms is available in Spain and Portugal. Recently, the Spanish Lichen Society (SEL) launched an initiative in order to set up the first Red List of lichen-forming and lichenicolous fungi in Spain and Portugal (including Balearic and Canary Islands in the former, and Azores and Madeira archipelagos in the latter). Twenty five lichenologists are so far involved in the working group. Using the Checklist of the Iberian Peninsula as well as regional inventories for the Canary Islands and Azores as starting point, 288 species have been proposed as candidates for evaluation (218 for Spain and 70 for Portugal), according to IUCN criteria. Species considered extinct, occurring in highly declining habitats and endemics will be prioritised. Examples of the first documented species and the workflow used in this initiative are provided.

Introduction
Despite species extinction being a natural process, and occurring without human actions, biodiversity loss in the Anthropocene has accelerated massively. Species are becoming extinct at a rate that has not been seen since the last global mass-extinction event (Rockström et al. 2009). Lichen species and their natural habitats make up a perfect framework but human impact such as air pollution, climate change, eutrophication, deforestation, fire, tourism, has resulted in the decline of lichen species and fragmentation of their natural habitats. Why do we need, in Spain and Portugal, national lichen-forming and lichenicolous fungi Red Lists? The aim of red-listing following IUCN system is to evaluate the risk of extinction of a species using a comparable, revisable, transparent and objective assessment method (Dahlberg & Mueller, 2011). Red Lists represents an important tool for conservation strategies of species and their habitats since they provide useful and verified information to stakeholders. The Mediterranean region is in urgent need of such an important tool. To date, no Red List of these organisms is available in Spain and Portugal; among Mediterranean countries only Italy has red-listed their epiphytic species (Nascimbene et al. 2013)

The Spanish Lichen Society (SEL) launched an initiative to develop the first Red List of lichen-forming and lichenicolous fungi in Spain (including Balearic and Canary Islands) and Portugal (including Azores and Madeira). These Red Lists represent one of the most important goals for SEL after publication of the checklist of

Fig. 1. Threatened species and their habitats 1. A-B. *Acarospora placodiiformis,* Iberian gypsum steppes 1520 (*Gypsophiletalia*). C-D, *Teloschistes flavicans,* saxicolous on supralittoral xeric zone cliffs, Cíes Islands, Atlantic Islands Natural Park, NW of the Iberian Peninsula. E-F, *Dimerella tavaresiana,* thermo-mediterranean coastal forest (East of Spain). G-H, *Ramalina pluviariae*, saxicolous on vertical volcanic rocks, Fuerteventura (Canary Islands). Photos: A: V. Atienza, B: S. Pérez-Ortega, C: G. Paz-Bermúdez, D: A. Cordero, E-F: S. Fos, G-H: I. Pérez-Vargas.

the Iberian Peninsula and Balearic Islands (Llimona & Hladun, 2001) and the ongoing series of monographs devoted to the lichen-forming fungal biota of the Iberian Peninsula (Flora Lichenologica Iberica vols 1-10) published over the last 13 years.

Prior to the compilation of the Red List, numerous challenges have to be overcome, these being the most important: 1) monitoring the biodiversity status in Spain and Portugal, 2) identifying priority species and habitats and 3) identifying knowledge gaps.

The action framework was established during the workshop held on 13 April 2016 at the Royal Botanical Garden (Madrid). So far, twenty five Spanish and Portuguese researchers joined the Red List working group. The aims of this group consist of 1) putting together and updating existing information for Spain and Portugal, and their corresponding archipelagos using the Checklist of the Iberian Peninsula (*http://botanica.bio.ub.es/checklist.htm*), as well as regional inventories for the Canary Islands and Azores as a starting point. 2) Establishing and maintaining a network of lichenologists willing to contribute to a Red List in Spain and Portugal, including in this initiative both researchers and amateurs. 3) Proposing candidate species to be evaluated for the Red List. 4) Establishing standardized methodologies and protocols for data collection, species distribution mapping and threat assessments within the IUCN system framework of threat categories and criteria. 5) Preparing a Red List in Spain and Portugal with supporting data collected from species profiles and a database easy to update in the near future.

Planned methodology

The Red Lists will be based on existing information for Spain and Portugal in the Checklist of the Iberian Peninsula: Spain and Portugal (Hladun & Llimona, 2002-2007, regularly updated at *http://botanica.bio.ub.es/checklist.htm*), as well as regional inventories for the Canary Islands (Hafellner 1995, 1999, 2002, 2005, 2008, Hernández Padrón & Pérez-Vargas, 2010) and Azores (Flores Rodrigues & Aptroot, 2005; Carvalho, et al., 2008; *http://www.azoresbioportal.angra.uac.pt/pesquisa.php*). Regional checklists, and previous Red Lists, (i.e. Álvarez, 1997; Atienza & Segarra, 1999; Álvarez et al., 2001; Atienza & Segarra, 2000, Martínez et al., 2003; Pérez-Ortega & Álvarez-Lafuente, 2006a, b; Etayo, 2010, etc.) will be also utilized. Moreover, all information relevant to species conservation status, including species distribution, population trend information, habitat, ecology and life history, threats to the species and conservation actions in place, methodologies, current and proposed research, will be gathered.

Using the data gathered so far, some species have been chosen as candidates to be documented and evaluated according to IUCN criteria. For each selected species a conservation assessment will be made and threat categories will be given. The conservation status will be classified following the IUCN version 3.1 2nd edition and Gärdenfors et al. (2001). Categories Extinct (EX), critically endangered (CR), endangered (EN), vulnerable (VU) and near threatened (NT) and associated criteria A

Fig. 2. Threatened species and their habitats 2.: A, *Lobaria pulmonaria* and *L. amplissima* on *Quercus pyrenaica*, Peneda-Gerês (Portugal), National Park, Reserva de la Biosfera Transfronteiriza de Gerês-Xurés, (SIC) Natura 2000. B, *Parmeliella testacea* in well-preserved deciduous forests, Iberian Peninsula. C, *Leptogium cocleatum,* humid localities near streams, Tras-os-Montes e Alto Douro, Portugal. D, fire affecting woods, south east of Spain. E, *Platygramme buxi,* epiphytic on Boxwood in xerothermophilous formations with *Buxus sempervirens* on rock slopes, 5110 (*Berberidion* p.p.), North of Spain. Photos: A, D: V. Atienza, B: G. Paz-Bermúdez, C: M.E. López de Silanes, E: J. Etayo.

(reduction in population), B (geographic range), C-D (population size) are applied. The associated criteria E (quantitative analysis) is not used due to the absence of previous data and to the fact that, in most cases, their extinction probability could not be quantified. The same applies for condition B (c) relative to extreme fluctuations, which are not currently applicable in lichen-forming fungi. In addition, the following guidelines regarding biological aspects relevant for red-listing as well as the template for the species profiles have been proposed by the Red List working group based on previous recommendations (Scheidegger & Goward, 2002; Scheidegger & Werth, 2009; Dahlberg & Mueller, 2011) and our own discussions:

1. **Population size**: Population is defined as the total number of mature individuals of the taxon (IUCN, 2016). This is very difficult to apply in lichens, as it is often impossible to delimit a separate individual. This is especially true for tiny crustose species for which in addition, the number would depend on the observer's experience and patience. For practical reasons following Scheidegger & Goward (2002), Scheidegger & Werth (2009) and Dahlberg & Mueller (2011), the expression "Functional individual" is introduced to estimate population size for lichens. The term is defined for species growing on different substrates as follows: A) Lichens on trees and on dead wood: all conspecific thalli that inhabit an individual tree can be considered a functional individual (Scheidegger & Goward, 2002). B) Lichens on rocks or soil: individuals that inhabit 1 m^2 of rocks/soil can be considered a functional individual.
2. **Generation time**: Little is known about generation times in lichens, and specific research has only been carried out in a few species. The average age at which a thallus has produced diaspores which lead to the establishment of a succeeding generation varies among species (Lättman et al., 2009; Pentecost, 2014). For convenience, a 20-years period is tentatively established. Alternative generation times will be used when information is available.
3. **Area of occupancy (AOO)**: Is the area within the "extent of occurrence (EOO)" of one taxon, actually occupied by the taxon. For our purposes, we established as the minimum AOO for a lichen species as 1 km^2.
4. **Fragmentation:** Subpopulations separated by ≥100 km^2 or more are considered severely fragmented taking into account the biology and ecology of the species under study and the potential habitats available in the area. Different scales will be justified in particular cases.
5. **Red List Categories and Criteria B1 and B2:** Geographic range is reduced by 10% in the form of either area of occupancy AOO (B1) or extent of occurrence EOO (B2) for categories Critically Endangered, Endangered, and Vulnerable.
6. **Structure of datasheets:** For each evaluated species, a profile is compiled gathering the following information**:** 1. Scientific name, species authority, main synonyms, assessor and reviewer's names. 2. Pictures of the species habitus and habitat. 3. Identification data, a brief description indicating diagnostic characters and similar species. 4. Habitat and ecology, including information about species biology, photobiont, ecophysiology, synecology etc. when available.

5. Distribution and demography, global and regional distribution as well as information on the number of populations and their size. 6. Threats. Main threats observed and inferred for the species. 7. Conservation. Some species are already included in conservation action plans in some regions. 8. Proposed measures for the species conservation. Recommended research and actions made to better understand the species biology and improve its conservation. 9. Bibliography. 10. Finally a box with the IUCN threat category (global and regional), the AOO, EOO, number of localities and population size is added to the species profile.

7. **Species profiles:** Assessed and revised Red List species accounts will be uploaded to the SEL website being publicly accessible. Hard copies of species profiles will be generated at the end of the project.

Additional topics addressed, results and discussions during the first workshop

The main conclusions were related to the most significant threats to lichen species and their habitats:

One of the most serious, past, present and future threats to lichens of the Iberian Peninsula and the islands is fire, which causes the loss of suitable habitats for numerous lichens. Fires represent a future threat to the lichen diversity in Spain and Portugal, because numerous species depend upon old trees as a substratum. Most of the valuable lichen species are known from natural habitats, so fires are particularly harmful for natural habitats classified by the Habitats Directive 93/43/EC (2013 Interpretation Manual of European Union Habitats - EUR28) of the European Union Council. These are areas of common interest for conservation, e.g., coastal *Quercus coccifera* garrigue, Mediterranean sclerophyll forest, *Quercus faginea* and *Q. suber* forests, oak woods of *Q. robur*, *Q. pyrenaica* and *Castanea sativa*, Mediterranean endemic forest of *Juniperus* spp., Macaronesian laurel forest, Canarian endemic pine forest, palm groves of *Phoenix*, Iberian gypsum steppes (*Gypsophiletalia*), etc. Wild fires provoked by unknown causes are a natural component of the Mediterranean forest but, unfortunately, deliberate fires proliferate in the dry season. As an example, about 400 such fires occurred in Galicia (North West of Iberian Peninsula) last summer (2016).

The second and no less important cause of threat has been the habitat destruction and fragmentation caused by the building sector, particularly affecting the Iberian Mediterranean and Macaronesian touristic coastlines. This specially concerns endemic lichens growing on calcareous rocks, on siliceous outcrops or in coastal forest. Biological invasions of vascular plants are favoured by human activity. This constitutes a risk of decline for lichen species that grow exclusively in native forest.

In addition to the building sector, the human impact in land use also threatens survival of lichen species (Aragón et al., 2010). Croplands are extending in many Mediterranean areas of Spain and Portugal, fragmenting habitats and reducing connectivity among them. Natural areas remain isolated forming small patches unsuitable for the continuity of many susceptible species. Nitrogen deposition is an important driver of diversity loss, including lichens, in the Mediterranean region (Ochoa-Hueso et al. 2017). Moreover agricultural fertilizers and insecticides affect the

downstream flow and water oxygenation, and damage riverbanks where some threatened species grow. In the north of Spain many oceanic forests, especially the old forests of *Quercus robur*, have been cut down considerably to enlarge crops or grasses forming a network of many small islands that show a significant impoverishment of lichens and lichenicolous fungi.

Air pollution has also caused species decline: the so-called "lichen deserts" due to the silent spread of all pollutants (i.e. long distance pollutants, industrial pollutants or due to the combustion of fossil fuels, etc.). Consider a global change scenario in which a drier climate would favour fires, fragment habitats and alter forests. In coastal areas, this is predicted to affect the sea level and salinity and consequently the distribution of the species would be affected (Ellis, 2013, Miranda et al., 2002, Pereira et al., 2002).

So far, the Red List working group has proposed a total of 288 candidate species to be evaluated 218 in Spain and 70 in Portugal. Species considered extinct, occurring in highly declining habitats and endemics will be prioritized. During the workshop, four species were discussed and evaluated as working examples: *Acarospora placodiiformis* H. Magn. was classified as VU A2 A3 A4, *Dimerella tavaresiana* Vězda was classified as DD, *Ramalina pluviariae* Krog & Østh. was classified as VU B1ab (III,v) B2ab(III,v) and finally *Teloschistes flavicans* (Sw.) Norman was classified as DD. During the discussion it was pointed out that some of the evaluated species presented difficulties in terms of the research needed. These difficulties were relative to a) the evaluation of population sizes and connectivity among populations, b) the gaps on actual distribution ranges, c) the applicability of IUCN categories and criteria in countries such as Spain and Portugal, which include geographically distant island territories and, finally d) obtaining EOO values in disjoint areas.

Three lichen species have been recently assessed at a global scale in the framework of the Global Fungal Red List Initiative (http://iucn.ekoo.se) and included in IUCN Red List 1. *Anzia centrifuga* Haugan, classified as VU D2 (Aptroot et al. 2015); 2. *Ramalina erosa* Krog, classified as D (Aptroot, 2015), and 3. *Leptogium rivulare* Mont., IUCN classified NT (Randlane, 2015). *A. centrifuga* and *R. erosa* are endemic to Porto Santo (Madeira Archipelago) and *L. rivulare* has a scattered distribution in ten European countries, one of those being Portugal where it has been reported from Serra da Estrela (although not included in the IUCN profile). In addition, together with the previously mentioned species about 35 lichen species whose distribution area includes Spain or/and Portugal are nominated/under assessment through the Global Fungal Red List Initiative expert lichenological task.

Red lists are widely recognized as the most exhaustive and objective approach for assessing the conservation status of species in general and of lichen species in particular. They have a major impact on the public and help policy-makers to set priorities in the conservation of nature and to reduce species decline and extinction. The achievement of this goal would mean an important advance for lichen conservation particularly in the Mediterranean region.

Bibliography

Álvarez, J. (1997) Atlas bibliográfico de los líquenes y hongos liquenícolas citados para Galicia (NW España*). Nova Acta Científica Compostelana (Bioloxía)* 7: 233–369.

Álvarez, J., Sánchez-Biezma, M.J. & López de Silanes, M.E. (2001) Lista de los líquenes y hongos liquenícolas de Galicia. *Nova Acta Científica Compostelana (Bioloxía)* 11: 53-151.

Aragón, G., Martínez, I., Izquierdo, P., Belinchón, R. & Escudero, A. (2010) Effects of forest management on epiphytic lichen diversity in Mediterranean forests. *Applied Vegetation Science* 13: 183–194.

Aptroot, A. (2015) *Ramalina erosa*. The IUCN Red List of Threatened Species 2015: e.T70382699A70382708. Downloaded on 06 May 2017. *http://dx.doi.org/10.2305/IUCN.UK.20154.RLTS.T70382699A70382708.en*.

Aptroot, A., Pérez-Ortega, S & Scheidegger, C. (2014) *Anzia centrifuga*. IUCN Red List of Threatened Species 2014: e.T64081145A64081186. Downloaded on 06 May 2017.*http://dx.doi.org/10.2305/IUCN.UK.20143.RLTS.T64081145A64081186.en*.

Atienza, V. & Segarra, G. (1999) A first approximation checklist of the lichens of the Valencian. Community. *FIora Mediterranea.* 9: 231–268.

Atienza, V. & Segarra, G. (2000) Preliminary Red List of the lichens of the Valencian Community (eastern Spain). *Forest Snow and Landscape Research*. 75: 391–400.

Carvalho, P., Figueira, R. & Jones, M.P. (2008) The lichens and lichenicolous fungi (Fungi) of the Madeira and Selvagens archipelagos. In: Borges, P.A.V., Abre, C., Aguiar, A.M.F., Carvahlo, P., Jardim, R., Melo, I., Oliveira, P. Sergio, C., Serrano, A.R.M. & Vieira, P. (Eds). *A list of the terrestrial fungi, flora and fauna of Madeira and Selvagens archipelagos.* Direcçao Regional do Ambiente da Madeira. Universidade dos Açores, Funchal and Angra do Heroismo pp: 95-122.

Dahlberg, A. & Mueller, G.M. (2011) Applying IUCN red-listing criteria for assessing and reporting on the conservation status of fungal species. *Fungal Ecology* 4: 147–162.

Ellis, C.J. (2013) A risk-based model of climate change threat: hazard, exposure and vulnerability in the ecology of lichen epiphytes. *Botany* 91: 1–11.

Etayo, J. (2010) Líquenes y hongos liquenícolas de Aragón. *Guineana* 16: 1–501.

Flores Rodrigues, A.F. & Aptroot, A. (2005) New data and corrections to the List of Lichens and Lichenicolous fungi from the Azores. In: Borges, P.A.V., Cunha. R., Gabriel, R., Marins, A.F., Silva, L. & Viera, V. (Eds.) A list of terrestrial fauna (Mollusca and Arthropoda) and flora (*Bryophyta*, *Pteridophyta* and *Spermatophyta*) from the Azores. Direcçao Regional do Ambiente y Universidade dos Açores, Horta, Angra do Heroísmo. Ponta Delgada pp: 231-247.

Gärdenfors, U., Hilton-Taylor, C., Mace, G., & Rodríguez, J.P. (2001) The application of IUCN Red List Criteria at regional levels. *Conservation Biology* 15: 1206–1212.

Hafellner, J. (1995) A new checklist of lichens and lichenicolous fungi of insular Laurimacaronesia including a lichenological bibliography for the area. *Fritschiana* 5: 1–132.

Hafellner, J. (1999) Additions and corrections to the new checklist and bibliography of lichens and lichenicolous fungi of insular Laurimacaronesia I. *Fritschiana* 17: 1–26.

Hafellner, J. (2002) Additions and corrections to the checklist and bibliography of lichens and lichenicolous fungi of Insular Laurimacaronesia II. *Fritschiana* 36: 1–10.

Hafellner, J. (2005) Additions and corrections to the checklist and bibliography of lichens and lichenicolous fungi of Insular Laurimacaronesia III. *Fritschiana* 49: 1–13.

Hafellner, J. (2008) Additions and corrections to the checklist and bibliography of lichens and lichenicolous fungi of Insular Laurimacaronesia IV. *Fritschiana* 64: 1–28.

Hladun, N. & Llimona, X. (2002-2007) *Checklist of the Lichens and lichenicolous Fungi of the Iberian Peninsula and Balearic Islands*. http://botanica.bio.ub.es/checklist/checklist.htm

Hernández-Padrón C.E. & Pérez-Vargas, I. (2010) Lichenes, lichenicolous fungi. En: *Lista de especies silvestres de Canarias. Hongos, plantas y animales terrestres. 2009.* Arechavaleta, M., S. Rodríguez, N. Zurita & A. García (coord.). Gobierno de Canarias. pp: 71-105.

IUCN, The World Conservation Union, (2001) IUCN *Red List categories & Criteria* (version 3.1) 2nd edition. IUCN Species Survival Commission. IUCN, Gland, Switzerland and Cambridge, U.K.

IUCN Standards and Petitions Subcommittee. (2016) *Guidelines for Using the IUCN Red List Categories and Criteria*. Version 12. Prepared by the Standards and Petitions Subcommittee. Downloadable from http://www.iucnredlist.org/documents/RedListGuidelines.pdf.

Lättman, H., Brand, A., Hedlund, J., Krikorev, M., Olsson, N., Robeck, A. & Mattsson, J. E. (2009) Generation time estimated to be 25–30 years in *Cliostomum corrugatum* (Ach.) Fr.. *The Lichenologist* 41: 557-559.

Llimona, X. & Hladun, N. (2001) Checklist of the lichens and lichenicolous Fungi of the Iberian Peninsula and Balearic islands. *Bocconea* 14: 5–581.

Martínez, I., Aragón, G., Sarrión, F.J., Escudero, A., Burgaz, A.R & Coppins, B.J. (2003) Threatened lichens in central Spain (saxicolous species excluded). *Cryptogamie, Mycologie* 24: 73–97.

Miranda, P., Coelho, F.E.S., Tomé, A.R. & Valente, M.A. (2002) 20th century Portuguese climate and climate scenarios. Em: F.D. Santos, K. Forbes & Moita R. (Eds.) *Climate change in Portugal: scenarios, impacts, and adaptation measures*, SIAM project. Lisbon: Gradiva. pp: 23–83.

Nascimbene, J., Nimis, P.L. & Ravera, S. (2013) Evaluating the conservation status of epiphytic lichens of Italy: A Red List. *Plant Biosystems* 147(4): 898-904.

Ochoa-Hueso, R., Munzi, S., Alonso, R., Arróniz-Crespo, M., Avila, A., Bermejo, V., & de Carvalho, R. C. (2017) Ecological impacts of atmospheric pollution and interactions with climate change in terrestrial ecosystems of the Mediterranean Basin: Current research and future directions. *Environmental Pollution* 227: 194-206.

Pentecost, A. (2014) Growth and development of ascomata in two species of *Arthoniales*, *Arthonia calcare*a and *Alyxoria varia* (Lichenized Ascomycota: *Arthoniaceae* and *Lecanographaceae*). *Nova Hedwigia* 98 (1-2), 41-49.

Pereira, J.S., Correia, A.V., Correia, A.P., Branco, M., Bugalho, M., Caldeira, M.C., Cruz, C.S., Freitas, H., Oliveira, Â.C., Pereira, J.M.C., Reis, R.M. & Vasconcelos, M.J. (2002). Forests and biodiversity. Em: F.D. Santos, K. Forbes & Moita R. (Eds.) *Climate change in Portugal: scenarios, impacts, and adaptation measures*.SIAM project. Lisbon: Gradiva. pp. 363–413.

Pérez-Ortega, S. & Álvarez-Lafuente, A. (2006a) Primer catálogo de líquenes y hongos liquenícolas de la Comunidad Autónoma de Cantabria. *Botanica Complutensis* 30: 5-16

Pérez-Ortega, S. & Álvarez-Lafuente, A. (2006b) Primer catálogo de líquenes y hongos liquenícolas de la Comunidad Autónoma de Castilla y León (España). *Botanica Complutensis* 30: 17-52.

Randlane, T. (2015) *Leptogium rivulare*. The IUCN Red List of Threatened Species 2015: e.T71598929A71599036. http://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T71598929A71599036.en. Downloaded on 06 May 2017.

Rockström, J., Steffen, W., Noone, K., Persson, A., Chapin, F.S., Lambin, E.F., Lenton, T.M., Scheffer, M., Folke, C., Schellnhuber, H.J., Nykvist, B., de Wit, C.A., Hughes, T., van der Leeuw, S., Rodhe, H., Sorlin, S., Snyder, P.K., Costanza, R., Svedin, U., Falkenmark, M., Karlberg, L., Corell, R.W., Fabry, V.J., Hansen, J., Walker, B., Liverman, D., Richardson, K., Crutzen, P. & Foley, J.A. (2009) A safe operating space for humanity. *Nature* 461: 472-475.

Scheidegger, C. & Goward, T. (2002) Monitoring lichens for conservation: Red Lists and conservation action plans. In: Nimis, P.L., Scheidegger, C., Wolseley, P. (Eds*), Lichen Monitoring -Monitoring Lichens.* Kluwer, pp. 163–181.

Scheidegger, C. & Werth, S. (2009) Conservation strategies for lichens: insights from population biology. *Fungal Biology Reviews*, 23: 55–66.

Atienza, Violeta, [1] , Araujo E [2] , Burgaz A R [2] , Carballal R [3] , Etayo J [4] , Fos S [5] , Gómez-Bolea A [6] , Llop E [6] , López de Silanes M E [7] , Marcos B [8] , Marques J [9] , Martínez I [10] , Millanes A M[10] , Navarro-Rosinés P [6] , Paz-Bermúdez G [7] , Pérez-Vargas I [11] , Prieto M [10] , Rodrigues S [12] , Rodríguez-Arribas C [2] , Vivas M [13] , Pérez-Ortega S [14]

M.Violeta.Atienza@uv.es

[1]Departament de Botànica i Geologia, Facultat de Ciències Biològiques, Universitat de València, 46100 Burjassot, Valencia, Spain. [2]Departamento de Biología Vegetal I,

Facultad de Biología, Universidad Complutense de Madrid, Spain. [3]Departamento de Botánica, Facultad de Biología Universidade de Santiago de Compostela, 15700 La Coruña, Spain. [4]Navarro Villoslada Navarra 16-3° dcha., 31003 Pamplona, Navarra, Spain. [5]VAERSA. 46015 Valencia, Spain.[6]Departament de Biologia Evolutiva, Ecologia i Ciències Ambientals Ambientals (Botànica i Micologia), Facultat de Biologia, Universitat de Barcelona, 08028 Barcelona, Spain. [7]Departamento de Enxeñería dos Recursos Naturais e Medio Ambiente, Enxeñería Forestal, Universidade de Vigo, 36005 Pontevedra, Spain. [8]Departamento de Botánica, Facultad de Farmacia, Campus Universitario Miguel de Unamuno, 37007 Salamanca, Spain. [9]Centro de Investigação em Biodiversidade e Recursos Genéticos, Universidade do Porto, Portugal. [10]Departamento de Biología y Geología, Física y Química inorgánica, Área de Biodiversidad y Conservación, Universidad Rey Juan Carlos, 28933 Móstoles, Madrid, Spain. [11]Departamento de Botánica, Ecología y Fisiología Vegetal, Facultad de Ciencias de la Salud, sección Farmacia, Universidad de La Laguna, 38071 La Laguna, Tenerife, Spain. [12]Av. Coronel Gonçalves Pires, nº 66 lote 7 1º Esq. trás, 4900-673 Viana do Castelo, Portugal. [13]Ecobiosis, Dpto. de Botánica, Universidad de Concepción, Casilla 160-C, Chile. [14]Real Jardín Botánico, CSIC. Plaza de Murillo 2, 28014, Madrid, Spain.

Summary of Conservation News, Scotland – 2016

Two lichenological field meeting highlights for Scotland in 2016:

- BLS Field Meeting in June on the Sleat Peninsula, Skye
- The Sutherland week in June as part of the *Lost and Found Fungi project* (see Heather Paul's report in *Bulletin* 119, Winter 2016)

Lichen Habitats under threat in Scotland

Findhorn Dunes – Morayshire: Heather Paul continues working with the local community to raise awareness of the importance of this area as a prime lichen habitat. This included spending time with the award winning outdoor charity Wild Things (based in Moray Firth), again promoting lichens. The Findhorn Dunes lie on the east side of the River Findhorn, and are almost unique in the British Isles as an example of species-rich terricolous lichen communities on sand and shingle amongst wind-flattened *Calluna*. The Culbin SSSI lies on the west side of the Findhorn; Culbin of course is notified for terricolous lichen communities, but these occur amongst planted pines over old shingle beds where pines have failed, or are stunted – so, although Culbin is a wonderful lichen site, it is not a 'natural' coastal habitat, albeit with stunning example of 'beds' of *Cladina*. But the Findhorn Dunes (not a notified or

protected site), represent a natural coastal geomorphology and resultant ancient coastal vegetation. It is under threat, from development. Heather is in contact with SNH, but, as inevitably in these delicate situations, resolving the problems are by no means straightforward. Heather's voluntary work with lichens in Morayshire certainly deserves recognition and praise.

Alectoria sarmentosa subsp.. *vexillifera* on the dunes at Findhorn Dunes. 2008. Photo Sandy Coppins.

Aspen stands in Speyside: For some time Stewart Taylor has been particularly concerned about the aspens in and around his patch at Nethybridge (for bryophytes, fungi and lichens). He has recorded lichen rarities such as *Anaptychia ciliaris*, *Candelariella superdistans*, *Leptogium saturninum*, *Phaeocalicium populneum*, *Schismatomma graphidioides* and *Sclerophora pallida* on aspens. Stewart's concern is the poor recruitment of young aspens in many of the stands which today are of high national importance for notable lichen and bryophyte communities. Inappropriate grazing is seen as the main problem. However, he was alarmed recently when he noticed that an area of species-rich aspen and hazel near Speybridge had been 'managed' by removing dead wood, coppicing all hazels, and generally 'tidying up'. Although falling within **Cairngorms National Park** (one of only two National Parks

in Scotland), there appears to be no restrictions on what landowners may do with regard to woodland management of small plots – especially if the plot is not within a designated site. Stewart had recorded *Lobarion* communities on the now-coppiced hazels. Stewart is working with SNH and Cairngorm National Park (as well as with lichenologists, bryologists, mycologists and entomologists), to build confidence with local landowners to seeing the value in wildlife terms of these wonderful woodlands. Correspondence and meetings are on-going.

Tomnagowan Aspen Wood, Abernethy, October 2016. Photo Sandy Coppins

Apart from aspen, these charismatic woodlands also have birch, hazel and juniper in the stand, in what are essentially pasture woodlands. During his repeated forays into

the aspen sites, Stewart has recently found *Leptogium saturninum* on juniper, the first time this BAP lichen has been found on that plant.

Upland river systems, and potentially upland lochans: this is an on-going problem, which was discussed in the previous Conservation News Scotland (Bulletin 118, 2016). A small number only (one?) of Environmental Impact Assessments for the lichen interest for a proposed hydro scheme development was requested in 2016. It seems to be a Catch 21 scenario: until there is a sound basis of data for upland freshwater habitats, there can be no definitive assessments and guidelines. Unless funding for focussed recording, survey and assessment of aquatic habitats in the British Isles is secured, this is unlikely to change. Lichen information continues to be gathered ad hoc, and the assessments made by recourse to the few (albeit valuable) earlier surveys and recording efforts, but when so many species are graded Data Deficient, lichenologists haven't really got as leg to stand on in hoping to at least call for modification of hydro schemes.

John and Brian at the River Devon, 9th September 2016

I've been banging on about this for some years, and some tentative efforts have been made, such as by Vince Giavarini, but we haven't really made progress. Perhaps the BLS could encourage the institutions – RBGE, NHM and NMW – to draw up a project

to do a nationwide survey and assessment for freshwater habitats, as was done in the 1980s for Woodlands (Fletcher *et al.*, 1982), and later for Heathland communities (Fletcher *et al*. 1984). Funding perhaps could be sought from Esmée Fairburn Foundation? There are however, some hopeful rumblings coming out of SNH, that an ambitious project to assess the biome of Scottish river systems may take off, where lichens should feature. We wait in hope.

Whilst still on aquatic lichens, the BLS has funded John Douglass and Brian Coppins to monitor developments on the River Devon hydro scheme, where important colonies of the River Jelly Lichen *Collema dichotomum* occur.

In brief:

Rewards of diligence: Heather Paul has taken on the task of going through a substantial collection of *Siphula ceratites* made by the late Kenneth Ross. During her careful scrutiny and curation, she noticed some small perithecia embedded in the tip of a podetium. This proved to be a lichenicolous parasite new for the British Isles, **Sphaerellothecium siphulae** previously known only from the Russian Arctic. (see NR&I in this Bulletin).

King of the Stump Lichen: Bulletin 119, Winter 2016; Stewart Taylor's write up of his exploration and recording of *Cladonia botrytes* in his local area of Abernethy is fascinating. Perhaps the greatest revelation is that *C. botrytes* has now been recorded from stumps other than Scots Pine, with Stewart finding it on Lodgepole Pine stumps. This detailed study, focussing on a single species, is a superb example of what can be achieved by a naturalist (albeit a high calibre naturalist as Stewart), with a focus on a target species. His continuing enthusiasm and careful recording (on a voluntary basis), not only of the Stump lichen, but of the special lichens associated on aspen habitats, is an invaluable contribution to the lichen importance of the Cairngorms National Park.

Uplands: update on the report of last year about translocation experiments of *Flavocetraria nivalis*: the project is to be published, and will appear in the *Journal of Applied Ecology*. (See also the summary of work carried out by RBGE).

It would be interesting to discover (in terms of numbers of species) what is the ratio between epiphytic lichens compared with saxicolous/terricolous lichens. There tends to be great emphasis on trees and woodland as prime lichen habitats, but (and here I lay myself open to be shot down), possibly 50% of lichens – including some of Britain's rarest species for which the UK has international responsibility – occur on rocks or on the ground. The significance of the upland saxicolous/terricolous communities was emphasised way back in 2002, when Alan Fryday stated: "The mountains of the western Highlands of Scotland support a lichen vegetation that is apparently unique in Europe, and probably the world….. This vegetation should be given the highest conservation priority." Alan was emphasising the oceanic saxicolous and terricolous

communities, such as those found on Ben Nevis, Glen Coe, Ben Lui, Ben Hope and the Skye Cuillins (Fryday, 2002). This call for recognition of one of Britain's greatest natural assets seems largely to have gone unregarded, for example, lichens are not mentioned on the Glen Coe SSSI citation.

However, The National Trust for Scotland (who own Glen Coe), have recognised the lichen importance of the site, from the early work carried out by Alan Fryday in the 1990s (Fryday, 1993). So they recently commissioned Andy Acton to do a few days survey to cover areas not visited by Fryday. Andy recorded over 200 species, including 27 oceanic species. This compares favourably with the much larger montane Cairngorms and Ben Heasgarnich.

General: commissioned survey work for lichenologists in Scotland has been very thin this year; Andy Acton carried out an EIA for a hydro scheme at Allt Nathrach, Lochleven, a ravine pinewood where ***Pachyphiale ophiospora*** was discovered, a new species for the British Isles. (This again emphasises the value of surveys in previously unexplored sites in Scotland). Andy also undertook another small EIA for a road widening scheme along the A890, a stretch along by Balnacra, Wester Ross.

The site is also notable for the beautiful malachite-green *Peltigera malacea* (also found on the Findhorn Dunes).

In early March 2017, Andy Acton (assisted by John Douglass, Heather Paul, with Brian and Sandy tagging along) carried out repeat monitoring of lichen plots in **Culbin Forest SSSI** for Forestry Commission Scotland. The plots were set up in 1995, and have been partially repeated, and this 2017 work (including photographic monitoring) should provide valuable insights into the dynamics of the terricolous lichen communities at Culbin. Thirty-seven taxa of *Cladonia* and *Cladina* have been recorded here.

Otherwise, there were only a scatter of small paid projects: Andy, John and Brian were involved in site visits (including Glen Trool, Glen Loy and Grudie Oak Wood) collecting data for Sally Eaton's PhD project (funded by Forestry Commission Scotland); Andy had a small contract with RBGE collecting samples and environmental data relating to *Pseudocyphellaria intricata* for Kristine Bogomazova's taxonomic studies as part of her PhD. Esmée Fairburn funds contributed towards costs for the Lost & found Fungi project in Sutherland.

Scottish lichenologists were active in organising and running **training events**: Andy for RSPB (at Inversnaid); Plantlife (joint lichen and bryophyte training days for Forestry staff with Andy and Gordon Rothero); Native Woodlands Discussion Group (Glen Nant and Glen Creran); University of Highlands and Islands (Sonachan Hazelwoods, local people including a coppicer); Wild Mull (two days with Brian and Sandy, with presentations and field visits, raising awareness of the special lichen importance of Atlantic Hazelwoods). Forest Research also commissioned a day training at Glen Cripesdale to carry out repeat monitoring, plus another day at Ardtornish, training two operatives (McBirnie brothers) to set up community bands. These workshops and training days are often fairly demanding, poorly paid, but are welcome, as they help to boost interest and raise awareness of lichens, lichen habitats and provide appropriate management advice. This is so important, as, with such small amounts of funding seemingly available for detailed lichen surveys in Scotland at the moment, the workshops and training days do at least keep lichens on the radar.

Incidental lichen forays by John and Brian were made to several Scottish churchyards when Mark Powell made a visit to Scotland, and John took Mark to visit the lichens of Loudon Hill. Other ad hoc forays were made by John in company with Brian Simpson to East Kilbride and to Whitelee Forest. John has also contributed lichen ID for Trees For Life, significantly for Alan Watson Featherstone's blog http://www.alansblog.org.uk/?p=6470. Paul Harrold continues to make regular visits to Rannoch Moor, recording lichens on granite erratic boulders scattered over the moor and the many small lochans that give this locality its special character.

Other Scottish news: in August 2016, Steve Price, Andy Acton, John Douglass and Brian Coppins made the voyage out to **Fair Isle** in the *Good Shepherd*. They stayed for a pleasant week at the Fair Isle Bird Observatory, recording lichens on this small island. (Highlights will be recorded later in the Bulletin Summary).

Caloplaca scopularis with *C. verruculifera*, Fair Isle August 2016. Photo John Douglass.

Atlantic Hazel Action Group (AHAG): not much activity, except the sudden enthusiastic eruption on Mull, with the Wild Mull group, who have really taken on board that Mull holds several excellent examples of Atlantic Hazelwoods, and are promoting these. Just – watch this space. There is also a possibility that Atlantic Hazelwoods may form part of an ambitious scheme being promoted by Woodland Trust Scotland – West of Scotland Treescape.

Incidental lichen conservation news: Although there have been very few commissioned lichen surveys carried out in Scotland over the last 12 months, David Genney (SNH) has advised me about some significant advances in raising awareness of the habitat needs of lichens – in broad terms. For example, following the on-going spread of Ash-dieback *Hymenocyphus fraxineus* (see Forestry Commission website http://chalaramap.fera.defra.gov.uk/ and directives from FCS banning the planting of ash, SNH have considered how to provide future host trees for lichen communities formerly reliant on elm and ash; the role of sycamore as a useful alternative host for some lichen communities has been recognised so it is now an accepted non-native in designated sites. For example, in **Ross Park SSSI**, a planting plan for replacement parkland trees of oak and ash – sycamore is now suggested in lieu of ash. This is welcome, as there have been unfortunate instances at some sites in the past, where sycamore was removed on principal as a non-native, with no recognition that the trees may have supported the only *Lobarion* community in a locality.

Obviously, some common sense as to invasive regeneration will still apply, but the value of wayside or parkland sycamore should not be under-rated.

Positive habitat management for lichens has also been undertaken at some sites, after strong recommendations from lichenologists who carried out Site Condition Monitoring (SCM) work. For example **Lower Findhorn Woods SSSI;** where the Estate have been removing beech and rhododendron from areas notable for lichens.

References

Fletcher, A., Coppins, B.J., Hawksworth, D.L., James, P.W. & Rose, F. (1982) *Survey and assessment of epiphytic lichen habitats*. A report prepared by the Woodland Lichen Working Party of the British Lichen Society for the Nature Conservancy Council. 108pp.

Fletcher, A., Coppins, B.J., Gilbert, O.L., James, P.W. & Lambley, P.W. (1984). *Survey and assessment of Lowland Heathland Habitats*. A report prepared by the Heathland Working Party of the British Lichen Solciety for the Nature Conservancy Council. 98+ pages.

Fryday, A.M. (1993) *Lichen Survey of Glen Coe*: a report for the National Trust for Scotland.

Fryday, A.M. (2002) Distribution and importance of the lichen vegetation of the Scottish Highlands. *Botanical Journal of Scotland* **54**:133-151.

Sandy Coppins
lichensel@btinternet.com

Lichens at Abney Park Cemetery

A survey by the British Lichen Society, 22nd January 2017

It was a cold day when BLS members gathered for a welcome cup of coffee in the green visitor centre at Abney Park Cemetery just off the busy Stoke Newington High street. Tom Simpson the manager of this 13 ha local nature reserve greeted us and gave us an introduction to the site which has been an arboretum, a non-denominational cemetery and now a nature reserve.

The following BLS members attended the meeting: Judith Allinson, Joe Beale, Lesley Balfe, Ishpi Blatchley, Paul Cannon, Keith Cavanagh, Pat Cavanagh, David Hill, Mark Powell, William Purvis, Steve Price, William Purvis, Paula Shipway, John Skinner, Amanda Waterfield, Pat Wolseley.

One of the paths in the overgrown woodland part of the cemetery. Image © Joe Beale

Introduction

Abney Park Cemetery provided a convenient and interesting venue for the post-AGM field meeting of the BLS. Any lichenologist who wanted to see an exuberance of lichens or to learn about rare species would have been disappointed. The lichenologists

who attended (like all good lichenologists) are interested in all lichens including the common ones and are fascinated by the rapid changes occurring in lowland England. The weather was cold but sunny. Lichenologists were on site from approximately 09:30 to 16:00. The attendees appeared to retain their interest throughout the day and I doubt if anyone left the site without learning from others. The identification and taxonomy of common species is not necessarily easy; there were light-hearted (and constructive) disputes and several frugal specimens were collected for subsequent microscopic examination. The literature does not always treat common species with the information and illustrations that they deserve and, without being overwhelmed by diversity, time was available for the very important work of improving our knowledge of common species. Sixty-two species were confirmed as reliable records while several more are tentative or require additional work. At least one undescribed species (*Opegrapha hochstetteri* ined.) was recorded.

Management advice

When advising on the management of most other burial grounds, there are important lichen communities on the memorials which take priority. Abney Park Cemetery is different due to its urban location (with a legacy of atmospheric pollution) and, even more significantly, its overgrown and predominantly wooded nature, which has resulted in very impoverished lichen communities on the gravestones. Hence the proposed vision for Abney Park as a predominantly woodland site is not in conflict with any existing important lichen communities.

The area near the south gate (Church Street entrance) and beside the South Boundary Road retains a relatively open character and this southern edge of the cemetery also contains a concentration of chest tombs and other large memorials of various rock types. We would recommend that it is retained as a predominantly open, well-lit area. From a lichenologist's point of view, a slight extension of this open area northwards by removing encroaching shrubs and trees would be welcome, to completely expose the old chest tombs and other memorials to well-lit, airy conditions which would benefit saxicolous lichens. It would also be beneficial if ivy could be suppressed, and certainly kept from overgrowing memorials, in this narrow southern area of the cemetery.

The layman might expect the oldest trees to support the richest lichen communities but the history of atmospheric pollution has turned this assumption on its head in most urban sites. The bark of old tree trunks is retained for decades and becomes so modified by pollution (a sort of toxic legacy) that lichens tend to be sparse and few in number. The younger trunks of more recent trees often have richer communities. We did not have time to examine all of the veteran trees so it is just possible that a small community of notable lichens is present in a wound seepage track, on exposed lignum or deep in bark crevices of one or more of the veterans. Such communities are unlikely to be present in such an urban setting and, even if such were present, the management proposals as set out in the leaflet by Miller (2013) are entirely

appropriate for retaining any lichen interest which might be associated with the veteran trees.

We were informed that there are plans to clean stonework in the vicinity of the eastern gate (High Street entrance). Although lichens are present on this stonework, they are all common colonist species. A crude analogy would be that the lichens present are the equivalent of the daisies and buttercups present in a typical garden lawn – they are wildflowers but their conservation value is not comparable to the wildflowers in an unimproved meadow.

Now that we have a good baseline survey of the lichens present at Abney Park, future surveys have the potential to provide useful information about future changes in lichen communities in London.

Table 1 gives a list of all lichens and lichenicolous fungi recorded at Abney Park which have some stated conservation designation. {LF} = lichenicolous funus, LC = Least Concern, DD = Data Deficient, NS = Nationally Scarce, NR = Nationally Rare, (Sc = relevant to Scottish sites), IR = a species for which Britain & Ireland has International Responsibility. The Nationally Scarce and Nationally Rare species in the table are thought to be either under-recorded (due to their inconspicuous nature or previous taxonomic uncertainty) or undergoing recent changes in distribution.

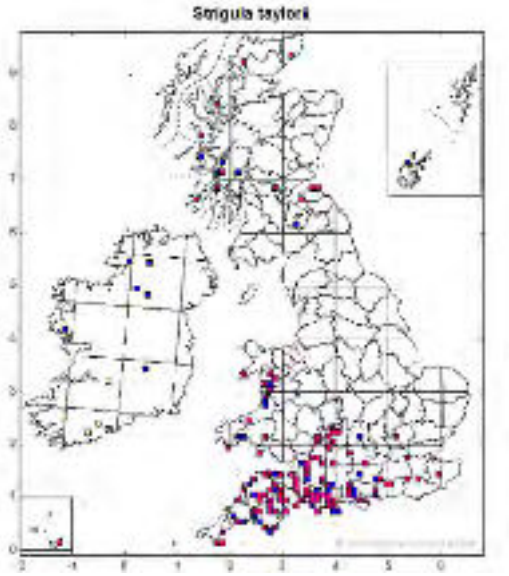
Table 1. List of lichens and lichenicolous fungi at Abney Park which have conservation designations as indicated by Woods & Coppins (2012).

2442	*Caloplaca arcis*	0	LC NS
2443	*Caloplaca dichroa*	0	LC NS Sc
1018	*Flavoparmelia soredians*	0	LC Sc
2071	*Illosporiopsis christiansenii*	{LF}	LC NS
1707	*Lecania inundata*	0	LC NS
2542	*Opegrapha hochstetteri ined.*	{LF}	LC NR
2464	*Phylloblastia inexpectata*	0	LC NS
1614	*Porina byssophila*	0	DD NR Sc
1375	*Strigula jamesii*	0	LC NS
1378	*Strigula taylorii*	0	LC NS Sc IR
2260	*Unguiculariopsis thallophila*	{LF}	LC NS

Noteworthy species and features

Strigula taylorii is present in some quantity at Abney Park and is particularly associated with the lower trunks of pole-size to moderately large *Fraxinus* trees. Woods & Coppins (2012) list *S. taylorii* as Nationally Scarce (though IUCN Least Concern) and as a

species for which Britain has International Responsibility. Coppins & Orange (2009) give the following information about its habitat and distribution: "On usually ± smooth bark or mature trees (especially *Acer* and *Fraxinus*) in sheltered situations, or on limestone: local. S.W. England, Scotland, Ireland." Fig. 1 shows the distribution of *S. taylorii*, taken from the BLS website. Like all such maps it is not fully up to date and there are records from Huntingdonshire, Essex and Cambridgeshire awaiting incorporation. Nevertheless, it gives an impression of the recent spread of this species. Previous under-recording has to be considered but the recent appearance in East Lothian (Brian Coppins' home territory) is further indication that the eastward advance is a true phenomenon.



Distribution map of *Strigula taylorii*, post-2000 records in pink.

At Abney Park, *S. taylorii* often occurs in association with *S. jamesii*, *Porina aenea* and *P. byssophila*. All but *P. aenea* would, until recent years, have been considered notable species in the region. These interesting species, all having a similar growth form (crustose lichens with a Trentepohlioid photosynthetic partner and perithecioid ascomata), have expanded their range and become better understood (e.g. Powell, 2013).


The memorial to William Booth, founder of the Salvation Army. Image © Steve Price

Absentees

Surveyors often omit to note species which they have anticipated but failed to find. This information can be almost as useful for monitoring changes as recording the presence of species. There is provision within the BLS

spreadsheet for such 'nil' occurrences. Please note the guidelines for filling spreadsheets which stresses that records of absence should be highlighted to prevent them being incorporated into the database as records of presence. During our lunchtime chat the following were mentioned as notable absentees which we might have expected to see: *Arthonia spadicea*, *Dimerella pineti* and members of the genus *Opegrapha*.

The tree canopy

Our knowledge of the lichens on branches and twigs at Abney Park is very incomplete and relied on the examination of occasional low-hanging branches and the very few windblown twigs we found. There appears to be a rather rich covering of lichens on some of the branches when viewed from the ground. These canopy species are more of academic interest than of conservation importance (there is no reason to suspect that these communities are any different from those on branches of other trees in the region). If a future survey has access to recently felled or windblown trees the difference of access to the branch and twig communities will have to be taken into account when comparing the lists.

A moderately sized *Fraxinus* trunk towards the north end of the cemetery. This trunk exhibits an interesting range of lichens due to its leaning trunk. The dry, underhanging side has an abundance of *Anisomeridium polypori*. The upper slope is modified by years of water flushing (rain water collected by the crown) and provides a habitat for *Strigula jamesii* which prefers soft bark. Towards the base of the trunk are extensive colonies of *S. taylorii*.

Foliicolous lichens

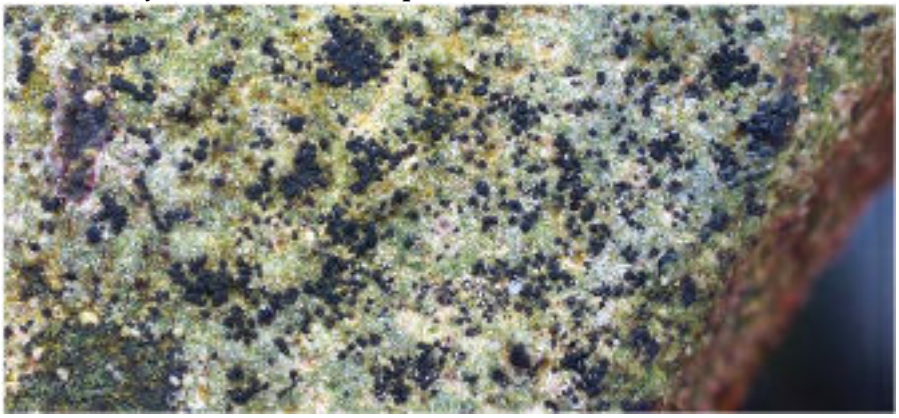
Some lichens specialise in growing on the surface of evergreen leaves. Aptroot (2012) reported that: "In the past decades there has been a dramatic increase in the occurrence of foliicolous lichens in Western Europe", and attributed this phenomenon thus: "The enormous increase of the occurrence of foliicolous lichens in temperate Europe is doubtlessly due to global warming, which has made the climate in these parts warmer and wetter, that is more humid for more prolonged periods". Only one species with a BLS number was recorded (*Phylloblastia inexpectata*) and even this species is rather tenuously lichenized. Another species (*Seuratia millardetii*) was found on holly leaves; this fungus once had a name suggesting that it was a lichen (*Collema epiphyllum*). While it bears a superficial resemblance to the lichenized genus *Collema*, it is really a free-living fungus with no close relationship to *Collema*. Another foliicolous fungus, *Dennisiella babingtonii*, was identified subsequently from a collected leaf. If evergreen shrubs remain a feature of Abney Park it will be fascinating to see if further foliicolous species appear.

Lichenicolous fungi

Lichenologists also study the fungi that infect them. Lichenicolous fungi live on or in lichens and are often host-specific and pathogenic. Just as rose bushes and cereal crops are infected by various fungi, similarly many lichens are infected by fungi which specialise in infecting them. *Lecanora chlarotera* is a species of lichen which was virtually excluded from Eastern England by sulphur dioxide pollution but which has reinvaded to become a ubiquitous part of the lichen community that colonises young bark. *L. chlarotera* was already common in Eastern England many years before *Unguiculariopsis thallophila* started to become a common infection of its thalli.

An undescribed species

Opegrapha hochstetteri ined. is a lichenicolous fungus that infects the saxicolous lichen *Verrucaria muralis*. *O. hochstetteri* has been recognised as a separate organism for many years but remains yet, an undescribed species.



Opegrapha hochstetteri, small clusters of minute fruiting bodies infecting the thallus of *Verrucaria muralis*.

Leptogium turgidum, fertile thallus on a limestone memorial

The Lichens

A previous survey was conducted by Ishpi Blatchley and Amanda Waterfield in 2002 and their records are incorporated into the table below. The records for the site are also available in the form of an Excel spreadsheet.

Table 2: list of lichens and lichenicolous fungi recorded at Abney Park Cemetery

Column A gives the standard BLS number for each taxon. If Column A is filled with red it indicates that the taxon is new for VC 21 (Middlesex).
Column B gives the name of each taxon recorded.
Column C indicates whether the taxon is a lichenicolous fungus {LF} or a lichen (0).
Column D gives the conservation designations as follows: LC = Least Concern, DD = Data Deficient, NS = Nationally Scarce, NR = Nationally Rare, Sc = relevant to Scottish sites, IR = a species for which Britain & Ireland have International Responsibility.
Column E gives the substratum upon which the taxon was growing: Cort = corticolous (growing on bark), Lic = lichenicolous, Sax = saxicolous (growing on stone).
Column F provides habitat using the standard BLS habitat codes.

A	B	2002	D	E (2017)	F (2017)
10	*Acarospora fuscata*		LC	Sax	XM,SSd
	Amandinea punctata	•			
49	*Anisomeridium polypori*		LC	Cort	CFx,CQ
69	*Arthonia radiata*		LC	Cort	CFx
107	*Aspicilia contorta* subsp. *contorta*		LC	Sax	SCo
	Buellia aethalea	•			
	Buellia griseovirens	•			
2442	*Caloplaca arcis*		LC NS	Sax	SGr
	Caloplaca citrina s. lat.	•			
249	*Caloplaca crenulatella*	•	LC	Sax	XM,SLm
2443	*Caloplaca dichroa*		LC NS Sc	Sax	XM,SLm
2315	*Caloplaca flavocitrina*		LC	Sax	XM,SSd
2527	*Caloplaca holocarpa s. str.*		LC	Sax	XM,SSd
2461	*Caloplaca oasis*		LC	Sax	SLm
289	*Candelaria concolor*		LC	Sax	XM,SGr
291	*Candelariella aurella* forma *aurella*	•	LC	Sax	SLm
296	*Candelariella medians* forma *medians*		LC	Sax	SLm
297	*Candelariella reflexa*		LC	Cort	CFx,CQ
298	*Candelariella vitellina* forma *vitellina*	•	LC	Sax	XM,SSd
306	*Catillaria chalybeia* var. *chalybeia*	•	LC	Sax	SGr
311	*Catillaria lenticularis*	•	LC	Sax	XM,SLm
	Cladonia chlorphaea	•			
440	*Collema crispum* var. *crispum*		LC	Terr	
460	*Collema tenax* var. *ceranoides*		LC	Terr	
	Dimerella pineti	•			
1018	*Flavoparmelia soredians*		LC Sc	Cort	CFx
1125	*Hyperphyscia adglutinata*		LC	Cort	CFx,CCo
2071	*Illosporiopsis christiansenii* (LF)		LC NS	Lic	Z1112,CFx
613	*Lecania cyrtella*		LC	Cort	CSm,CAe
614	*Lecania cyrtellina*		LC	Cort	CSm
616	*Lecania erysibe s. str.*		LC	Sax	XM,SLm

	Lecania erysibe s. lat.	•			
1707	*Lecania inundata*		LC NS	Sax	XM,SLm
159	*Lecania naegelii*		LC	Cort	CFx
627	*Lecanora albescens*	•	LC	Sax	XM,SLm
635	*Lecanora campestris* subsp. *campestris*	•	LC	Sax	XM,SSd
639	*Lecanora chlarotera*		LC	Cort	CFx,CQ
	Lecanora conizaeoides	•			
644	*Lecanora crenulata*		LC	Sax	SLm
646	*Lecanora dispersa*	•	LC	Sax	XM,SSd
649	*Lecanora expallens*		LC	Cort	CFx
621	*Lecanora hagenii*		NE	Cort	CFx,CTw
661	*Lecanora muralis*	•	LC	Sax	XM,SSd
	Lecanora polytropa	•			
	Lecanora symmicta	•			
2474	*Lecidea grisella*		LC	Sax	XM,SSd
797	*Lecidella elaeochroma* forma *elaeochroma*		LC	Cort	CFx
802	*Lecidella scabra*		LC	Sax	XM,SSd
803	*Lecidella stigmatea*		LC	Sax	XM,SSd
1974	*Lepraria incana s. str.*		LC	Cort	CFx
	Lepraria incana s. lat.	•			
849	*Leptogium turgidum*		LC	Sax	XM,SLm
1020	*Melanelixia subaurifera*	•	LC	Cort	CFx,CQ
2542	*Opegrapha hochstetteri ined.* (LF)		LC NR	Sax	XM,SLm
1022	*Parmelia sulcata*	•	LC	Cort	CQ,CAe
1107	*Phaeophyscia orbicularis*	•	LC	Cort	CFx,CAe
2464	*Phylloblastia inexpectata*		LC NS	Fol	FIx
1112	*Physcia adscendens*	•	LC	Cort	CFx
1114	*Physcia caesia*	•	LC	Cort + Sax	SGr,CFx
1120	*Physcia tenella*	•	LC	Cort	CFx
1168	*Porina aenea*		LC	Cort	CFx
1614	*Porina byssophila*		DD NR Sc	Cort	CFx
1690	*Porpidia soredizodes*		LC	Sax	XM,SSd
1189	*Protoblastenia rupestris*		LC	Sax	SLm

1200	*Psilolechia lucida*	•	LC	Sax	XM,SSd
1630	*Psoroglaena stigonemoides*		LC	Cort	CSm
1989	*Punctelia jeckeri*		LC	Cort	CTw,CAe
	Ramalina farinacea	•			
1289	*Rinodina oleae*	•	LC	Sax	XM,SSd
1306	*Sarcogyne regularis*		LC	Sax	SCo
1320	*Scoliciosporum chlorococcum*		LC	Cort	CQ
1375	*Strigula jamesii*		LC NS	Cort	CFx
1378	*Strigula taylorii*		LC NS Sc IR	Cort	CFx,CPr,CQ
1389	*Thelidium incavatum*		LC	Sax	XM,SLm
1581	*Trapelia coarctata*	•	LC	Sax	XM,SSd
2260	*Unguiculariopsis thallophila* (LF)		LC NS	Lic	Z0639,CFx
1871	*Verrucaria elaeina*	•	LC	Sax	XM,SLm
1507	*Verrucaria muralis*	•	LC	Sax	XM,SLm
2514	*Verrucaria nigrescens* forma *tectorum*		LC	Sax	XM,SSd
1530	*Xanthoria parietina*	•	LC	Cort	CFx
1531	*Xanthoria polycarpa*		LC	Cort	CFx.CQ
	Bacidia cf. caligans			Sax	XM,SLm
	Bacidia cf. chloroticula			Sax	

References

Aptroot, A. (2012). A new foliicolous *Fellhaneropsis* (*Pilocarpaceae*) from the Netherlands. *Lichenologist* **44**: 441-448.

Miller, R. (2013). The Veteran Trees of Abney Park Cemetery Nature Reserve (2nd edition). A leaflet produced by the Abney Park Trust.

Smith, C.W., Aptroot, A., Coppins, B.J., Fletcher, A., Gilbert, O.L., James, P.J. & Wolseley, P.A., (eds) (2009) *The Lichens of Great Britain and Ireland*. London: British Lichen Society.

Woods, R.G. & Coppins, B.J. (2012). A Conservation Evaluation of British Lichens and Lichenicolous Fungi. Species Status 13. Joint Nature Conservation Committee, Peterborough.

Mark Powell and *Pat Wolseley*
markpowell222@btinternet.com

BLS photography workshop, February 2017

On a weekend in February, 17 keen, and not so keen (in my case), photographers gathered in the Jodrell Laboratory at Kew to pick up tips and advice on lichen photography. Most were members of the BLS but it was good to see some BMS (British Mycological Society) members too. Armed with a camera much too big and heavy for me I waited avidly for instant transformation into a competent macro photographer – we can all dream!

The first morning started with an insightful talk by Frank Dobson. Frank has made a career of photography. Being a reluctant changer from film to digital, his summary of the benefits of modern digital cameras gave a strong sense of considered wisdom. I was also left with the realisation that to get the best from any equipment entailed understanding fixed limitations and learning how best to adjust to these. Tips abounded throughout the talk.

- Fit a UV filter. They affect photos very little but are cheap to replace if damaged, whereas lenses are not!
- Photos are better ⅓ stop under-exposed, giving a slightly darker image. If over-exposed, there are no highlights.
- Carry tweezers (for miniature gardening), scissors, a small brush, a puffer, mapping pins (in a bright colour) and tissues (for drying off free water).

Most people had turned up with tripods, mainly of the bendy 'gorilla' type. Outside, on the stone walls, I realised how essential these were. I envied everyone with a tripod and a delayed shutter setting on their camera. As for cameras with automatic photo stacking… my green gills started to show. Turning up with a dead camera battery gave me a great excuse to watch others at work.

- Soften bright sunlight with a thin hanky.
- Use crumpled silver-foil to reflect extra light.

Some of the tips reminded me of the days when my father despaired of ever teaching me not to waste film.

- Use the smallest stop you can, consistent with a speed you can manage to hold still for → 'aperture priority' setting.

What is a stop? Something to do with the word aperture? Luckily, I figured that if someone was clever enough to program a camera with an 'aperture priority' setting – and I bought one of these – I might never need to know. That's providing I was happy to aim for 'much better', even 'good' photos and leave 'excellence' to others. I was full of admiration for those who enjoy the care it takes to worry about, and experiment with, so many tiny aspects of taking a photo.

- Ring lights can make photos always look upside down. Block out the bottom right-hand side of the ring to give a comfortable sense of direction for the photo's viewers.

I particularly liked to see the gadgets that people used. These ranged from a plastic take-away tub with a hole cut in the base to a home-made spike for holding cameras steady in soil. So inventive and creative!

- Clear plastic containers are useful to create suitable light. Make a hole to photograph through and place over the specimen.
- A lens hood protects the lens and cuts down flare.

Later in the course we moved on to indoor specimen photography, learning that you can purchase 'neutral grey' card to use as a non-busy, non-distracting background – and that it helps digital enhancement software too. You can even buy plastic sheets of neutral grey for use in the field.

- Brush dry specimens to remove dust. Brush gently with a small amount of water.
- Photograph specimens on a glass sheet lifted above a suitably coloured background, in order to soften shadows.

With my battery charged I learnt that a heavy camera without a tripod is a no-hoper. In fact, for me, heavy camera was a no-hoper for <u>all</u> shots until a fellow learner taught me to brace my arms against my body and support the weight of the lens to reduce shake.

- A small aperture setting gives getter depth of field but requires a longer shutter speed making it especially important to reduce shake.
- Each lens has an optimum aperture for maximum resolution (clarity) – usually in the middle of the range of aperture settings.

Meanwhile the 'show and tell' sessions revealed the fabulous images being taken by others on the course. How I long to be able to do that!

- Best to have the closest part of an object in focus.
- Initial autofocus with manual tweaking is often best.

A huge amount was said about light.

- High light usually good.
- Shade subject from full sun.
- Use ring light rather than flash.
- Very low light levels give pictures a bluish tint.
- Tungsten lights give a yellow tint.
- LED light is generally neutral.

Lastly the course covered digital image enhancement. I took notes on a plethora of software names which I wish I could find time to investigate: Irfan View, GIMP, Adobe Photoshop (Photoshop Elements, only £50 but still excellent), Combine ZP, Helicon, Zerene, MycoCam.

There was a huge amount to take in. Some people arrived already taking really good photos. I arrived a complete novice. We all left with more ideas, tips and knowledge. I even left with the enthusiasm to try – as soon as I put the heavy work-owned SLR in a cupboard and purchase something I can hold!

Thank you to Frank Dobson and Paul Cannon for a very enjoyable and informative weekend.

Fay Newbery
fay.newbery@btinternet.com

Report of the BLS field meeting to Sleat, Skye, 11th to 18th June 2016

The Sleat (Slèite) peninsula forms a geographically distinct area of south-east Skye and the field sites selected for us by not-so-local organisers **John Douglass** and **Andy Acton** covered the full range of habitats and geology that could be encountered. These included coastal rocks and cliffs; oak, birch, ash and hazel woodlands; mountain slopes, lochans, moors and boulderfields; mature parkland trees and gardens; limestone pavement; siliceous and basic rock outcrops; churchyards; and rocky watercourses - something for every taste.

There were sites to study from Broadford in the north to the Point of Sleat at the southern tip; the east coast; the west coast; and the rich wooded valleys between. Some of the sites like the Kinloch and Kyleakin Hills SSSI had been well studied before but were well worth re-visiting. Most of the other sites were unknown quantities but showed potential. So there was lots to do!

The meeting base was **Sabhal Mòr Ostaig**, University of the Highlands & Islands, Sleat, Isle of Skye (Slèite, An t-Eilean Sgitheanach). Here excellent en-suite accommodation, meeting room / lab facilities, and catering were enjoyed by attendees whilst overlooking the Sound of Sleat to the mountains of mainland Scotland.

BLS group obscuring a very interesting lying trunk in the grounds of Armadale Castle.
Standing: Steve Price, Graham Boswell, Heather Paul, Nduri Abah, Allan Pentecost, Tracey Lovering, Margaret Chapman, Annelie Burghause, Oliver Moore's hat, Andy Acton, Paul Cannon, Simon Kennedy's hat, Steen Christensen, Inge Christensen, John Douglass, Richard Brinklow, Sheila Brinkley, Frank Burghause, David Brabban. *Seated*: Les Knight, Sue Knight, Heather Colls, Maxine Putnam, Eluned Smith. Image © Steve Price

There were 26 attendees: Nduri Abah, Andy Acton, Nicola Bacciu, Graham Boswell, David Brabban , Sheila Brinkley, Richard Brinklow, Annelie Burghause, Frank Burghause, Paul Cannon, Margaret Chapman, Inge Christensen, Steen Christensen, Heather Colls, John Douglass, Simon Kennedy, Les Knight, Sue Knight, Tracey Lovering, Oliver Moore, Heather Paul, Allan Pentecost, Matt Prince, Steve Price, Maxine Putnam, Eluned Smith.

The bulk of this report is derived from a blog produced by Tracey Lovering [*sympathetically edited by Steve Price*]

BRITISH LICHEN SOCIETY SUMMER MEETING - ISLE OF SKYE/SLEAT
11-16 June 2016 [*The 16th for Tracey, the 18th for the rest of us. Ed.*]

Plantlife Cymru supported my attendance at the BLS Summer Meeting this year as project manager of the Plantlife Cymru CENNAD Lichen Apprenticeship Scheme. Below follows a meeting blog for apprentices and others interested or curious about lichens...

No 'sleet' to be seen - just sunshine, light showers and miles of beautiful indented lichen covered rocky shores, coastal gullies, lobarion-draped and midge flocked birch and willow coastal dells, peaty pools and overhangs, rocky rivulets and siliceous delicious crags... and that was just day one!

Our venue for the week was the amazing setting of Sabhal Mòr Ostaig, Skye's Gaelic College. After an evening meal, looking out across the expanse of the Sound of Sleat, we met for introductions to the group and the week, and set up our microscopes. The walk over to our lab base introduced us to the local Lobarion riches that draped the sycamores en route, extending to *Collema* clusters on the rendered building wall.

DAY 1: 12th June. Warm and very still... (some would say ominous?) (midge-tastic conditions)

Our first stop were the siliceous boulders on the slopes of **Aird Ghunall**, set amongst lush flush vegetation of butterworts and star sedge. Topped with a sprinkling, a drift, followed by a small (Scotland-wise) siege of midges, we re-acquainted ourselves with a good number of attractive acidic crusts before heading on to the willow and birch carr nestled alongside the stream, picking out some riparian and aquatic species en route, *Verrucaria aethiobola*, *Ionapsis lacustris* amongst others. The carr took some courage to enter, knowing of the midges

Pseudocyphellaria crocata

waiting in ambush. With netted faces we entered a beautiful dell of Lobarion jewels – complete with *Pseudocyphellaria crocata*, *Leptogium brebissonii* (NT NS IR) and *Sticta ciliata* – definitely well rewarded!

After a quick tricky 'netted' roadside lunch we opted for a midge break with a light sea breeze and a pot of tea, overlooking the **Isle Ornsay**. *Caloplaca crenularia* was noted on a wall, just before *C. ferruginea* was noted on a willow twig (a happy coincidence to spot both one after each other we thought, being so close in looks but different in habitat). We picked our way around the bay finding amongst the maritime community western oceanic specialities of *Degelia ligulata* nestled up against a rock above high tide, *Parmotrema crinitum* and *Nephroma laevigatum*.

Personal highlight of the day: the tiny cilia- lined lobes of the recently described *Sticta ciliata* Taylor (Magain, N. & Sérusiaux, E. Mycol Progress 2015 14:97).

DAY 2: 13th June. A full day meander to the **Sleat light-house** revealed a number of siliceous faces, peaty hags, deep cryptogam-bedded coastal gullies, rocky shores, and hard cliffs to search amongst.

North-western gems and quirky species included: *Pycnothelia papillare* under a peat overhang, *Bunodophoron melanocarpon* (both rarer outside of Scotland), *Micarea viridileprosa*, *Umbilicaria torrefacta* fruits and *Mycoglaena myricae* on *Myrica gale*, following its specific epithet (though also recorded on *Alnus*, *Betula*, *Sorbus*).

Pycnothelia papillare

Big Buoy Footie (image Tracy Lovering)

Personal highlights of the day: exploring the riches of coastal gullies, looking out over the seascape to Rum, and laughing until my sides hurt watching big buoy footie.

DAY 3: 14th June. The following days took us to many wonderful places, both at the larger landscape level, and at the macro and micro level. **Armadale Castle Arboretum** demonstrated that where the conditions are right Lobarion riches really don't mind where they grow. Species draped exotics, and extended to the steps and gravel path edges where *Leptogium britannicum* competed with *Lobaria scrobicularia*, *L. pulmonaria*, *Degelia atlantica* and *Peltigera collina*. *Fuscopannaria sampaiana* and *D. cyanoloma* were amongst the epiphyte jewels. I was very pleased to find the tiny beauty *Heterodermia obscurata* (NT NS Sc), and fruiting *Megalaria pulverea*, both on *Prunus*. Andy Acton had the misfortune to lie on a nest of ticks while looking at the path edges. A frantic brush off followed! A sober warning to check frequently for ticks each night when back at base, knowing the dangers of Lyme disease.

Cliffs at Bagh a' Mhuillinn (image Steve Price)

The afternoon was spent exploring the riches of **Rheithe Choille**, attempting to dodge the midges, while looking at beautiful assemblages of the Lobarion community draping the *Salix* carr. Defeated finally by the tiny flying warriors, we escaped down to the **Bagh a' Mhuillinn** (above) for sea breezes and some rewarding fossicking amongst the coastal cliff clefts finding *Vahliella leucophaea* and *Toninia sedifolia* amongst others.

Vahliella leucophaea

DAY 4: 15th June. Atlantic woodland specialities were recorded in abundance at **Kinloch** to **Leitr Fura** ash-hazel woods (part of the Kinloch and Kyleakin Hills SSSI) including *Leptogium hibernicum*, *L. cochleatum*, *Leptogium britannicum*, *Pseudocyphellaria intricata*, *P. norvegica*, *Thelotrema petractoides* and *Bunodophoron melanocarpum*. I was also really pleased to find a huge expanse of fruiting *Hypotrachyna taylorensis* (rarely fertile).

Hypotrachyna taylorensis

DAY 5: 16th June. The flanks of **Beinn na Caillich** were explored for their limestone outcrops, siliceous rocks, peat hags and upland pools. Species included *Romjularia lurida*, *Gyalecta jenensis*, *Caloplaca flavovirescens*, *Cladonia crispatum* var. *cetrariiformis*, *Dibaeis baeomyces*, *Hymenelia epulotica* and *Pertusaria flavicans*.

It was hard to leave Skye a day earlier than others - knowing I'd be missing much. But crossing the Sound of Sleat back to the West Coast mainland, I looked back at Skye, knowing with a great sense of blessing that I had observed and loved the lichen-rich niches of Skye that most passed by, unknowing.

Point of Sleat to Rum (image © Tracey Lovering)

Tracey Lovering
Plantlife Cymru Lower Plants and Fungi Officer Wales/ Wales Plant Link Cymru (PLinC) Officer

DAY 6: 17th June (or "*What Tracey Missed*" by Steve Price)
The final day in the field took us across to the west coast of the peninsula along the valley of the **Allt a' Ghasgain** with its rich oak and birch woods and its rocky watercourses. Delights here, apart from the now normal Lobarian riches, included *Menegazzia terebrata* growing directly on rock.

North of the bay were limestone boulders and outcrops whilst to the south sandstone cliffs could be enjoyed. I say enjoyed because here *Lobaria pulmonaria* was abundant on the cliff faces and the adjacent trees. Accompanied, of course, by *Degelia*, *Nephroma*, *Leptogium, Sticta, Vahliella* etc, etc, etc.....

Progressing to the community of **Ord** there was, in addition to stunning views of the Cullin Hills, an interesting geological contrast.

Distant Cullins. Image © Steve Price

Menegazzia terebrata

On the journey back to base by way of **Tokavaig** we had the opportunity to inspect more wonderful birch woodland and hazel thickets (this time we were relatively free of midges).

Thanks very much to John Douglass and Andy Acton for putting in so much time and distance to reconnoitre and organise the site visits. The meeting thanked them and gave each of them 2 CDs of Gaelic music recorded at the College. A reminder, perhaps, of the superb performance given to us in the bar one evening by two graduates of the college's Gaelic music degree course.

This was a very interesting and productive meeting in an area of Skye often overlooked in favour of the more spectacular areas of central and northern Skye. It generated over 2900 records of 444 taxa including 5 new to VC104 (North Ebudes) and 3 new to Skye.

New to VC104:
Cladonia norvegica
Halecania viridescens
Heterodermia obscurata
Ochrolechia inaequatula
Thelidium fontigenum

New to Skye (but not new to VC 104):
Caloplaca arcis
Caloplaca sorediella
Hydropunctaria orae

Tracey Lovering and Steve Price

Table of Taxa
The sites in the table of taxa have been aggregated. All the records have been applied to the database for each site separately and at a resolution of at least 1km square.

Note: not all of the sites below were visited by the full group. Some were recorded by individuals and family parties as alternatives to the group outings.

List of sites visited and grid references:

Edinbane ravine	NG350505
Aird	
Acairseid an Rubha	NG5600
Aird old church gallery	NG589007

Aird, Point of Sleat	NM5699
Aird, Point of Sleat, Camas Daraich	NM5699
Aird, Point of Sleat, hill to north	NM5699
Aird, track to Point of Sleat	NG5600
Aird, track to Point of Sleat	NG5700
Aird, track to Point of Sleat	NG5800
Armadale Castle grounds	NG6304
Beinn an Duibh Leathaid	
Beinn an Duibh Leathaid, north side	NG6811
Beinn an Duibh Leathaid, south-west side	NG6710
Beinn an Duibh Leathaid, summit area	NG685112
Beinn an Duibh Leathaid, west side	NG6711
Camus Croise	
Camus Croise	NG6911
Camus Croise, west of Aird Ghunail	NG7011
Coill a' Ghasgain & Gleann Meadal	
Coill a' Ghasgain	NG6411
Gleann Meadal, So of Loch Meadal	NG6510
Drumfearn	
Drumfearn, coastal area	NG6716
Gillean Burn	
Gillean Burn	NG6007
Gillean Burn	NG5907
Gillean Burn	NG599083
Loch Dhughaill	NG6107
Isleornsay	NG7012
Kilmore church and churchyard	NG6506
Kinloch & Kyleakin Hills SSSI	
Kinloch & Kyleakin Hills SSSI, Aird na Meacan	NG7114
Kinloch & Kyleakin Hills SSSI, Leitr Fura & Rubha Guail	NG7315
Kinloch & Kyleakin Hills SSSI, woodland N of Aird na Meacan	NG7115
Kinloch & Kyleakin Hills SSSI, woodland near Kinloch Lodge Hotel	NG7015
Kinloch and Kyleakin SSSI- Duisdalemor	NG701148

Old Corry, flanks of Beinn na Cailich

Old Corry, flanks of Beinn na Cailich	NG6123
Old Corry, flanks of Beinn na Cailich	NG6124
Old Corry, flanks of Beinn na Cailich	NG620236
Old Corry, limestone SE of road	NG6223
Coill a' Ghasgain & Allt a' Ghasgain	NG6411
Coill a' Ghasgain & Allt a' Ghasgain	NG6412

Ord

Ord	NG6113
Ord	NG6214
Ord, ash tree above beach	NG6213
Ord, Coill a' Chuaraidh, outcrops	NG6212
Ord, Coill a' Chuaraidh, oakwood	NG6212
Ord, Coille a' Chuaraidh, sheep fank	NG626125
Ord, north of river mouth	NG6113
Ord, south of river mouth	NG6113
Ord, Sron Daraich	NG6112

Ostaig

Kilbeg, Arainn Chaluim Chille	NG649061
Ostaig, Allt a' Mhuilinn	NG6306
Ostaig, An Sgorr coast	NG6505
Ostaig, Bagh a' Mhuilinn	NG6405
Ostaig, Reithe Choille, Drochaid a' Mhuilinn & Allt a Mhuilinin	NG6405
Sabal Mor Ostaig campus	NG6506

Tarskavaig & Tokavaig

Tarskavaig	NG5809
Tarskavaig, S coast of Bagh Tharsgabhaig	NG586086
Tokavaig, SW of	NG598116

Other

Armadale	NG6303
Broadford - Medical Centre	NG640236

Taxon name	Edinbane ravine	Aird	Armadale Castle	Beinn an Duibh Leathaid	Camus Croise	Coill a' Ghasgain etc.	Drumfearn	Gillean Burn	Isleornsay	Kilmore churchyard	Kinloch & Kyleakin Hills	Beinn na Cailich	Ord	Ostaig	Tarskavaig & Tokavaig
Abrothallus welwitschii {*LF*}	•			•											
Acarospora fuscata		•		•	•							•	•		
Acrocordia gemmata										•				•	
Acrocordia macrospora														•	
Acrocordia salweyi													•		
Agonimia tristicula		•		•	•			•			•	•			
Amygdalaria pelobotryon												•			
Anaptychia runcinata		•			•		•		•		•		•	•	
Anisomeridium biforme											•			•	
Anisomeridium polypori								•							
Anisomeridium ranunculosporum				•							•	•			
Arthonia cinnabarina	•							•			•			•	
Arthonia ilicina				•				•			•	•			
Arthonia leucopellaea								•							
Arthonia punctiformis {*F*}														•	
Arthonia radiata			•	•	•										
Arthonia spadicea			•												
Arthonia vinosa			•												
Arthopyrenia analepta {*F*}				•	•			•			•				
Arthopyrenia carneobrunneola								•							
Arthopyrenia nitescens								•			•	•			
Arthrorhaphis citrinella				•								•			
Aspicilia caesiocinerea		•		•					•		•	•		•	
Aspicilia calcarea										•					
Aspicilia cinerea s. lat.					•										
Aspicilia epiglypta											•				
Aspicilia grisea		•									•				
Aspicilia leprosescens					•						•			•	
Bacidia caesiovirens				•				•							
Bacidia scopulicola													•	•	
Bactrospora homalotropa	•							•							
Baeomyces rufus		•	•					•				•	•		

Taxon name	Edinbane ravine	Aird	Armadale Castle	Beinn an Duibh Leathaid	Camus Croise	Coill a' Ghasgain etc.	Drumfearn	Gillean Burn	Isleornsay	Kilmore churchyard	Kinloch & Kyleakin Hills	Beinn na Cailich	Ord	Ostaig	Tarskavaig & Tokavaig
Biatoropsis usnearum {*LF*}								•							
Bilimbia sabuletorum													•		
Bryoria fuscescens			•												
Buellia aethalea		•			•								•	•	
Buellia disciformis			•	•											
Buellia griseovirens			•					•							
Buellia ocellata													•		
Buellia stellulata														•	
Bunodophoron melanocarpum		•		•											
Burgoa splendens {*LF*}								•							
Caloplaca arcis												•			
Caloplaca arenaria														•	
Caloplaca ceracea									•		•			•	
Caloplaca citrina s. lat.			•							•		•	•	•	•
Caloplaca citrina s. str.												•			
Caloplaca crenularia		•			•								•	•	
Caloplaca ferruginea s. str.	•	•	•	•	•			•		•				•	
Caloplaca flavocitrina												•			
Caloplaca flavovirescens												•	•		
Caloplaca holocarpa s. lat.		•													•
Caloplaca holocarpa s. str.													•		
Caloplaca marina		•			•				•		•		•	•	•
Caloplaca microthallina					•				•				•	•	
Caloplaca sorediella		•													
Caloplaca thallincola					•				•		•		•	•	•
Candelariella vitellina forma *vitellina*		•			•				•				•	•	
Capronia normandinae {*LF*}				•											
Catillaria chalybeia var. *chalybeia*		•		•	•								•	•	
Catillaria lenticularis												•			
Catinaria atropurpurea			•											•	
Cetraria aculeata		•		•				•					•		

Taxon name	Edinbane ravine	Aird	Armadale Castle	Beinn an Duibh Leathaid	Camus Croise	Coill a' Ghasgain etc.	Drumfearn	Gillean Burn	Isleornsay	Kilmore churchyard	Kinloch & Kyleakin Hills	Beinn na Cailich	Ord	Ostaig	Tarskavaig & Tokavaig
Cetraria muricata		•											•		
Cetrelia olivetorum s. lat.				•				•							
Chaenotheca furfuracea				•											
Cladonia arbuscula subsp. *squarrosa*		•													
Cladonia bellidiflora		•					•								
Cladonia caespiticia													•	•	
Cladonia cariosa											•				
Cladonia cervicornis subsp. *cervicornis*				•			•	•					•		
Cladonia cervicornis subsp. *verticillata*							•	•							
Cladonia chlorophaea s. lat.		•	•	•		•	•	•		•	•	•	•		
Cladonia ciliata var. *ciliata*		•					•								
Cladonia ciliata var. *tenuis*		•		•	•		•	•	•		•	•	•		•
Cladonia coccifera s. lat.		•				•					•		•		
Cladonia coniocraea		•	•	•	•	•	•	•			•	•	•	•	
Cladonia crispata var. *cetrariiformis*				•				•				•			
Cladonia digitata				•		•		•					•		•
Cladonia diversa						•					•		•		
Cladonia fimbriata		•	•	•		•	•	•		•					
Cladonia floerkeana				•			•	•					•		
Cladonia foliacea		•		•									•		
Cladonia furcata subsp. *furcata*		•		•	•	•	•	•	•		•		•		•
Cladonia gracilis		•													
Cladonia macilenta		•		•		•	•		•				•	•	•
Cladonia norvegica								•							
Cladonia ochrochlora			•												
Cladonia polydactyla var. *polydactyla*					•	•		•			•	•			
Cladonia portentosa		•		•		•	•	•			•	•	•		
Cladonia pyxidata		•		•		•	•	•		•	•	•	•	•	•
Cladonia ramulosa			•												
Cladonia rangiformis		•		•	•		•		•		•				•
Cladonia squamosa s. lat.		•	•			•	•	•			•		•		

Taxon name	Edinbane ravine	Aird	Armadale Castle	Beinn an Duibh Leathaid	Camus Croise	Coill a' Ghasgain etc.	Drumfearn	Gillean Burn	Isleornsay	Kilmore churchyard	Kinloch & Kyleakin Hills	Beinn na Cailich	Ord	Ostaig	Tarskavaig & Tokavaig
Cladonia squamosa var. *squamosa*				•			•	•			•	•		•	
Cladonia squamosa var. *subsquamosa*		•		•					•				•		
Cladonia strepsilis		•		•				•				•	•		
Cladonia subcervicornis		•		•		•	•	•		•		•	•		•
Cladonia subulata							•	•			•	•			
Cladonia sulphurina				•											
Cladonia uncialis subsp. *biuncialis*		•		•		•	•	•				•	•		•
Clauzadea monticola												•	•		
Cliostomum griffithii			•	•				•						•	
Cliostomum tenerum		•													
Collema auriforme		•								•	•	•	•	•	
Collema crispum var. *crispum*			•								•		•	•	
Collema cristatum var. *cristatum*												•			
Collema cristatum var. *marginale*												•			
Collema fasciculare			•	•	•			•			•				
Collema flaccidum			•										•		
Collema furfuraceum		•	•		•				•	•			•	•	
Collema fuscovirens										•		•	•		
Collema multipartitum												•			
Collema polycarpon												•			
Collema subflaccidum	•		•	•							•			•	
Collema subnigrescens													•		
Collema tenax var. *ceranoides*		•													
Collema tenax var. *tenax*		•								•	•		•		
Collema tenax var. *vulgare*												•			
Collemopsidium foveolatum					•						•				
Cornicularia normoerica		•													
Cystocoleus ebeneus		•		•								•			
Degelia atlantica	•	•	•	•	•	•	•	•			•		•	•	
Degelia cyanoloma		•	•	•	•			•			•	•	•	•	
Degelia ligulata		•			•				•		•			•	

Taxon name	Edinbane ravine	Aird	Armadale Castle	Beinn an Duibh Leathaid	Camus Croise	Coill a' Ghasgain etc.	Drumfearn	Gillean Burn	Isleornsay	Kilmore churchyard	Kinloch & Kyleakin Hills	Beinn na Cailich	Ord	Ostaig	Tarskavaig & Tokavaig
Degelia plumbea s. lat.		•	•	•			•				•	•	•	•	
Degelia plumbea s. str.											•				
Dermatocarpon intestiniforme		•									•			•	
Dermatocarpon luridum		•													
Dermatocarpon miniatum		•									•	•	•	•	
Dermatocarpon miniatum var. *complicatum*		•										•			
Dibaeis baeomyces		•				•		•				•	•		
Dimerella lutea	•		•	•	•			•			•		•	•	
Dimerella pineti								•						•	
Diploicia canescens														•	
Diploschistes muscorum		•													
Diploschistes scruposus												•			
Diplotomma alboatrum													•		
Ephebe lanata		•			•		•	•			•	•			•
Evernia prunastri			•	•	•	•		•			•		•	•	
Flavoparmelia caperata			•					•			•		•	•	
Fuscidea cyathoides var. *cyathoides*		•		•	•		•	•	•	•	•	•	•	•	
Fuscidea gothoburgensis		•													
Fuscidea lightfootii		•											•		
Fuscidea lygaea		•		•			•				•	•	•		
Fuscidea praeruptorum			•												
Fuscopannaria sampaiana			•					•			•			•	
Gomphillus calycioides								•			•				
Graphis elegans				•		•		•			•		•		
Graphis scripta			•	•	•	•	•	•		•	•	•	•	•	•
Gyalecta jenensis var. *jenensis*												•	•		
Gyalecta truncigena														•	
Haematomma ochroleucum var. *ochroleucum*													•		
Haematomma ochroleucum var. *porphyrium*				•										•	
Halecania ralfsii					•						•		•		
Halecania viridescens	•														

Taxon name	Edinbane ravine	Aird	Armadale Castle	Beinn an Duibh Leathaid	Camus Croise	Coill a' Ghasgain etc.	Drumfearn	Gillean Burn	Isleornsay	Kilmore churchyard	Kinloch & Kyleakin Hills	Beinn na Cailich	Ord	Ostaig	Tarskavaig & Tokavaig
Heterodermia obscurata			•												
Hydropunctaria maura		•			•		•		•		•		•	•	•
Hydropunctaria oraea													•		
Hymenelia epulotica												•			
Hypogymnia physodes	•	•	•	•	•		•	•				•	•	•	•
Hypogymnia tubulosa			•	•			•	•				•	•		
Hypotrachyna afrorevoluta								•							
Hypotrachyna laevigata		•		•	•		•	•			•	•	•	•	
Hypotrachyna revoluta s. lat.			•	•	•								•		
Hypotrachyna revoluta s. str.					•										
Hypotrachyna sinuosa		•	•	•			•	•				•	•		
Hypotrachyna taylorensis		•						•			•	•			
Icmadophila ericetorum		•		•			•					•			
Immersaria athroocarpa					•										
Ionaspis lacustris		•		•	•			•			•	•	•		
Japewiella tavaresiana				•											
Lecanactis abietina				•				•			•				
Lecania aipospila														•	
Lecanora actophila		•			•						•		•		
Lecanora albescens			•									•	•		
Lecanora argentata					•										
Lecanora campestris subsp. *campestris*													•		
Lecanora chlarotera		•	•	•	•			•		•	•	•	•	•	•
Lecanora confusa		•													
Lecanora dispersa												•			
Lecanora expallens			•	•				•					•	•	
Lecanora gangaleoides		•			•		•		•				•		•
Lecanora helicopis		•									•		•		•
Lecanora intricata		•		•	•		•	•		•		•	•	•	
Lecanora intumescens					•										
Lecanora jamesii				•				•			•				

Taxon name	Edinbane ravine	Aird	Armadale Castle	Beinn an Duibh Leathaid	Camus Croise	Coill a' Ghasgain etc.	Drumfearn	Gillean Burn	Isleornsay	Kilmore churchyard	Kinloch & Kyleakin Hills	Beinn na Cailich	Ord	Ostaig	Tarskavaig & Tokavaig
Lecanora poliophaea					•										
Lecanora polytropa		•		•				•	•	•		•	•		•
Lecanora sulphurea		•													
Lecanora symmicta			•								•		•		
Lecidea fuscoatra s. lat.				•											
Lecidea fuscoatra s. str.											•		•		
Lecidea grisella												•			
Lecidea lithophila		•												•	
Lecidea phaeops												•			
Lecidea sanguineoatra								•							
Lecidella asema		•			•						•		•	•	
Lecidella elaeochroma forma *elaeochroma*		•	•	•	•			•		•	•	•		•	
Lecidella scabra													•	•	
Lecidella stigmatea				•									•		
Lepraria ecorticata		•													
Lepraria incana				•			•	•			•				
Lepraria lobificans	•		•	•				•	•		•			•	
Leprocaulon microscopicum		•									•			•	
Leptogium brebissonii	•		•	•				•			•			•	
Leptogium britannicum		•	•								•			•	
Leptogium burgessii			•	•	•			•			•		•	•	•
Leptogium cochleatum											•				
Leptogium cyanescens		•	•	•	•		•				•		•	•	
Leptogium gelatinosum										•		•	•	•	
Leptogium hibernicum											•				
Leptogium lichenoides	•	•	•	•						•	•			•	
Leptogium pulvinatum	•											•	•	•	
Leptogium subtile											•				
Leptogium teretiusculum								•							
Lichina confinis		•			•			•	•		•		•	•	•
Lichina pygmaea					•						•		•		

Taxon name	Edinbane ravine	Aird	Armadale Castle	Beinn an Duibh Leathaid	Camus Croise	Coill a' Ghasgain etc.	Drumfearn	Gillean Burn	Isleornsay	Kilmore churchyard	Kinloch & Kyleakin Hills	Beinn na Cailich	Ord	Ostaig	Tarskavaig & Tokavaig
Lobaria amplissima			•											•	
Lobaria pulmonaria	•	•	•	•	•			•	•	•	•	•	•	•	
Lobaria scrobiculata			•	•	•						•		•	•	
Lobaria virens	•	•	•	•	•	•	•	•		•	•	•	•	•	
Lopadium disciforme				•											
Loxospora elatina			•	•				•			•	•	•	•	
Megalaria grossa														•	
Megalaria pulverea			•	•				•				•		•	
Melanelixia fuliginosa		•		•	•	•	•		•		•		•	•	
Melanelixia glabratula		•	•	•				•		•		•	•	•	•
Melanelixia subaurifera		•		•	•			•						•	
Menegazzia terebrata			•	•		•	•	•				•	•		
Micarea alabastrites				•				•						•	
Micarea botryoides								•							
Micarea leprosula												•			
Micarea lignaria var. *endoleuca*				•								•			
Micarea lignaria var. *lignaria*				•		•						•	•		
Micarea peliocarpa				•				•							
Micarea prasina s. lat.				•				•			•			•	
Micarea stipitata				•				•			•				
Micarea synotheoides				•											
Micarea xanthonica		•													
Miriquidica leucophaea				•											
Moelleropsis nebulosa		•													
Muellerella lichenicola {*LF*}												•			
Mycobilimbia epixanthoides								•							
Mycoblastus caesius				•				•				•	•		
Mycoblastus sanguinarius forma *sanguinarius*				•				•				•			
Mycoglaena myricae {*F*}								•				•			
Mycomicrothelia confusa {*F*}											•				
Mycoporum antecellens {*F*}				•				•							

Taxon name	Edinbane ravine	Aird	Armadale Castle	Beinn an Duibh Leathaid	Camus Croise	Coill a' Ghasgain etc.	Drumfearn	Gillean Burn	Isleornsay	Kilmore churchyard	Kinloch & Kyleakin Hills	Beinn na Cailich	Ord	Ostaig	Tarskavaig & Tokavaig
Myriospora smaragdula				•											
Nephroma laevigatum	•	•		•	•			•	•		•		•	•	
Nephroma parile								•			•				
Nesolechia oxyspora {*LF*}			•												
Normandina pulchella		•	•	•	•	•		•	•		•	•	•	•	
Ochrolechia androgyna		•	•	•	•		•	•	•		•	•	•	•	•
Ochrolechia frigida forma *frigida*		•					•	•							
Ochrolechia inaequatula				•											
Ochrolechia microstictoides				•											
Ochrolechia parella		•			•		•		•	•	•		•	•	•
Ochrolechia tartarea		•		•		•	•		•				•		
Opegrapha atra			•	•				•			•	•		•	
Opegrapha calcarea		•											•	•	
Opegrapha gyrocarpa				•				•						•	
Opegrapha herbarum														•	
Opegrapha pulvinata {*LF*}											•				
Opegrapha vulgata				•							•			•	
Opegrapha zonata													•		
Ophiobolus parmeliarum {*LF*}				•											
Ophioparma ventosa		•		•				•							
Pachyphiale carneola			•											•	
Pannaria conoplea			•	•				•			•	•	•	•	
Pannaria rubiginosa		•	•	•	•	•	•	•			•		•	•	
Parmelia discordans		•											•		
Parmelia omphalodes		•		•	•		•	•	•		•	•	•		•
Parmelia saxatilis	•	•	•	•	•		•	•	•		•	•	•	•	•
Parmelia sulcata	•	•	•	•		•	•	•		•	•	•	•	•	•
Parmeliella parvula			•	•	•			•			•			•	
Parmeliella testacea			•	•							•	•	•	•	
Parmeliella triptophylla	•		•	•	•			•	•		•			•	
Parmotrema crinitum		•	•	•	•	•		•	•		•	•	•	•	
Parmotrema perlatum	•	•	•	•	•	•	•	•	•		•	•	•	•	

Taxon name	Edinbane ravine	Aird	Armadale Castle	Beinn an Duibh Leathaid	Camus Croise	Coill a' Ghasgain etc.	Drumfearn	Gillean Burn	Isleornsay	Kilmore churchyard	Kinloch & Kyleakin Hills	Beinn na Cailich	Ord	Ostaig	Tarskavaig & Tokavaig
Peltigera collina	•			•	•			•			•		•	•	
Peltigera horizontalis		•	•	•							•				
Peltigera hymenina		•	•	•	•	•	•	•			•		•	•	
Peltigera membranacea	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Peltigera praetextata	•				•			•			•			•	
Peltigera rufescens														•	
Pertusaria albescens var. *albescens*			•			•								•	
Pertusaria albescens var. *corallina*											•				
Pertusaria amara forma *amara*			•					•				•	•		
Pertusaria aspergilla												•	•		
Pertusaria corallina		•		•	•		•	•			•	•	•		•
Pertusaria flavicans		•				•									
Pertusaria hymenea			•					•			•		•	•	
Pertusaria leioplaca			•	•				•		•	•	•		•	
Pertusaria multipuncta			•			•		•		•		•	•	•	
Pertusaria ophthalmiza				•				•				•			
Pertusaria pertusa			•	•	•			•						•	
Pertusaria pseudocorallina		•		•	•			•			•	•	•	•	•
Pertusaria pupillaris				•				•							
Phlyctis argena			•											•	
Physcia adscendens		•													
Physcia aipolia				•				•					•	•	
Physcia caesia		•			•								•		
Physcia stellaris														•	
Physcia tenella				•	•					•					
Physconia distorta														•	
Placopsis lambii				•				•			•				
Placopsis sp.		•									•	•			
Placynthiella icmalea		•	•										•		
Placynthium nigrum												•	•	•	
Platismatia glauca		•	•	•	•	•	•	•			•	•	•	•	
Polyblastia cruenta												•			

Taxon name	Edinbane ravine	Aird	Armadale Castle	Beinn an Duibh Leathaid	Camus Croise	Coill a' Ghasgain etc.	Drumfearn	Gillean Burn	Isleornsay	Kilmore churchyard	Kinloch & Kyleakin Hills	Beinn na Cailich	Ord	Ostaig	Tarskavaig & Tokavaig
Polyblastia sp.												•			
Polychidium muscicola				•	•			•				•	•		
Polysporina simplex		•													
Porina aenea											•				
Porina chlorotica forma *chlorotica*													•		
Porina lectissima								•							
Porina linearis												•			
Porina rivalis												•			
Porpidia cinereoatra		•		•	•						•	•		•	
Porpidia crustulata		•		•		•	•	•		•	•		•	•	•
Porpidia flavocruenta												•			
Porpidia hydrophila				•								•			
Porpidia macrocarpa forma *macrocarpa*		•		•		•		•			•	•			
Porpidia melinodes		•										•	•		
Porpidia platycarpoides		•									•				
Porpidia soredizodes				•							•				
Porpidia tuberculosa		•		•		•	•	•		•	•	•	•		
Protoblastenia calva												•			
Protoblastenia rupestris					•					•		•	•		
Protopannaria pezizoides			•	•											
Protoparmelia badia				•								•			
Pseudevernia furfuracea var. *ceratea*												•			
Pseudocyphellaria crocata				•							•		•		
Pseudocyphellaria intricata											•				
Pseudocyphellaria norvegica	•			•	•			•			•	•			
Psilolechia lucida		•												•	
Punctelia reddenda		•													
Punctelia subrudecta s. lat.			•												
Pycnothelia papillaria		•						•				•	•		
Pyrenidium actinellum {*LF*}								•							
Pyrenula chlorospila			•	•							•				

Taxon name	Edinbane ravine	Aird	Armadale Castle	Beinn an Duibh Leathaid	Camus Croise	Coill a' Ghasgain etc.	Drumfearn	Gillean Burn	Isleornsay	Kilmore churchyard	Kinloch & Kyleakin Hills	Beinn na Cailich	Ord	Ostaig	Tarskavaig & Tokavaig
Pyrenula laevigata	•							•							
Pyrenula macrospora			•					•		•	•	•		•	
Pyrenula occidentalis	•	•		•	•			•			•	•		•	
Pyrrhospora quernea											•				
Racodium rupestre														•	
Ramalina calicaris			•	•	•	•	•			•			•	•	•
Ramalina cuspidata		•												•	
Ramalina farinacea	•	•	•	•	•		•	•		•	•	•		•	
Ramalina fastigiata	•	•	•	•	•							•		•	
Ramalina fraxinea			•												
Ramalina siliquosa		•		•	•		•		•		•		•	•	
Ramalina subfarinacea		•			•					•			•	•	
Rhizocarpon geographicum		•		•	•		•	•	•	•	•	•	•	•	•
Rhizocarpon hochstetteri												•			
Rhizocarpon infernulum forma *infernulum*												•			
Rhizocarpon lavatum				•				•				•			
Rhizocarpon lecanorinum		•													
Rhizocarpon oederi		•		•			•	•							
Rhizocarpon petraeum													•		
Rhizocarpon reductum		•		•	•		•	•	•	•	•	•	•	•	•
Rhizocarpon richardii		•			•				•		•		•	•	
Rinodina atrocinerea					•										
Rinodina atrocinerea					•										
Rinodina luridescens					•										
Rinodina sophodes					•										
Romjularia lurida												•			
Schaereria fuscocinerea var. *fuscocinerea*		•		•							•		•		
Sclerococcum sphaerale {*LF*}				•											
Scoliciosporum umbrinum													•		
Skyttea nitschkei {*LF*}								•							
Solenopsora holophaea														•	

Taxon name	Edinbane ravine	Aird	Armadale Castle	Beinn an Duibh Leathaid	Camus Croise	Coill a' Ghasgain etc.	Drumfearn	Gillean Burn	Isleornsay	Kilmore churchyard	Kinloch & Kyleakin Hills	Beinn na Cailich	Ord	Ostaig	Tarskavaig & Tokavaig
Solenopsora vulturiensis											•			•	
Sphaerophorus fragilis		•				•									
Sphaerophorus globosus		•		•		•	•	•				•	•		
Stenocybe nitida {*F*}				•											
Stenocybe pullatula {*F*}			•	•				•						•	
Stenocybe septata {*F*}								•			•				
Stereocaulon dactylophyllum var. *dactylophyllum*		•		•	•	•					•		•		
Stereocaulon evolutum		•		•		•						•			
Stereocaulon leucophaeopsis													•		
Stereocaulon vesuvianum var. *nodulosum*		•		•				•				•			
Stereocaulon vesuvianum var. *vesuvianum*		•		•		•	•	•		•	•	•	•		
Sticta canariensis (dufourii)		•			•						•			•	
Sticta cilliata				•											
Sticta fuliginosa	•		•	•	•	•		•			•			•	
Sticta limbata	•	•	•	•	•		•	•			•	•		•	•
Sticta sylvatica	•	•	•	•	•	•	•	•		•	•	•	•	•	
Stigmidium microspilum {*LF*}			•								•			•	
Tephromela atra var. *atra*		•		•	•				•	•	•	•	•	•	
Thelidium decipiens												•	•		
Thelidium fontigenum												•			
Thelidium papulare forma *papulare*													•		
Thelotrema lepadinum				•		•		•			•	•	•		
Thelotrema macrosporum								•			•				
Thelotrema petractoides				•				•			•	•			
Toninia aromatica												•	•	•	
Toninia thiopsora												•			
Trapelia coarctata		•		•	•			•			•	•			
Trapelia corticola													•		
Trapelia glebulosa				•								•			
Trapelia placodioides												•	•		
Trapeliopsis granulosa				•				•					•		

Taxon name	Edinbane ravine	Aird	Armadale Castle	Beinn an Duibh Leathaid	Camus Croise	Coill a' Ghasgain etc.	Drumfearn	Gillean Burn	Isleornsay	Kilmore churchyard	Kinloch & Kyleakin Hills	Beinn na Cailich	Ord	Ostaig	Tarskavaig & Tokavaig
Trapeliopsis pseudogranulosa		•		•		•		•			•		•		•
Tremolecia atrata		•		•			•	•			•	•			
Tuckermannopsis chlorophylla												•			
Umbilicaria cylindrica		•													
Umbilicaria polyphylla		•													
Umbilicaria polyrrhiza		•		•								•			
Umbilicaria torrefacta		•					•					•			
Usnea cornuta			•		•			•				•	•	•	
Usnea dasopoga			•	•				•			•			•	
Usnea flammea			•	•	•						•		•	•	
Usnea fragilescens var. *mollis*				•											
Usnea glabrescens														•	
Usnea hirta															•
Usnea rubicunda			•	•							•			•	•
Usnea subfloridana			•	•		•		•			•			•	
Usnea wasmuthii					•										
Vahliella leucophaea		•			•				•		•		•	•	
Varicellaria lactea				•							•				
Verrucaria aethiobola				•											
Verrucaria aquatilis														•	
Verrucaria baldensis												•	•		
Verrucaria caerulea												•	•		
Verrucaria fusconigrescens					•						•		•	•	
Verrucaria mucosa					•						•		•	•	
Verrucaria muralis													•		•
Verrucaria nigrescens forma *nigrescens*												•			
Verrucaria pinguicula												•	•		
Verrucaria praetermissa												•		•	
Verrucaria prominula													•		
Verrucaria viridula													•		
Violella fucata				•											

Taxon name	Edinbane ravine	Aird	Armadale Castle	Beinn an Duibh Leathaid	Camus Croise	Coill a' Ghasgain etc.	Drumfearn	Gillean Burn	Isleornsay	Kilmore churchyard	Kinloch & Kyleakin Hills	Beinn na Cailich	Ord	Ostaig	Tarskavaig & Tokavaig
Xanthoparmelia conspersa		•		•	•			•	•		•	•	•		
Xanthoparmelia loxodes		•													
Xanthoparmelia mougeotii		•													
Xanthoparmelia pulla		•													
Xanthoria aureola		•			•		•		•	•			•	•	
Xanthoria calcicola					•						•				
Xanthoria parietina		•			•				•		•	•	•	•	•

Report of BLS Field Meeting to the North York Moors

Monday 26th to Friday 30th September 2016

BLS at Staintondale Church. Left to right standing: Heather Colls, Peter O'Neill, Ken Sandell, Graham Boswell, Paul Cannon, Janet Simkin, Les Knight, Ginnie Copsey, Mark Seaward, Pamela Jackson, Holger Thüs, Paula Shipway, Eluned Smith, Mark Powell, Steve Price, Sue Knight. Front row: Judith Allinson, Patch, John Douglass, Maxine Putnam. Image © Steve Price

The meeting was based at Cober Hill in the village of Cloughton. This is near the coast about five miles to the north of Scarborough. Cober Hill is a guest house / hotel that caters specifically for groups and we were looked after very well indeed. During this short autumn meeting records were made for 275 taxa at a variety of interesting sites some of which prior to our visit had few, if any, lichen records.

Attendees:
Judith Allinson, Graham Boswell, Paul Cannon, Heather Colls, Ginnie Copsey, John Douglass, Pamela Jackson, Les Knight, Sue Knight, Tracey Lovering, Doug McCutcheon, Peter O'Neill, Mark Powell, Steve Price, Maxine Putnam, Ken Sandell, Joyce Scott, Mark Seaward, Paula Shipway, Janet Simkin, Eluned Smith, Holger Thüs.

Monday 26th September

Following dinner and an outline of the plans for the week attendees settled into the Theatre; this large room was ours for the duration to use for microscope work and a book sale - yes, it was Mark Seaward who came for dinner. On this first evening, without having collected much, the opportunity was taken to pass around puzzling specimens brought from home. Names were given to some but by no means to all. Late in the evening that all too familiar cry was heard - "better send it off to Brian" (Coppins of course).

Tuesday 27th September

The Bridestones in Dalby Forest (National Trust & Forestry Commission)

Consulting the book at the Bridestones. Image © Steve Price

The Bridestones, situated at 200m altitude on moorland in Dalby Forest, are natural sculptures formed of Jurassic sedimentary rock with hard sandstone alternating with softer calcareous layers. These pillars have been shaped by the forces of wind, rain and frost. Often they are described as a North York Moors natural wonder.

The route from the car park took us though woodland that engaged most of the group for most of the morning. The Bridestones themselves proved lichenologicaly rather intriguing. The layers of sandstone were not only of differing resistance to erosion but also of very different alkalinity. The result was a strange juxtaposition of lichens that were not normal bedfellows. e.g. *Diplotomma alboatrum* and *Pertusaria corallina.*

Wednesday 28th September
West Beck, Mallyan Spout and Scar Wood and Goathland village
This day was spent answering plenty of questions from enquiring members of the public as we visited the tourist hot-spot of Mallyan Spout, a waterfall in the ravine of the West Beck. To visit this site we started in the nearby village of Goathland. This village is the location for the television series Heartbeat and on the line of the North York Moors steam railway and as such is an even hotter tourist spot than the waterfall. Scar Wood on either side of the beck gave us some relief from the 'crowds'.

West Beck and Scar Wood, Goathland. Image © Steve Price

The deciduous woodland ravine, the running stream, boulders and rock faces provided plenty to keep the group busy. Holger Thüs and John Douglass (our very own water babes) were well occupied as is testified by the records of aquatic taxa. These included the recently described *Porina rivalis.* If you are unfamiliar with this species see the paper in *The Lichenologist* vol. 47(6): pages 351–358 (2015).

A small group also visited a disused dolerite quarry high on the moors a short distance from Goathland. This linear quarry follows the line of the **Cleveland Dyke**.

Thursday 29th September
Staintondale St John the Baptist Church
A short visit to this small church and churchyard began with an introduction to its history by the church warden. 66 taxa were recorded from the building and the yard including a not un-rewarding bench.

Ravenscar (National Trust)
From the church we moved on to Ravenscar. At the southern end of Robin Hood's Bay it is a spectacular part of the Yorkshire coastline. We were welcomed by a ranger who, given the superb weather on the day, decided to accompany us. She did well for a couple of hours until she suffered lichen-overload. This diverse site included secondary deciduous woodland, the disused alum works, quarry and brickworks all with wonderful views out to sea.

Friday 30th September
The final day saw various small groups do their own thing. Time spent in the **gardens and environs of Cober Hill** supplemented forays made throughout the meeting.

The rocky shoreline, a short walk down **Newlands Road**, at **Cloughton Wyke** provided a coastal community to contrast with the inland sites visited earlier in the meeting.


Coast at Cloughton Wyke. Image © Steve Price

Collemopsidium sublittorale and *C. foveolatum* on a limpet shell at Cloughton Wyke. Image © Steve Price

Rosedale Chimney, a moorland site, was visited by our indefatigable 'Cladonia baggers' who recorded 16 of the genus, a very respectable number.

Throughout the meeting a number of sites local to Cober Hill were visited these included **St Mary Churchyard**, **Cloughton cemetery** and a **disused quarry** near the village.

Peter O'Neill is thanked for his time and his effort, applied enthusiastically, in firstly researching the sites (with the assistance of Mark Seaward) and for reconnoitring the sites and contacting land managers.

Notes and observations by Mark Powell

During this meeting, we visited some of the iconic North York Moors sites and these yielded many interesting records. It is however always worth spending time in the local, more humble surroundings. Holly leaves beside a footpath in the village of Cloughton (where our base was located) were found to support large colonies of *Phylloblastia fortuita*. Not only is this new to the Vice-county, but the discovery came at a serendipitous moment. During the week of our meeting a Continental lichenologist made a request for recently collected material of *P. fortuita* and some of the Cloughton

material was immediately despatched. In such ways, even those of us without (yet) direct access to molecular work can contribute to modern taxonomic studies.

There appears to be vigorous recent interest in lichenicolous fungi and an orchard in the grounds of Cober Hill provided some good examples of common species such as *Illosporiopsis christiansenii*, *Laetisaria lichenicola*, *Marchandiomyces aurantiacus* and *Syzygospora physciacearum*. The fact that I can describe *L. lichenicola* as a "common species" seems remarkable considering it was only added to the British list at the start of the year. Since then its bright pink infections have been found widely through England and into Scotland. If such a conspicuous fungus has gone previously unrecorded, it seems likely that there are many less conspicuous lichenicolous fungi awaiting discovery in Britain.

Thelocarpon cf. *opertum* at Cober Hill

One evening, during the recent 2016 Autumn Field Meeting of the BLS, we decided to take a UV torch out into the grounds of our base, Cober Hill. Our after-dark activities were intended to be mere light entertainment. A simple concrete curb becomes a colourful splatter of fluorescent orange (*Caloplaca citrina* s. lat. and *C. oasis*) with scattered clusters of yellow discs (*Lecanora semipallida*). On trees, *Xanthoria parietina* is even more colourful than in daylight with luminous orange lobes while ordinary chlorococcoid algal crusts on twigs also fluoresce orange (despite being green in daylight). On stonework, the scruffy sorediate thalli of *Lecidella scabra* are transformed to pastel orange while the background algae glow a deep, dark maroon. Inspired by the success of using UV to

The toy car in the play area at Cober Hill. The *Thelocarpon* was found on the very unpromising wooden slats of the seat back. These slats had been previously painted and, apart from very small quantities of *Lecanora* cf. *dispersa*, appeared to be completely bare of lichens. Image © Mark Powell

detect *Thelocarpon coccosporum* on sandstone gravestones in Scotland, we scrutinized the wooden slats of a toy car in the play area of Cober Hill. The discovery of minute yellow-fluorescent 'stars' within a few seconds (and their subsequent confirmation as belonging to *Thelocarpon*) suggest that members of this inconspicuous genus might be discovered more widely if lignum was examined at night using UV. When we returned to the toy car in daylight we found it extremely difficult to detect the *Thelocarpon* fruits which are less than 0.2 mm diameter and almost immersed in a background cyanobacterial crust. The minute, dull yellow-green apices of the perithecia are the only feature that might catch the eye if scanning with a lens. What is more, these wooden slats would have been quickly dismissed as being of no interest if encountered in daylight.

Attempts to identify this *Thelocarpon* have not produced a definite result. Paraphyses are absent and periphyses line the perithecial cavity. This, along with the lack of a reaction to iodine in the ascus tip, and the lack of a proper algal sheath, place the Cober Hill material in the *T. intermediellum* group. Although the perithecia are all a bit immature, some asci contain immature spores and these appear to be spherical. I got to know *T. coccosporum* earlier in the year and that species sits sessile on the rock and has perithecia covered in yellow pruina (which is yellow-fluorescent). The Cober Hill *Thelocarpon* lacks pruina and its fluorescence arises from crystals embedded in the apex of the perithecial wall. In my opinion this is closest to *T. opertum*, though this species has not previously been recorded from lignum (it is associated with calcareous dunes and limestone). However the way it is growing immersed in a cyanobacterial crust fits with the description of *T. opertum*. The perithecia are slightly smaller than stated for *T. opertum* but this may be due to immaturity and it growing on the suppressed cyanobacterial crust of hard lignum. The sides of the perithecia often have a discontinuous coating of green algae which could be considered to be a rudimentary algal sheath but not a well-defined sheath as in the truly lichenized species of *Thelocarpon*.

As so often in lichenology we have found an interesting lichen but don't know quite how best to handle it. It is always tempting to send it to Brian but I wonder whether (or not) he sometimes feels overwhelmed by the demands on him? And if, in a nightmare scenario, something happened to Brian, as well as being a human tragedy, it would considerably undermine the current resources that the Society uses for the identification and confirmation of lichens. I don't have much material to play with; should I try to grow-on the *Thelocarpon* on one of the splinters of lignum by placing it in a safe place outside? Is anyone else particularly interested in working on this material? I am not necessarily trying to invite specific answers to these questions but rather I am thinking aloud about the problems we encounter when trying to identify lichens. I am minded to place one small piece of the lignum outside, fixed to some similar lignum in the hope that it might grow and even spread. As for recording, I expect it will be '*Thelocarpon*' in the species column of the spreadsheet and a brief description in the record notes.

If I get no further than that, then at least the realisation that UV torches can be used as *Thelocarpon*-detectors may lead to more discoveries of this interesting genus.

Clifftop south of Ravenscar

Reluctant to leave early on the final day of the meeting, I decided to walk south from Ravenscar in search of coastal concrete. The concrete walls of the WW2 Radar Station buildings (NZ990.009) are rather poor but I was delighted to see that an asbestos roof was available for examination. Strong colonies of *Verrucaria ochrostoma* were present along with similar, but larger, silvery grey convex areoles. I suspect that these belong to *Rinodina calcarea* but no apothecia were present. The previous day I had collected another candidate for *R. calcarea* on a ruined wall at the Old Alum Works north of Ravenscar but I have not made confirmed records of them. Lichenologists vary in the strength of evidence they require before making a record. If I was more familiar with Yorkshire, and had discovered *R. calcarea* to be reasonably widespread there, then I might have recorded the sterile colonies on sight (as I now do in my home region). A more careful examination of the specimens, comparing them with known reference material, may allow my confidence to build. For the moment, I prefer to raise consciousness of the possibility of *R. calcarea* being a Yorkshire lichen and wait for reliable evidence.

Left: Wall beside the clifftop path south of Ravenscar, with extensive pale colonies of *Cliostomum subtenerum*. Right: *Cliostomum subtenerum* on the left, with *Porpidia tuberculosa* to the right for comparison. Images © Mark Powell

On my walk to the Radar Station I had noticed that the drystone wall beside the clifftop path had large colonies of a white crustose lichen. My brief glance at it on the way had caused no bells to ring and, being rather non-descript, and found at the end of the meeting with plenty of Yorkshire 'problems' already collected, I nearly ignored it. On my return walk, my curiosity got the better of me and I took habitat pictures, macro

photographs and collected some scrapings. Scrapings glued to card are quite adequate if accompanied by good photographs (which provide the wider 'look' of the thing). I am pleased that I took the trouble since this proved to be *Cliostomum subtenerum*, new to England and the first record on a man-made structure. I have recorded this lichen after careful examination and consulting the original description (it was described as new to science in the Lichenologist as recently as 2012). Some recorders consider making a record as a one-off irreversible event but I like to be much more flexible. Hence, I keep all my specimens, even fragments of common lichens collected for confirmation and periodically go back and review my specimens. I would dare any lichenologist to do the same. The reinterpretation of specimens after additional experience, taxonomic advances or after a second opinion is quite revealing.

Table of Taxa

The sites in the table of taxa have been aggregated. All the records have been applied to the database for each site separately and at a resolution of at least 1km square.

note: not all of the sites below were visited by the full group. Some were recorded by individuals and family parties as supplements to the group outings.

List of sites visited and grid references:

Bridestones	
Bridestones - footpath stones	SE8791
Bridestones (car park and woodland)	SE8790
Bridestones (stones only)	SE8790, SE8791
Cloughton Church & Cemetery	
Cloughton (St Mary) churchyard	TA009943
Cloughton Cemetery	TA008940
Cloughton	
Cloughton	TA0094
Cloughton - disused quarry	TA0094
Cloughton - Cober Hill hotel grounds	TA0194
Cloughton - Newlands Road	TA0194
Cloughton Wyke	TA0295
Goathland - West Beck & Scarwood	
Goathland - West Beck & Scar Wood (north)	NZ8201
Goathland - West Beck, Scarwood & Mallyon Spout	NZ8200

Goathland
Goathland - car park NZ8301
Goathland - west of village NZ8200

Cleveland Dyke
Cleveland Dyke Quarry - nr. Goathland NZ8502

Staintondale Church
Staintondale (St John the Baptist) church SE985985

Ravenscar
Ravenscar NZ9701
Ravenscar (including Alum Works) NZ9702
Ravenscar - cliff top to south NZ990009
Ravenscar - WW2 Radar Station NZ991008

Robin Hood's Bay
Robin Hood's Bay - SW of Boggle Hole NZ95700341

Rosedale
Rosedale Chimney SE7294

Taxon name	Bridestones	Cloughton church	Cloughton	Cloughton Wyke	West Beck & Scarwood	Goathland	Cleveland Dyke	Staintondale church	Ravenscar	Robin Hood's Bay	Rosedale
Acarospora fuscata	•	•	•			•		•	•		
Acrocordia conoidea	•										
Amandinea punctata	•					•	•	•	•		
Anisomeridium polypori	•								•		
Arthonia didyma					•						
Arthonia punctiformis {F}	•		•								
Arthonia radiata			•								
Arthonia radiata	•				•						

Taxon name	Bridestones	Cloughton church	Cloughton	Cloughton Wyke	West Beck & Scarwood	Goathland	Cleveland Dyke	Staintondale church	Ravenscar	Robin Hood's Bay	Rosedale
Arthonia radiata											
Arthonia spadicea	•				•						
Arthopyrenia analepta {*F*}					•						
Arthopyrenia punctiformis {*F*}			•		•						
Arthopyrenia punctiformis {*F*}											
Aspicilia calcarea								•	•		•
Aspicilia cinerea s. lat.	•										
Aspicilia contorta subsp. *contorta*			•					•			•
Bacidia arceutina	•										
Baeomyces rufus	•				•	•	•				
Belonia nidarosiensis	•										
Bilimbia sabuletorum									•		
Botryolepraria lesdainii	•										
Buellia aethalea								•			
Buellia griseovirens					•			•	•		
Caloplaca albolutescens			•					•			
Caloplaca arcis		•	•						•		
Caloplaca aurantia	•										
Caloplaca cerinella	•		•								
Caloplaca chlorina		•									
Caloplaca chrysodeta	•										
Caloplaca citrina s. lat.	•	•	•								•
Caloplaca citrina s. str.								•			
Caloplaca crenularia	•										
Caloplaca decipiens									•		
Caloplaca dichroa		•						•			
Caloplaca flavescens	•	•									
Caloplaca flavocitrina		•		•				•			
Caloplaca holocarpa s. lat.			•								•
Caloplaca holocarpa s. str.	•								•		
Caloplaca limonia	•	•						•	•		

Taxon name	Bridestones	Cloughton church	Cloughton	Cloughton Wyke	West Beck & Scarwood	Goathland	Cleveland Dyke	Staintondale church	Ravenscar	Robin Hood's Bay	Rosedale
Caloplaca maritima				•							
Caloplaca oasis		•	•					•	•		
Caloplaca obscurella						•					
Caloplaca phlogina								•	•		
Caloplaca saxicola	•								•		
Candelariella aurella forma *aurella*		•						•	•		•
Candelariella reflexa	•					•		•	•		
Candelariella vitellina forma *vitellina*	•	•	•			•		•	•		
Catillaria atomarioides											
Catillaria chalybeia var. *chalybeia*	•	•	•	•					•		
Cercidospora epipolytropa {*LF*}		•									
Cetraria aculeata											•
Chaenotheca ferruginea	•				•						
Chaenotheca trichialis	•										
Chrysothrix flavovirens					•						
Cladonia caespiticia					•						
Cladonia cervicornis subsp. *verticillata*											•
Cladonia chlorophaea s. lat.	•				•		•		•		•
Cladonia ciliata var. *ciliata*											•
Cladonia ciliata var. *tenuis*											•
Cladonia coniocraea	•				•						
Cladonia digitata					•						
Cladonia diversa											•
Cladonia fimbriata	•								•		•
Cladonia floerkeana											•
Cladonia furcata subsp. *furcata*						•					•
Cladonia gracilis											•
Cladonia macilenta					•						•
Cladonia polydactyla var. *polydactyla*	•				•	•			•		
Cladonia portentosa	•					•					•
Cladonia pyxidata											•

Taxon name	Bridestones	Cloughton church	Cloughton	Cloughton Wyke	West Beck & Scarwood	Goathland	Cleveland Dyke	Staintondale church	Ravenscar	Robin Hood's Bay	Rosedale
Cladonia ramulosa											•
Cladonia rangiformis						•					
Cladonia squamosa s. lat.	•										•
Cladonia squamosa var. *subsquamosa*					•						
Cladonia uncialis subsp. *biuncialis*											•
Cliostomum griffithii	•		•		•				•		
Cliostomum subtenerum									•		
Collema crispum var. *crispum*			•								•
Collemopsidium foveolatum				•							
Collemopsidium sublitorale				•							
Cystocoleus ebeneus					•						
Dibaeis baeomyces							•				•
Dimerella pineti					•				•		
Diploicia canescens	•										
Diploschistes scruposus					•						
Diplotomma alboatrum	•		•					•	•		
Dirina massiliensis forma *sorediata*	•										
Evernia prunastri	•		•		•				•		
Flavoparmelia caperata			•						•		
Fuscidea cyathoides var. *cyathoides*	•					•					•
Fuscidea lightfootii	•				•	•			•		
Fuscidea praeruptorum	•					•					
Graphina anguina					•						
Graphis elegans					•						
Graphis scripta	•				•						
Hydropunctaria maura				•							
Hydropunctaria rheitrophila	•										
Hypocenomyce scalaris					•			•			
Hypogymnia physodes	•		•		•	•			•		
Hypogymnia tubulosa	•	•	•								
Hypotrachyna revoluta s. lat.					•		•				

Taxon name	Bridestones	Cloughton church	Cloughton	Cloughton Wyke	West Beck & Scarwood	Goathland	Cleveland Dyke	Staintondale church	Ravenscar	Robin Hood's Bay	Rosedale
Illosporiopsis christiansenii {*LF*}			•								
Ionaspis lacustris					•						
Jamesiella anastomosans	•				•						
Laetisaria lichenicola {*LF*}			•								
Lecanactis abietina	•				•						
Lecania atrynoides				•							
Lecania cyrtella		•	•						•		
Lecania erysibe s. str.		•						•	•		
Lecania hutchinsiae		•		•					•		
Lecania inundata	•	•	•								
Lecanora albescens	•	•	•					•	•		
Lecanora antiqua			•					•			
Lecanora caesiosora						•		•			
Lecanora campestris subsp. *campestris*	•		•					•	•		•
Lecanora carpinea	•		•								
Lecanora chlarotera	•		•		•				•		
Lecanora confusa			•		•				•		
Lecanora conizaeoides forma *conizaeoides*					•				•		•
Lecanora crenulata	•										
Lecanora dispersa	•	•						•	•		•
Lecanora expallens	•		•		•	•		•	•		
Lecanora gangaleoides	•		•			•					
Lecanora hagenii			•		•		•				
Lecanora horiza	•	•									
Lecanora intricata						•		•			
Lecanora muralis			•						•		
Lecanora orosthea		•	•					•			
Lecanora polytropa		•	•			•	•	•	•		
Lecanora pulicaris					•						
Lecanora rupicola var. *rupicola*		•	•								
Lecanora semipallida								•			

Taxon name	Bridestones	Cloughton church	Cloughton	Cloughton Wyke	West Beck & Scarwood	Goathland	Cleveland Dyke	Staintondale church	Ravenscar	Robin Hood's Bay	Rosedale
Lecanora soralifera	•	•				•	•	•			
Lecanora symmicta	•		•		•		•		•		
Lecidea grisella			•				•				
Lecidea lithophila							•				•
Lecidea plana			•								
Lecidella elaeochroma forma *elaeochroma*	•		•			•			•		
Lecidella scabra	•	•	•		•			•	•		•
Lecidella stigmatea		•	•					•	•		
Lepraria caesioalba	•										
Lepraria ecorticata					•						
Lepraria incana s. lat.			•								
Lepraria incana s. str.	•	•	•		•			•	•		
Lepraria lobificans	•				•						
Lepraria vouauxii	•	•	•		•				•		
Lichenoconium lecanorae {*LF*}		•									
Lichenomphalia umbellifera					•						
Marchandiomyces aurantiacus {*LF*}			•								
Marchandiomyces corallinus {*LF*}		•				•					
Melanelixia fuliginosa						•					
Melanelixia glabratula	•	•			•				•		
Melanelixia subaurifera	•	•	•		•	•		•	•		
Micarea denigrata						•					
Micarea erratica								•			
Micarea lignaria var. *lignaria*	•				•		•				•
Micarea nitschkeana							•				
Micarea prasina	•										
Muellerella lichenicola {*LF*}		•									
Myriospora rufescens			•						•		
Myriospora smaragdula						•		•			
Ochrolechia androgyna	•				•	•			•		
Ochrolechia parella	•										

Taxon name	Bridestones	Cloughton church	Cloughton	Cloughton Wyke	West Beck & Scarwood	Goathland	Cleveland Dyke	Staintondale church	Ravenscar	Robin Hood's Bay	Rosedale
Opegrapha atra					•						
Opegrapha calcarea	•	•		•				•			
Opegrapha dolomitica	•										
Opegrapha gyrocarpa	•	•									
Opegrapha mougeotii	•										
Opegrapha ochrocheila	•										
Opegrapha varia					•						
Opegrapha vulgata					•						
Opegrapha zonata					•						
Paranectria oropensis subsp. *oropensis* {*LF*}	•		•								
Parmelia ernstiae					•						
Parmelia omphalodes						•					
Parmelia saxatilis	•	•	•		•	•		•	•		•
Parmelia sulcata		•	•		•	•		•	•		
Parmeliopsis ambigua	•										
Parmotrema perlatum	•		•								
Peltigera hymenina											•
Peltigera membranacea							•				•
Peltigera praetextata					•						
Pertusaria albescens var. *albescens*	•							•			
Pertusaria amara forma *amara*	•				•						
Pertusaria corallina	•					•					
Pertusaria flavida	•										
Pertusaria hymenea					•						
Pertusaria lactescens	•								•		
Pertusaria leioplaca					•						
Pertusaria pertusa	•				•				•		
Phaeophyscia orbicularis		•	•						•		
Phylloblastia fortuita			•								
Physcia adscendens		•	•			•		•	•		
Physcia aipolia								•			

Taxon name	Bridestones	Cloughton church	Cloughton	Cloughton Wyke	West Beck & Scarwood	Goathland	Cleveland Dyke	Staintondale church	Ravenscar	Robin Hood's Bay	Rosedale
Physcia caesia		•	•								
Physcia dubia								•			
Physcia tenella	•	•	•		•	•		•	•		•
Placopyrenium fuscellum	•										
Placynthiella icmalea	•					•		•			
Placynthium nigrum											•
Platismatia glauca	•				•	•			•		
Polysporina simplex		•									
Porina aenea					•						
Porina byssophila	•										
Porina chlorotica forma *chlorotica*	•				•						
Porina lectissima					•						
Porina rivalis					•						
Porpidia cinereoatra					•						
Porpidia crustulata	•					•	•		•		•
Porpidia macrocarpa forma *macrocarpa*	•			•	•	•	•		•		•
Porpidia platycarpoides									•		
Porpidia soredizodes		•	•			•		•	•		
Porpidia tuberculosa	•	•			•	•	•	•	•		•
Protoblastenia lilacina	•										
Protoblastenia rupestris	•		•								•
Protoparmelia badia		•									
Pseudevernia furfuracea s. lat.					•						
Pseudevernia furfuracea var. *ceratea*					•	•			•		
Pseudevernia furfuracea var. *furfuracea*	•										
Psilolechia lucida	•	•			•						
Punctelia jeckeri	•										
Punctelia subrudecta s. str.	•		•								
Pyrrhospora quernea		•				•					
Racodium rupestre					•						
Ramalina farinacea	•		•		•	•			•		

Taxon name	Bridestones	Cloughton church	Cloughton	Cloughton Wyke	West Beck & Scarwood	Goathland	Cleveland Dyke	Staintondale church	Ravenscar	Robin Hood's Bay	Rosedale
Ramalina fastigiata	•		•					•	•		
Ramalina subfarinacea	•										
Rhizocarpon geographicum						•					
Rhizocarpon lavatum					•						
Rhizocarpon reductum	•	•			•	•	•	•	•		•
Rinodina oleae	•			•				•	•		
Sarcogyne regularis		•	•					•	•		
Sclerococcum sphaerale {*LF*}	•										
Scoliciosporum chlorococcum			•								
Scoliciosporum umbrinum	•	•	•		•		•		•		
Stenocybe septata {*F*}					•						
Syzygospora physciacearum {*LF*}			•						•		
Tephromela atra var. *atra*	•	•									
Tephromela grumosa		•									
Thelidium pluvium					•						
Thelocarpon sp.			•								
Thelotrema lepadinum	•				•						
Trapelia coarctata					•						
Trapelia corticola	•				•						
Trapelia glebulosa	•					•			•		
Trapelia obtegens	•										
Trapelia placodioides	•	•	•		•		•		•		
Trapeliopsis granulosa					•						
Tubeufia heterodermiae {*LF*}					•						
Usnea subfloridana									•		
Varicellaria lactea					•						
Verrucaria aquatilis										•	
Verrucaria funckii	•										
Verrucaria hydrophila					•						
Verrucaria macrostoma forma *furfuracea*	•										
Verrucaria macrostoma forma *macrostoma*									•		

Taxon name	Bridestones	Cloughton church	Cloughton	Cloughton Wyke	West Beck & Scarwood	Goathland	Cleveland Dyke	Staintondale church	Ravenscar	Robin Hood's Bay	Rosedale
Verrucaria madida	•										
Verrucaria mucosa				•							
Verrucaria muralis	•	•									
Verrucaria nigrescens forma *nigrescens*	•	•	•								
Verrucaria nigrescens forma *tectorum*		•	•					•			
Verrucaria obfuscans		•									
Verrucaria ochrostoma		•	•					•	•		
Verrucaria praetermissa										•	
Verrucaria viridula	•	•	•					•	•		•
Weddellomyces epicallopisma {*LF*}	•										
Xanthoparmelia conspersa	•										
Xanthoria calcicola									•		
Xanthoria candelaria s. lat.			•			•					
Xanthoria candelaria s. lat.											
Xanthoria parietina	•	•	•	•	•	•	•	•	•		•
Xanthoria polycarpa	•		•		•	•	•	•	•		
Xanthoria polycarpa											
Xanthoria ucrainica									•		
Xanthoriicola physciae {*LF*}	•		•			•			•		

Literature pertaining to British lichens – 60

Lichenologist **48**(6) was published on 7 December 2016, **49**(1) on 18 January 2017, and **49**(2) on 10 March 2017.

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.

BERGER, F., BRAUN, U. & HEUCHERT, B. 2015. *Gonatophragmium licheniphilum* sp. nov. – a new lichenicolous hyphomycete from Austria. *Mycobiota* **5:** 7–13. Describes *Gonatophragmium licheniphilum* F. Berger & U. Braun, recently discovered in East Anglia on *Xanthoria parietina*.

BRACKEL, WOLFGANG VON 2010. Weitere Funde von flechtenbewohnenden Pilzen in Bayern – Beitrag zu einer Checkliste V. *Ber. Bayer. Bot. Ges.* **80:** 5–32. Includes the original, illustrated description of *Dacampia cyrtellae* Brackel (as *D. lecaniae* Brackel), recently discovered in Norfolk. Also includes at least two other new species that may well occur in the British Isles: *Arthonia coniocraeae* (on squamules of *Cladonia coniocraea*) and *Merismatium physciae* (on *Physcia tenella*).

BRACKEL, WOLFGANG VON 2010. *Dacampia cyrtellae*, a new name for *Dacampia lecaniae* Brackel. *Herzogia* **23:** 315–316. Provides a replacement name for *Dacampia lecaniae* Brackel (2010), a later homonym for *D. lecaniae* Kocourk. & K. Knudsen, which was published earlier in the same year, but describes a different fungus, on *Lecania fuscella*, from California.

ETAYO, J. 2010. Hongos liquenícolas de Perú. Homenaje a Rolf Santesson. *Bull. Soc. linn. Provence* **61:** 1–46. The genus *Ovicuculispora* Etayo is introduced for *Nectriopsis parmeliae* as *O. parmeliae* (Berk. & M.A. Curtis) Etayo, and a new species from Peru.

FLEISCHHACKER, A., GRUBE, M., FRISCH, A., OBERMAYER, W. & HAFELLNER, J. 2016. *Fungal Biology* **120:** 1341–1353. Sequence data has shown that material parasitic on *Xanthoria parietina* and previously named as *Arthonia molendoi* belongs to the new species *A. parietinaria* Hafellner & A. Fleischhaker.

HAFELLNER, J. & SPRIBILLE, T. 2016. *Tingiopsidium* – the correct name for *Vestergrenopsis* as currently delimited (Peltigerales, *Koerberiaceae*). *Fritschiana* **83:** 47–50. *Vestergrenopsis* is considered a synonym of *Tingiopsidium* Werner (1939), and the British species *V. elaeina* is transferred as *T. elaeinum* (Wahlenb. ex Ach.) Hafellner & T. Sprib. [The morphological differences, and differences in

distribution, between *V. elaina* and the type of *Tingiopsidium*, *T. sonomense*, leaves open the possibility that the two represent two, although closely related genera.]

KNUDSEN, K. & LENDEMER, J.C. 2016. A new perspective on *Melanophloea*, *Thelocarpella* and *Trimmatothelopsis*: species previously placed in multiple families are united within a single genus in the *Acarosporaceae*. *Bryologist* **119:** 266–279. Phylogenetic studies show that *Acarospora rhizobola* should be referred to the genus *Trimmatothelopsis* Zschacke (1934), as *T. rhizobola* (Nyl.) K. Knudsen & Lendemer.

MILLANES, A.M., DIEDERICH, P., WESTBERG, M., KNUTSSON, T. & WEDIN, M. 2014. *Tremella rhizocarpicola* sp. nov. and other interesting lichenicolous Tremellales and Filobasidiales in the Nordic countries. *MycoKeys* **8:** 31–41. Describes a new *Tremella* that inhabits the apothecia of *Rhizocarpon lavatum*, and which has recently been discovered in Scotland.

MILLANES, A.M., DIEDERICH, P., WESTBERG, M. & WEDIN, M. 2016. Three new species in the *Biatoropsis usnearum* complex. *Herzogia* **29:** 337–356. Of the three new species, at least one occurs in the British Isles: *Biatoropsis hafellneri* Millanes, Diederich, M. Westb. & Wedin. This species appears to be confined to the *Usnea fragilescens* group (including *U. cornuta*), whereas *B. usnearum* is mainly confined to the *U. subfloridana* complex (incl. *U. glabrescens* and *U. wasmuthii*). In the absence of sequence data, these two *Biatoropsis* species can be identified by their basidial morphology.

PRIETO, M. & WEDIN, M. 2016/2017. Phylogeny, taxonomy and diversification events in the Caliciaceae. *Fungal Diversity* **82:** 221–238 (2017). Published online 1 August 2016. Available free online as doi:10.1007/s13225-016-0372-y. A revised classification within the mazaediate *Caliciaceae* based on a multigene phylogeny is presented. This synonymizes *Cyphelium* with *Calicium*, and the following former *Cyphelium* species become *Calicium notarisii* (Tul.) M. Prieto & Wedin, *Calicium tigillare* (Ach.) Pers. (1810) and *Calicium trachylioides* (Nyl. ex Branth & Rostr.) M. Prieto & Wedin. Species of the *Cyphelium inquinans* group are placed in the resurrected genus *Acolium* (Ach.) Gray (1821) as *A. inquinans* (Sm.) A. Massal. (1853), *A. marcianum* (B. de Lesd.) M. Prieto & Wedin and *A. sessile* (Pers.) Arnold (1885). *Thelomma ocellatum* becomes the type of the new genus *Pseudothelomma* M. Prieto & Wedin as *P. ocellatum* (Körb.) M. Prieto & Wedin.

TØNSBERG, T, BLOM, H.H., GOFFINET, B, HOLTAN-HARTWIG, J. & LINDBLOM, L. 2016. The cyanomorph of *Ricasolia virens* comb. nov. (Lobariaceae, lichenized Ascomycetes). *Opuscula Philolichenum* **15:** 12–21. Available free on-line. Phylogenetic studies place *Lobaria virens* in the resurrected genus *Ricasolia* as *R. virens* (With.) H.H. Blom & Tønsberg. This species is shown to have a 'shrubby' *Dendriscocaulon*-like cyanomorph, similar to that of *R.*

amplissima [*Lobaria amplissima*], but somewhat smaller and more fragile. Furthermore, it is mainly found accompanying early stages of development of the chloromorph, not occurring on mature lobes of the chloromorph as in *R. amplissima*. The cyanomorph of *R. virens* is so far known only from Norway [but should be searched for in western Britain and Ireland].

ZHURBENKO, M. 2015. *Sphaerellothecium siphulae* (Dothidomycetes incertae sedis) a new lichenicolous fungus on *Siphula ceratites* from the Arctic. *Nova Hedwigia* **101:** 419–425. Illustrated description of a lichenicolous fungus since recognized as occurring in Scotland.

B.J. Coppins
Email: lichensel@btinternet.com

New, Rare And Interesting Lichens

Contributions to this section are always welcome. Submit entries to Chris Hitch, Orchella Lodge, 14, Hawthorn Close, Knodishall, Saxmundham, Suffolk, IP17 1XW, in the form of species, habitat, locality, VC no, VC name, (from 1997, nomenclature to follow that given in the appendix, see BLS Bulletin 79, which is based on the Biological Record Centre for instructions for Recorders, ITE, Monks Wood Experimental Station, Abbots Ripton, PE17 2LS, 1974). Grid Ref (GR) (please add letters for the 100km squares to aid BioBase and Recorder 2000, as these are used in the database and on the NBN Gateway), altitude (alt), where applicable in metres (m), date (month and year). NRI records should now include details of what the entry represents, eg specimen in Herb. E, Hitch etc., with accession number where applicable, field record or photograph, to allow for future verification if necessary or to aid paper/report writing. Determined/confirmed by, Comments, New to/the, Finally recorder. An authority with date after species is only required when the species is new to the British Isles. Records of lichens listed in the RDB are particularly welcome, even from previously known localities. In the interests of accuracy, the data can be sent to me on e-mail, my address is cjbh.orchldge@freeuk.com, or if not, then typescript. Copy should reach the subeditor at least a fortnight before the deadline for the Bulletin. Please read these instructions carefully.

Please note that from summer 2017, Grid References in NRI data should be written as follows, eg. TM12.34., TM441.569, or TM2468.3333

New to the British Isles

Bacidina flavoleprosa Czarnota & Guz.-Krzemiń. (2012): forming large leprose patch *ca* 0.3 m diam. on bole of *Cladastris sinensis* [Chinese Yellow Wood] in town centre, Southend-on-Sea, VC 18, South Essex, GR TQ889.852, April 2012 (**E, NMW**). Identified from ITS sequence of a more recent collection by P.M. Earland-Bennett & J. Skinner from the same tree, June 2016 (**NMW**) by A. Orange. The sequence is identical to the only available sequence (from holotype) of *Bacidina flavoleprosa*, apart from a few bases which were ambiguous. A light apple-green leprose crust without apothecia or pycnidia, or spot-test reactions. Previously know only from a single collection, with apothecia, from Czech Republic, where it occurred on a north-facing granite wall close to road. Its apothecia are similar to those of *Bacidia* (*Bacidina*) *arnoldiana* and *B. sulphurella*, but its thallus is a lighter apple-green colour [like a Granny Smith apple] when fresh and is less granular in appearance although the soredia are of a similar diameter, 20–40 µm. A sparingly fertile collection by P.M. Earland-Bennett & J. Skinner of a very similar crust from Colchester is, however, an unidentified species and found to have a different ITS sequence by A. Orange. For a full description of *B. flavoleprosa* see Czarnota & Guzow-Krzemińska in *Lichenologist* **44:** 743–755. **BLS No. 2682.** *P. M. Earland-Bennett & J. Skinner*

Biatoropsis hafellneri Millanes, Diederich, M. Westb. & Wedin (2016)**:** on *Usnea cornuta*, Lamorna Cove, Lamorna Valley, VC 1, West Cornwall, GR SW45.23., April 2004, M. Wedin 7308 (holotype: **UPS** F766824; isotypes: **GZU** and **S** F102403). Of the three new species described, at least one occurs in the British Isles: *Biatoropsis hafellneri* Millanes, Diederich, M. Westb. & Wedin. This species appears to be confined to the *Usnea fragilescens* group (including *U. cornuta*), whereas *B. usnearum* is mainly confined to the *U. subfloridana* complex (incl. *U. glabrescens* and *U. wasmuthii*). In the absence of sequence data, these two *Biatoropsis* species can be identified by their basidial morphology. For full description see Millanes *et al.* in *Herzogia* **29:** 337–356 (2016). **BLS No. 2685**. *B.J. Coppins*

Dacampia cyrtellae Brackel 2010: lichenicolous on *Lecania cyrtellina*, on *Sambucus* stem, east edge of Reffley Wood, South Wootton, VC 28, West Norfolk, GR TF660.221, April 2017. Herb. Powell 4377. Ascomata perithecioid, growing within the thallus and apothecia of the host and becoming emergent. Perithecia globose, 110-160 µm diameter, wall brown, paler at the base. Asci clavate, bitunicate, the apex thickened, with an internal beak when young, 6-8-spored, K/I-. Ascospores hyaline to very pale brown, muriform, narrowly ellipsoid, with 3-6(-8) transverse septa and 2-7(-11) longitudinal septa, 21-25 × 6.5-8.5 µm. For full description see Brackel (2010) in *Ber. Bayer. Bot. Ges.* **80:** 5-32. **BLS No. 2689**.

M. Powell, P.W. Lambley & L. Saunders

Gonatophragmium lichenophilum F. Berger & U. Braun 2015: lichenicolous on *Xanthoria parietina*, on dead *Sambucus* in small copse, Brundish, VC 25, East Suffolk, GR TM267.693, December 2016. Herb. (**E**) Stauss. Confirmed by B.J. Coppins.

Forming extensive patches of pale brown, minutely downy infections on the host. The conidiophores form irregular branched ramifications causing the velvety appearance. The conidiogenous cells have numerous conspicuous conidiogenous loci. The conidia are very pale brown, thin-walled, smooth, (7-)9-15(-17) × (2.5)3-4(-4.5) µm, (0-)1(-2)-septate. For full description see Berger *et al*. (2015) in *Mycobiota* **5:** 7-13. **BLS No. 2687**.
D.F. Strauss

Merismatium coccisporum (Norman) Vouaux (1913): on the crustose thallus of *Stereocaulon plicatile*, on rock in snow-lie flush, Coire nan Lochan, Glen Coe, VC 98, Argyll Main, GR NN15.55. and for more detail consult A. Acton, alt 825 m, August 2016. Herb. A. Acton (**E**). Perithecia black, *c.* 0.2 mm diameter, emergent; ascospores brown, 3-septate to submuriform, often with at least one septum oblique, 8.5–17 x 5–8 um, lacking interascal hyphae (paraphyses), but with distinct periphyses. Not causing any obvious damage to the host. *Stereocaulon* seems to be a new host genus for *M. coccisporum*, it being previously reported from *Amygdalaria* spp. and *Euopsis* spp. in Scandinavia, Russia (Siberia) Greenland and Canada. For description, and drawings of spores, see Triebel in *Bibliotheca Lichenologica* **35:** 179–182 (1989). **BLS No. 2686**.
A. Acton

Pachyphiale ophiospora Lettau (1937): on bark of *Pinus* in ravine, Allt Nathrach, Kinlochleven, VC 97, West Inverness-shire, GR NN166.627, alt. *c.* 110 m, October 2016, Herb. A. Acton (**E**). Determined by B.J. Coppins. Similar to *P. carneola*, but its ascospores are spirally curved when released from the ascus, somewhat shorter 30–50(–60) x 38–82 um long, and with fewer septa, 7–10 x 10–16-septate. This is a rare, and perhaps the first recorded occurrence of a *Pachyphiale* species being found on a coniferous tree. Recent phylogenetic studies indicate that *Pachyphiale* should be subsumed within a broadened concept of *Gyalecta*, in which case this can be cited as *Gyalecta ophiospora* (Lettau) Baloch & Lücking (2013). **BLS No. 2676**. *A. Acton*

Parmelia serrana A. Crespo, M.C. Molina & D. Hawksw. (2004): on *Populus canescens*, south of Balavil, Insh Marshes NNR, VC 96, East Inverness-shire, GR NH791.018, June 2009. Herb. C.J. Ellis & B.J. Coppins L559 (**E**). Determined by L. Kelly. DNA voucher EDNA 09-01603. A member of the *Parmelia saxatilis* group, which requires DNA analysis for certain identification, although it does show several distinct morphological traits. Further details and records will be included in a forthcoming paper by Ellie Corsie. **BLS No. 2678.** *C.J. Ellis & B.J. Coppins*

Sphaerellothecium siphulae Zhurb. (2015): on podetium of *Siphula ceratites* on redistributed peat, near Inverkirkaig, VC 108, West Sutherland, GR NC109.185, alt 140 m, August 1980. Herb. Ross (**E**), leg. K. Ross, Determined by B.J. Coppins. A single infected podetium spotted by Heather Paul while examining the late Kenneth Ross's herbarium. Perithecia crowded towards the tip of the podetium, each *c.* 40–50 µm diameter; asci [only one seen] with 8, not fully mature, 1-septate ascospores, *c.* 9–10 × 3.5–4 µm. According to the original description, the spores are (8.5–)10–11.5(–14) × (3.5–)4–5(–6) µm. Superficial, inconspicuous brown vegetative hyphae, are easily

visible in microscopic preparation. Previously known only from the Russian Arctic. For full description and illustrations, see Zhurbenko in *Nova Hedwigia* **101:** 419–425 (2015). **BLS No. 2675.** *B.J. Coppins and H. Paul*

Tremella rhizocarpicola Diederich, Millanes & Wedin (2014): in hymenium of *Rhizocarpon lavatum*, on north-facing crags below ridge, Meall Dearg, Aonach Eagach, Glen Coe, VC 98, Argyll Main, GR NN160.583, 900 m, August 2016. Herbaria A. Acton (**E**) and Diederich. Determined by B.J. Coppins, confirmed by P. Diederich. This parasite takes over the hymenium of the host's apothecia, with little external sign, except sometimes swellings on the surface of the disc. Previously known from Sweden, Norway and Denmark, and so far only on *R. lavatum*. For full descriptions and illustrations see Diederich in *Bibliotheca Lichenologica* **61:** 1–198 (1996) [as *Tremella* sp. 3] and Millanes *et al.* in *MycoKeys* **8:** 31–41 (2014). **BLS No. 2684.** *A. Acton*

Zwackhiomyces lithoiceae (B. de Lesd.) Hafellner & V. John (2006): lichenicolous on *Placopyrenium fuscellum*, on cement of wall top, Barford Park, VC 5, South Somerset, GR ST23.35., May 2015. Herb. Bacciu. Confirmed by M. Powell. Ascomata perithecioid, numerous, almost sessile, 100-140 µm diameter, interascal filaments branched and anastomosing, hymenium and ascus K/I-. Asci fissitunicate. Ascospores colourless, asymmetrically 1-septate, 15-20 × 5-7.5 µm. In this specimen, the asci are 4-7 (-8)-spored. See Calatayud *et al*. (2007) in Lichenologist **39:** 129-134 for a key to the known species of *Zwackhiomyces*. **BLS No. 2688**. *N. Bacciu & M. Powell*
(See ***Zwackhiomyces lithoiceae*** - Editorial notes at the foot of this document.)

Other Records

***Abrothallus caerulescens*:** lichenicolous on *Xanthoparmelia conspersa*, Crockern Tor, Dartmoor, VC 3, South Devon, GR SX615.757, January 2017. Herb. Bacciu. Second record for of this species in this Vice-county and strangely the first for Dartmoor, considering the frequency of *Xanthoparmelia conspersa*. *N. G. Bacciu*

Absconditella celata: for details, see under *Pyrenidium actinellum*

Absconditella sphagnorum: overgrowing moribund liverworts, including *Cephalozia connivens*, in open low productivity wet heath in hollow in heathland, Morden Bog NNR, VC 9, Dorset, SY91.92., alt 15 m, March 2017. New to Dorset and southern England. A significant range extension of a rarely recorded species that should be looked for in other heathland sites in the south.
A.M. Cross, N.A. Sanderson & Wessex Lichen Group

Absconditella pauxilla: lignicolous on weathered old grave marker in churchyard, West Winterslow (All Saints) VC 8, South Wiltshire, GR SU229.325, May 2016. Herb. Powell 4046. New to the Vice-county. *B.J. Coppins & M. Powell*

Acarospora moenium: on asbestos tiled roof of garage in farmyard, West Down, Ilfracombe, VC 4, North Devon, GR SS517.420, February 2017. Herb. Putnam. New to the county and the South West. *M. Putnam*

Acrocordia cavata: on *Sambucus nigra*, churchyard, Corfe Mullen St Hubert's, VC 9, Dorset, GR SY976983. January 2017. Herb. J. Seawright. Confirmed by B.J. Coppins. New to the Vice-county. *J. Seawright*

Acrocordia salweyi: on mortar on roofless building and boundary wall, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

***Arrhenia peltigerina*: (i)** lichenicolous on *Peltigera hymenina*, Bovey Heath DWT Reserve, VC 3, South Devon, GR SX820.767, October 2013; (ii) at Teigngrace Meadow DWT Reserve, VC 3, South Devon, GR SX841.759. First and second records of this species for Devon. *N.G. Bacciu*

Arthonia fuscopurpurea: parasitic on *Peltigera hymenina* on *Corylus*, within *Corylus* dominated pasture woodland, Great Wood, Barle Valley, VC 5 South Somerset, GR SS8619.3272, alt 240 m, December 2016. New to Exmoor and second record of the species from south-west England. *N.A. Sanderson*

Arthonia punctella: lichenicolous on *Diplotomma alboatrum*, east wall of church,West Grimstead (St John's), VC 8, South Wiltshire, GR SU211.265, May 2016. Herb. Powell 4050. New to the Vice-county. *B.J. Coppins & M. Powell*

Arthopyrenia cinereopruinosa: on old stems of *Calluna vulgaris* in valley mire, Cors Caranod, *c.* 1 km northwest of Bethania, VC 46, Cardiganshire, GR SN570.647, alt 235 m, February 2017. Herb. SPC. An unusual, perhaps novel, phorophyte and habitat for a species more usually associated with old-growth woodland. *S.P. Chambers*

Arthothelium ruanum: on *Tilia cordata* within limestone ravine woodland, Lady Park Wood, Wye Valley, VC 34 West Gloucestershire, SO551.140, alt 55 m, October 2016. New to the county and a considerable extension of its known range, the nearest previously recorded sites being in mid Wales and in similar limestone ravine habitat in the Mendips. *N.A. Sanderson*

Athelia arachnoidea: infecting *Opegrapha vulgata* on dry side of *Acer pseudoplatanus* on trackside fieldbank, Bwlch-y-fadfa, VC 46, Cardiganshire, GR SN436.494, alt 245 m, October 2016. Herb. SPC. New to the Vice-county. *S.P. Chambers*

Bacidia arnoldiana on calcareous sandstone leg of table tomb, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Sterile, but with pycnidia. Specimen not retained. New to the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Bacidia caligans: fertile on sandstone at base of north wall of church, Crichton , VC 83, Midlothian, GR NT380.616, July 2016. Herb. Coppins 25079 (**E**). New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

Bacidia chloroticula: several tiny patches associated with birdlime on upperside of *Rubus fruticosus* agg. leaves in sheltered woodland, north flank of Crug Las, *c.* 0.75 km

west of Post-bach, VC 46, Cardiganshire, GR SN392.520, alt 240 m, October 2016. Field record. Deciduous bramble leaves make an unusual 'perch' even for this weedy species. *B. chloroticula* was abundant on the tops of fenceposts around the wood, from which ascospores have presumably been vectored by birds. *S.P. Chambers*

Bacidia egenula: on bark of *Salix cinerea* with in old growth floodplain pasture woodland, Beaulieu River, New Forest, VC11, South Hampshire, GR SU3856.0496, alt 5 m, April 2017. New to the Vice-county. *N.A. Sanderson & A.M. Cross*

Bacidia friesiana: on *Sambucus* on woodland edge, Reffley Wood, King's Lynn. VC 28 West Norfolk, GR TF660.222., April 2017. New to the Vice-county.
P.W. Lambley, M. Powell & L. Saunders

Bacidia fuscoviridis: on sandstone paving in churchyard, Crichton, VC 83, Midlothian, GR NT380.616, July 2016. Field record. New to the Vice-county.
B.J. Coppins, J.R. Douglass & M. Powell

Bacidia fuscoviridis: on shaded limestone of gutter beside church, and on boundary wall of churchyard, West Tytherley (St Peter's), VC 11, South Hampshire, GR SU274.297, May 2016. Field record. New to the Vice-county.
B.J. Coppins & M. Powell

Bacidia incompta: on inside of hollow, aged *Acer campestre*, by stream in parkland, Sotterley Park VC 25, GR TM46.84., April 2017. Herb. Hitch (R1). Also field determination. Last seen in Suffolk in 1985.
P.W. Lambley, Natural England Group, C.J.B. Hitch and M. Powell

Bacidia neosquamulosa: forming extensive patches on the side of limestone gravestone in churchyard, West Grimstead (St John's), VC 8, South Wiltshire, GR SU211.265, May 2016. Herb. Powell 4054. New to the Vice-county. Although considered to be primarily corticolous (on nutrient-rich bark), this species does occasionally occur on stonework. Without apothecia (which were present in this colony) the identity would be very difficult to confirm. New to the Vice-county. *B.J. Coppins & M. Powell*

Bacidia viridescens: on sides of boards on slipway down to River Thames, near Chalkwell Railway Station, Chalkwell, VC 18, South Essex, GR TQ850855, March 2005. Herb P.M. Earland-Bennett. Determined by B.J. Coppins. New to the county and rare in East Anglia. *P.M. Earland-Bennett*

Belonia nidarosiensis: on mortar of wall of roofless building, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

Brianaria sylvicola: on sandstone headstone, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Specimen not retained. New to the Vice-county.
B.J. Coppins, J.R. Douglass & M. Powell

Calicium diploellum: on old *Ilex*, mainly in the lenticels, but also with some tiny apothecia on bark, dominated by *Mycoporum lacteum*, with *Micarea pycnidiophora* also present, by glade within *Fagus – Quercus – Ilex* pasture woodland, Fair Cross, Rushpole Wood, New Forest, VC 11, South Hampshire, GR SU3054.0953, alt 40 m, March

2017. The third site found in the New Forest and England. The species appears rare in the New Forest, as few trees have been found, after wide ranging searches. *N.A. Sanderson*

Caloplaca albolutescens: sterile, on concrete steps, Roswell Pits, Ely, VC 29, Cambridgeshire, TL558.804, April 2017. Field record. New to the Vice-county. Even when sterile, with experience, well developed colonies can be recognised by the lack of placodioid lobes and the finely sorediate thallus.

M. Powell & Cambridge Lichen Group

Caloplaca albolutescens: on limestone buttress, south side of church, West Winterslow (All Saints), VC 8, South Wiltshire, GR SU229.325, May 2016. Field record. New to the Vice-county. *B.J. Coppins & M. Powell*

Caloplaca albolutescens: on calcareous stonework, the Minster Church of St Cuthburga, Wimborne, VC 9, Dorset, GR SZ009.999. February 2017. Confirmed by B.J. Coppins. Second record of this species for the Vice-county. *J. Seawright*

Caloplaca arcis: on sandstone leg of table tomb in churchyard, Uphall, VC 84, West Lothian, GR NT059.722, July 2016. Field record. New to the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Caloplaca blastidifera ined.: on pebble within curbstone grave in churchyard, East Grimstead (Holy Trinity), VC 8, South Wiltshire, GR SU224.272, April 2016. Herb. Powell 4049. The description of *C. soralifera* in TLGB&I (2009) relates to this unpublished taxon which somewhat resembles *C. chlorina* but the apothecia lack a conspicuous thalline margin. (*C. soralifera* Vondrák & Hrouzek resembles an exuberant *C. albolutescens*.) New to the county. *B.J. Coppins & M. Powell*

Caloplaca chalybaea: on limestone chest tomb in churchyard, West Winterslow (All Saints), VC 8, South Wiltshire, GR SU229.325, May 2016. Field record. New to the Vice-county. *B.J. Coppins & M. Powell*

Caloplaca chlorina: on sandstone plinth of headstone, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Caloplaca dichroa: on marble obelisk, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Caloplaca flavocitrina: on east wall of church, also on sandstone headstone, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

Caloplaca (Gyalolechia) flavorubescens: one heavily mollusc-grazed small thallus on south-facing buttress base of free-standing, 200+ years old *Fraxinus excelsior*, in parkland-like setting, Lluest field, near Lovesgrove, VC 46, Cardiganshire, GR SN633.814, alt *c.* 25 m, October 2016. Herb. SPC. New to the Vice-county.

S.P. Chambers

Caloplaca limonia: on mortar of wall of roofless building, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county.
B.J. Coppins, J.R. Douglass & M. Powell

Catillaria fungoides: lignicolous on wooden bench in churchyard, West Winterslow (All Saints), VC 8, South Wiltshire, GR SU229.325, May 2016. Herb. Powell 4044. New to the Vice-county. Although considered to be primarily a corticolous lichen, *C. fungoides* probably occurs un-noticed on lignum (as does *Halecania viridescens*).
B.J. Coppins & M. Powell

Catillaria fungoides: a small sterile thallus on twig of *Fraxinus* in churchyard, West Tytherley (St Peter's), VC 11, South Hampshire, GR SU274.297, May 2016. Herb. Powell 4058. New to the Vice-county. *B.J. Coppins & M. Powell*

Catillaria fungoides: small sterile colony on branch of veteran *Fraxinus*, Hatfield Forest, VC 19, North. Essex, TL534.199, February 2017. Herb. Powell 4297. New to the Vice-county. *B.J. Coppins, M. Powell, P. Shipway & J.F. Skinner*

Catillaria nigroclavata: on flat upperside of nutrient-enriched siliceous stone on ground under canopy of mature *Fagus sylvatica* by boundary wall, Pen-uwch Chapel, VC 46, Cardiganshire, GR SN598.622, alt 255 m, March 2017. Herb. SPC. Seemingly the first reported occurrence of the species on rock. *S.P. Chambers*

Chaenotheca stemonea*:* on ancient *Quercus* in woodland. Reffley Wood, King's Lynn. VC 28 West Norfolk, GR TF6600,2215. April 2017. New to the Vice-county.
P.W. Lambley, M. Powell & L. Saunders.

Chaenotheca stemonea: in crevices of ancient *Quercus* in parkland, Sotterley Park VC 25, GR TM46-84-, April 2017. Determined by M. Powell. Second record of this species in Suffolk. The previous record was in VC 26, West Suffolk.
P.W. Lambley & Natural England Group, C.J.B. Hitch & M. Powell

Chaenothecopsis pusilla: lignicolous on the back of a softwood noticeboard in south porch of church, Grimstead (Holy Trinity), VC 8, South Wiltshire, GR SU224.272, April 2016. Herb. Powell 4064. In this specimen many of the ascospores are simple and the stalks are black. New to the Vice-county. *B.J. Coppins & M. Powell*

Chaenothecopsis savonica: on lignum on standing dead *Quercus*, within *Quercus – Ilex* pasture woodland, Pinnick Wood, New Forest, VC 11, South Hampshire, SU1916.0763, alt 45 m, October 2016. Second record of this Near Threatened fungus from the New Forest. *N.A. Sanderson*

Cladonia callosa: on sides of ruts on eroding paths in heathland, Morden Bog NNR, VC 9, Dorset, SY9141.9218 & SY9125.9237, alt 15 m and 20 m respectively, March 2017. Second location for this species in Dorset.*N.A. Sanderson & Wessex Lichen Group*

Cladonia conista: in *Cladonia*-rich community on soily top of siliceous drystone wall on south side of minor road, *c.*1 km south-southeast of Llyn Fanod, VC 46, Cardiganshire, GR SN607.631, alt 300 m, January 2016. Herb. SPC. Suspected as being *C. conista* on morphology in the field. Confirmed by TLC (fumarprotocetraric acid, no atranorin

and a fatty acid consistent with bourgeanic acid present in solvent G) by A. Orange. New to the Vice-county & second Welsh record, for this species.

S.P. Chambers

Cladonia zopfii: very locally frequent in several areas of open low productivity wet heath in hollows in heathland, Morden Bog NNR, VC 9, Dorset, SY91.92., alt 15 m, March 2017. Second location for this species in Dorset and one of the largest populations known in England. *B. Edwards, N.A. Sanderson & Wessex Lichen Group*

Cladosporium licheniphilum: on *Xanthoria parietina* on branch of *Populus lasiocarpa*, Royal Botanic Garden, Edinburgh, VC 83, Midlothian, GR NT24.75., July 2016. Coppins 25069 (**E**). *Lichenoconium xanthoriae* also present. New to Scotland.

B.J. Coppins & M. Powell

Clauzadea monticola: on calcareous sandstone headstone, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Clauzadea monticola: on cement coping of wall in churchyard, Morham, VC 82, East Lothian, GR NT556.725, July 2016. Field record. New to the Vice-county.

B.J. Coppins & M. Powell

Collema crispum* var. *crispum: on boundary wall, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Collema furfuraceum: two large colonies on trunk and buttress base of two veteran *Fraxinus excelsior* having an age estimated from girth measurements of *c.* 200+ years, in parkland setting at Lluest field, near Lovesgrove, VC 46, Cardiganshire, GR SN632.813, alt *c.*18 m, October 2016. Herb. SPC. The first certain Vice-county record for this species. *S.P. Chambers*

Collema fuscovirens: for details, see under *Placynthium tremniacum.*

Cresponea premnea: On three ancient *Quercus* in woodland. Reffley Wood, King's Lynn. VC 28 West Norfolk, GR TF6600.2215. A new site for this species of ancient trees, April 2017. *P.W. Lambley, M. Powell & L. Saunders*

Didymocyrtis epiphyscia: as the anamorph, on the apothecial discs of *Physcia aipolia* on branch of young *Quercus* in field, Twrgwyn Mawr, *c.*1 km southwest of Pen-uwch, VC 46, Cardiganshire, GR22(SN)/583.620, alt 270 m, March 2017. Herb. SPC. New to Wales. *S.P. Chambers*

Didymocyrtis ramalinae: lichenicolous on moribund *Ramalina fastigiata* on twig of *Crataegus,* on calcareous grassland, east of Lulworth Cove, VC 9, Dorset, GR SY835.796, January 2017. Herb. Bacciu. New to the county. *N.G. Bacciu*

Didymocyrtis slaptoniense: teleomorph, lichenicolous on *Xanthoria parietina*, in churchyard, East Grimstead (Holy Trinity), VC 8, South Wiltshire, GR SU224.272, April 2016. Herb. Powell 4063. New to the Vice-county. *B.J. Coppins & M. Powell*

Didymocyrtis slaptoniense: lichenicolous on corticolous *Xanthoria parietina* in churchyard, Woodwalton (St Andrew's), VC 31, Huntingdonshire, TL209.822, January 2017. Herb. Powell 4267. New to the Vice-county.

M. Powell & Cambridge Lichen Group

Diplotomma alboatrum: on mortar of church wall in churchyard, Uphall, VC 84, West Lothian, GR NT059.722, July 2016. Field record. New to the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Diplotomma chlorophaeum: on brick wall in churchyard, Colehill (St Michael & All Angels), Wimborne, VC 9, Dorset, GR SU024.012. February 2017. Herb. J. Seawright. Confirmed by B.J. Coppins. New to the Vice-county. *J. Seawright*

Diplotomma hedinii: on limestone windowsill of church, Milton Ernest (All Saints), VC 30, Bedfordshire, TL020.561, February 2016. Herb. Powell 4300.

B.J. Coppins & M. Powell

Diplotomma hedinii: on ledger tomb in churchyard, , Wimborne (the Minster Church of St Cuthburga) VC 9, Dorset, GR SZ009.999. February 2017. Herb. J. Seawright. Confirmed by B. Edwards. A new 10 km square record, as all previous vice-county records for this species are from Portland. *J. Seawright*

Diplotomma pharcidium: on *Fraxinus* twig, Thurlestone DBWPS Reserve, VC 3, South Devon, GR SX685.421, August 2016. Herb. Bacciu. New to Devon and the second record of this species for southern England. *N.G. Bacciu*

Enterographa brezhonega: parasitising *Porina rosei,* on base rich bark of old *Quercus* within *Quercus petraea – Fagus – Ilex* pasture woodlands, King's Hat, Hollands Wood, New Forest & Brook Wood, New Forest, VC11, South Hampshire, SU3051.0558 & SU2626.1445, alt 50m & 80m, August 2016 & February 2017, respectively. Second & third records for this species in Britain. *N.A. Sanderson*

Enterographa elaborata: two thalli over 1 cm wide, plus frequent smaller thalli, in rain track, north facing on suppressed ancient *Fagus*, within *Fagus – Quercus – Ilex* pasture woodland, Allum Green, New Forest, VC 11, South Hampshire, SU2791.0760, alt 50m, February 2017. A new site for this internationally rare section 41 species. *A.M. Cross & N.A. Sanderson*

Epicladonia simplex: parasitic on the squamules of *Cladonia verticillata*, on side of rut on eroding path in heathland, Morden Bog NNR, VC 9, Dorset, SY9125.9237, alt 20 m, March 2017. New to Dorset and the first confirmed record for this species from England. *N.A. Sanderson & Wessex Lichen Group*

Fuscopannaria sampaiana: on two old *Quercus petraea* trees, within *Quercus* dominated old growth woodland, Buckland Bridge, Holne Chase SSSI, VC 3, S. Devon, SX7193.7193 & SX7186.7207, alt 90 m, December 2016. A survey for Natural England, confirmed the survival of the only known English colony of this highly threatened Section 41 lichen and then discovered a new colony, which had the appearance of being a recent colonist. *N.A. Sanderson*

Gonatophragmium lichenophilum: lichenicolous on *Xanthoria parietina* on twig at scrubby edge of woodland, Hatfield Forest, VC 19, North Essex, TL534.191, February 2017. Herb. Powell 4304. New to the Vice-county.

B.J. Coppins, M. Powell & P. Shipway

Graphina anguina: single small thallus on veteran *Carpinus*, Hatfield Forest, VC 19, North Essex, TL53.19., February 2017. Herb. Powell 4305. New to the Vice-county and a notable addition for the site. *B.J. Coppins*, *M. Powell* & *P. Shipway*

Graphina anguina: on ancient *Quercus* in parkland, Sotterley Park VC 25, GR TM46-84-, April 2017. Determined by M. Powell. Second record of this species in Suffolk. The previous record was at Staverton Thicks on massive *Ilex* bole. New for the park.

P. W. Lambley and *Natural England Group, C.J. B, Hitch* and *M. Powell*

Graphina pauciloculata: on *G.ruiziana* on old *Corylus avellana* stem in bowl of wet woodland, north flank of Crug Las, *c*a 0.75 km west of Post-bach, VC 46, Cardiganshire, GR SN392.520, alt 240 m, October 2016. Herb. SPC. The sixth site for this species in the Vice-county. *S. P. Chambers*

Gyalecta flotowii: dominating large areas of trunk of veteran *Acer campestre*, Hatfield Forest, TL53.18., February 2017. Herb. Powell 4306. An important confirmation of a historic record for which no voucher is known.

B.J. Coppins, *M. Powell* & *P. Shipway*

Gyalecta truncigena: on ancient sloping *Acer campestre* by stream in light shade in parkland, Sotterley Park VC 25, GR TM46.84., April 2017. Determined by M. Powell. Very rare in the county.

P.W. Lambley & Natural England Group, C.J. B, Hitch & M. Powell

Hawksworthiana peltigericola: lichenicolous on *Peltigera* sp., Harrold-Odell Country Park, VC 30, Bedfordshire, SP960.568, January 2017. Herb. Powell 4273. New to the Vice-county. *M. Powell*

Heterodermia obscurata: one diffuse patch, over *c.* 7 x 4 cm, on southeast-facing side of trunk of *Salix cinerea* at edge of *Molinia*-carr, Rhos Cilcennin, VC 46, Cardiganshire, GR SN529.622, alt 180 m, December 2016. Herb. SPC. New to the Vice-county. *S.P. Chambers*

Hypotrachyna sinuosa: on *Salix* twigs, edge of *Corylus* dominated pasture woodland, Great Wood, Barle Valley, VC 5 South Somerset, SS8605.3265, alt 220 m, December 2016. First recent record of this species from Exmoor. *N.A. Sanderson*

Inoderma* (*Lecanactis*) *subabietinum: two records from VC 46, Cardiganshire; (i) on dry, sheltered, natural rockface in old woodland, Coedmor NNR, GR SN200.429, alt *c.* 20 m, March 1996. Field record. Determined by A. Orange; (ii) single thallus, *c.* 1.5 cm diameter, under sheltering north-facing rock overhang in former stone quarry in woodland, between Coed Cwm-llety and Vale-of-Rheidol railway, east of Glanyrafon GR SN626.807, alt 20 m, October 2016, Field record. *I. subabietinum* was abundant on a wide range of phorophytes in the second location, including *Crataegus, Hedera* &

Quercus. Apparently the first and second reported saxicolous occurrences of this species. *S.P. Chambers*

Ionaspis lacustris: on small flint pebbles in shallow ephemerally flooded pan on hard grazed heathland, disturbed by an airfield in WWII, Janesmoor Plain, New Forest, VC 11, South Hampshire, SU2463.1374, alt 115 m, November 2016. New to the county and lowland England. *N.A. Sanderson, N. Bacciu & Wessex Lichen Group*

Laeviomyces pertusariicola: lichenicolous on *Pertusaria hymenea*, Kingston Lacy, VC 9, Dorset, GR ST977.015. November 2016. Herb. J. Seawright. Confirmed by Neil Sanderson. Second Vice-county record for this species. *J. Seawright*

Lecanactis latebrarum: on dry sheltered rocks in ravine within oceanic woodland, North Wood, Holne Chase SSSI, VC 3, South Devon, SX7176.7320, alt 160 m, December 2016. New to the Vice-county. *N.A. Sanderson*

Lecania cyrtella: on flat upperside of nutrient-enriched siliceous stone on ground under canopy of mature *Fagus sylvatica* by boundary wall, Pen-uwch Chapel, VC 46, Cardiganshire, GR SN598.622, alt 255 m, March 2017. Herb. SPC. Seemingly the first reported occurrence of the species on rock. *S.P. Chambers*

Lecania cyrtellina: on trunk of *Aesculus*, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Specimen not retained. New to the Vice-county. *B.J. Coppins, J. Douglass & M. Powell*

Lecania cyrtellina: on *Sambucus nigra*, Abney Park Cemetery, Stoke Newington (post AGM field meeting),VC 21, Middlesex, TQ33.86, January 2017. Herb. Powell 4257. New to the Vice-county. *M. Powell*

Lecania hutchinsiae: on sandstone plinth of headstone, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

Lecania inundata: on sandstone plinths of headstones, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

Lecania naegelii: on flat upperside of nutrient-enriched siliceous stone on ground under canopy of mature *Fagus sylvatica* by boundary wall, Pen-uwch Chapel, VC 46, Cardiganshire, GR SN598.622, alt 255 m, March 2017. Herb. SPC. First saxicolous record of the species for this Vice-county. *S.P. Chambers*

Lecanographa lyncea: On ancient *Quercus* in woodland. Reffley Wood, King's Lynn. VC 28 West Norfolk, GR TF6600,2215. A new site for this species of ancient Quercus, April 2017. *P.W. Lambley, M. Powell & L. Saunders*

Lecanora albella: on branch and bole of youngish *Tilea* probably brought in, but maintaining, in new cemetery, Woodbridge, VC 25, East Suffolk, GR TM26.48., October 2016. Herb. Hitch ex Powell/(P4187 - 3.5). Determined by M. Powell. New to the county and East Anglia. *C.J.B. Hitch & M. Powell*

Lecanora albescens: on marble obelisk, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Lecanora antiqua: on sandstone headstone, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Lecanora compallens: on sandstone of west wall of church, Crichton, VC 83, Midlothian, GR NT380.616, July 2016, Herb. 4249. An unusual occurrence on stone-work. Third record for this species in the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Lecanora epanora: on sandstone headstone. Denver Church, Denver. VC 28 West Norfolk, GR 53 (TF) 614016, March 2017.. New to the Vice-county and exceedingly rare in East Anglia. Other sites are in Hertfordshire and Huntingdonshire

P. W. Lambley, M. Powell & L. Saunders

Lecanora farinaria: on sandstone headstone in churchyard, Uphall, VC 84, West Lothian, GR NT059.722, July 2016. Herb. Powell 4252. New to the Vice-county.

B.J. Coppins, J. Douglass & M. Powell

Lecanora farinaria: on sandstone headstone in churchyard, North Berwick (St. Andrews), VC 82, East Lothian, GR NT553.852, July 2016. Specimen not retained. New to the Vice-county. *M. Powell*

Lecanora sambuci: on *Sambucus* in churchyard, Crichton, VC 83, Midlothian, GR NT380.616, July 2016. Herb. Powell 4249. New to the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Lecanora semipallida: on mortar of south wall of church, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Lecanora semipallida: two or three fruits on top of newish tomb in new cemetery, Woodbridge, VC 25, East Suffolk, GR TM26.48., October 2016. Determined in the field by M. Powell, by the UV+ lemon yellow colour of the discs. First confirmed record of this species in the county. *C.J.B. Hitch & M. Powell*

Lecanora stenotropa: On chemically treated fence rail in churchyard, West Winterslow (All Saints), VC 8, South Wiltshire, GR SU229.325, May 2016. Herb. Powell 4042. New to the Vice-county. *B.J. Coppins & M. Powell*

Lecanora varia: one small streak on flat upperside of top rail of old wooden forestry gate, Tangarn, near Bear's Hill, *c.* 0.75 km northwest of Pen-uwch, VC 46, Cardiganshire, GR SN582.632, alt 305 m, March 2017. Herb. SPC. New to the Vice-county. *S. P.Chambers*

Lecidea lapicida: on sandstone headstone, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Specimen not retained. New to the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Lecidea lapicida: locally frequent on block of mine spoil over an area *c.* 5 x 8 m, by stream-side outwash fan of the Nant Watcyn, Cwmystwyth mine, VC 46, Cardiganshire, GR SN805.745, alt 240 m, March 2017. Herb. SPC. New to the Vice-county. *S.P. Chambers & C.M. Forster-Brown*

Lecidea plana: on large boulder-like granite memorial in churchyard, West Tytherley (St Peter's), VC 11, South Hampshire, GR SU274.297, May 2016. Herb. Powell 4061. New to the Vice-county. *B.J. Coppins & M. Powell*

Lecidella elaeochroma: on flat upperside of nutrient-enriched siliceous stone on ground under canopy of mature *Fagus sylvatica* by boundary wall, Pen-uwch Chapel, VC 46, Cardiganshire, GR SN598.622, alt 255 m, March 2017. Herb. SPC. Seemingly the first reported occurrence of this species on rock. *S.P. Chambers*

Lempholemma polyanthes: on limestone chippings over concrete cover of burial plot, Pen-uwch Chapel, VC 46, Cardiganshire, GR SN598.622, alt 255 m, March 2017. Herb. SPC. Although listed for Cardiganshire in the 1999 Welsh Census Catalogue, the record cannot be traced and may have been confused with *L. chalazanum,* which is recorded for the Vice-county, but is not listed in the Census Catalogue. The first certain Vice-county record of this species. *S.P. Chambers*

Leptogium plicatile: several fertile thalli in sizeable colony on damp concrete kerbstone and adjacent walkway below stone bridge on minor road over the Afon Cledan, northwest of Cross Inn, VC 46, Cardiganshire, GR SN534.656, alt 140 m, November 2016. Herb. SPC. First fertile collection of this species for the Vice-county. *S.P. Chambers*

Leptogium pulvinatum: for details, see under *Placynthium tremnaicum.*

Leptogium subtile: on sandstone plinth and adjacent stone, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Specimen not retained. New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

Leptorhaphis atomaria: frequent and fertile on bark of trunk and low branches of *Populus tremula* in mantle-saum vegetation by hedge in pasture, between Coed Cwm-llety and the Vale-of-Rheidol railway, east of Glanyrafon, VC 46, Cardiganshire GR SN626.807, alt 25 m, October 2016. Herb. SPC. New to the Vice-county and second Welsh record for this species. *S. P. Chambers*

Leptorhaphis atomaria: on large *Populus tremula*, in scrub left after former plantation on heathland that had been restored back to heathland, Dunces Arch Inclosure, New Forest, VC11, South Hampshire, SU3092.0925, alt. 30, November 2016. New to the Vice-county. *N. A. Sanderson*

Leptoraphis laricis: on young branch between tussocks of leaves of *Cedrus* in cemetery, Woodbridge, VC 25, East Suffolk, GR TM26.48., October 2016. Herb. Hitch ex Powell (4185 - 1.3). Determined by M. Powell. Easily overlooked for *Arthopyrenia punctiformis,* due to the small size of the perithecia. Second record of this species for the county. *C.J. B. Hitch & M. Powell*

Lichenochora obscuroides: lichenicolous on *Phaeophyscia orbicularis*, growing on twig of *Fraxinus* in churchyard, West Tytherley (St Peter's), VC 11, South Hampshire, GR SU274.297, May 2016. Herb. Powell 4058. New to the Vice-county.
B.J. Coppins & M. Powell

Lichenochora weillii: lichenicolous on *Physconia grisea*, on recently felled *Salix* branch, Harrold-Odell Country Park, VC 30, Bedfordshire, SP959.568, January 2017. Herb. Powell 4262. New to the Vice-county. *M. Powell*

Lichenoconium lecanorae: on *Lecanora polytropa* on sandstone headstone, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Specimen not retained. New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

Lichenoconium lecanorae: on *Lecanora polytropa*, Whiteburn Bridge, VC 81, Berwickshire, GR NT754.638, July 2016. Herb Powell 4240. New to the Vice-county.
B.J. Coppins & M. Powell

Marchandiobasidium aurantiacum: lichenicolous on *Physcia adscendens* in churchyard, East Grimstead (Holy Trinity), VC 8, South Wiltshire, GR SU224.272, April 2016. Field record. New to the Vice-county. *B.J. Coppins & M. Powell*

Micarea adnata: on damp lignum of large fallen *Quercus* trunk within *Quercus petraea – Ilex* pasture woodland developed from an 18th century *Quercus* planation, Coppice of Linwood, New Forest, VC 11, South Hampshire, SU2461.1395, alt 105m, November 2016. New to the Vice-county and second record of this species from southeast England. *N.A. Sanderson & Wessex Lichen Group*

Micarea globulosella: on underside of low wooden tomb sloping to the west, in new cemetery, Woodbridge, VC 25, East Suffolk, GR TM26.48., October 2016. Herb. Hitch ex Powell/(P4187 - 3.6). Determined by M. Powell. New to the county and East Anglia. *C.J. B. Hitch & M. Powell*

Micarea globulosella: on an otherwise rather poor gate rail, Hatfield Forest, VC 19, North Essex, TL542.206, February 2017. Herb. Powell 4283. New to the Vice-county.
M. Powell

Micarea hedlundii: on damp northeast-facing sandrock slabs of sandrock outcrops in relic pasture woodland, Eridge Rocks, Eridge Green SSSI, VC14 East Sussex, TQ5536.3584, TQ5536.3586, TQ5534.3598 & TQ5535.3595, alt 80 m, April 2016. Second record of this species on the Wealden Sandrocks for a rare, normally lignicolous species. *N. A. Sanderson*

Micarea pycnidiophora: for details, see under *Calicium diploellum*.

Micarea ternaria: on top of sandstone headstone, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Herb. Powell. New to the Vice-county.
B.J. Coppins, J.R. Douglass & M. Powell

Milospium graphideorum: on thallus of *Lecanographa lyncea* on ancient *Quercus* in parkland, Sotterley Park VC 25, GR TM46-84-, April 2017. Determined by M. Powell. Second record of this species in Suffolk. Previously recorded in the park in 1985. *P. W. Lambley* and *Natural England Group, C.J.B. Hitch* and *M. Powell*

Minutoexcipula tephromelae: on *Tephromela atra* on sandstone headstone in churchyard, Crichton, VC 83, Midlothian, GR NT380.616, July 2016. Specimen not retained. New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

Miriquidica pycnocarpa* f. *pycnocarpa: on sandstone plinth of statue, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Specimen not retained. New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

Mycoporum lacteum: for details, see under *Calicium diploellum*.

Myriospora smaragdula: on sandstone headstone, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

Opegrapha corticola: on veteran *Acer campestre*, Hatfield Forest, VC 19, North Essex, TL53.20., February 2017. Herb. Powell 4290. New to the Vice-county and a considerable extension of the known range for this notable species. *M. Powell & P. Shipway*

Opegrapha hochstetteri ined.: lichenicolous on *Verrucaria muralis*, on top of limestone gravestone, Abney Park Cemetery, Stoke Newington (post AGM field meeting), VC 21, Middlesex, TQ33.68, January 2017. Herb. Powell 4257. New to the Vice-county. *M. Powell*

Opegrapha* (*Phacographa*) *glaucomaria: poorly developed on *Lecanora rupicola* on fully-lit vertical faces of thick Silurian Greywacke beds outcropping on southwest-facing hilltop, Glanrhyd, Pen-uwch, VC 46, Cardiganshire, GRSN587.624, alt 295 m, March 2017. Herb. SPC. New to the Vice-county and the second Welsh record for this Nationally Rare parasite. *S.P. Chambers*

Opegrapha prosodea: on lignum of ancient *Taxus* in churchyard, West Grimstead (St John's), VC 8, South Wiltshire, GR SU211.265, May 2016. Herb. Powell 4053. New to the Vice-county. *B.J. Coppins & M. Powell*

Opegrapha saxigena: on dry overhanging slab of sandrock, part of sandrock outcrops within relic pasture woodland, Eridge Rocks, Eridge Green SSSI, VC 14 East Sussex, TQ5537.3582, alt 80 m, April 2016. New to the county and the first localised record from Wealden Sandrocks for this species. *N.A. Sanderson*

Opegrapha thelotrematis: parasitising *Thelotrema lepadinum* on old *Fagus* within *Fagus – Ilex* pasture woodland, Mallard Wood, New Forest, VC 11, South Hampshire, SU3237.0912, alt 25 m, December 2016. A new site for a species that is very rare in the lowlands. *N.A. Sanderson*

Paranectria superba: lichenicolous on Peltigera hymenina, Cymystwyth Mine, VC 46, Cardiganshire, GR SN805.746, February 2017. Herb. Bacciu. Second record for Wales for this rare British species. *N.G. Bacciu*

Parmeliopsis ambigua: on crotch of young *Tilea*, new cemetery, Woodbridge, VC 25, East Suffolk, GR TM26.48., October 2016. Herb. Hitch ex Powell/(P4187 - 3.2). Determined by M. Powell. Rare in the county nowadays. *C.J.B. Hitch & M. Powell*

Parmotrema pseudoreticulatum: on old prostrate *Prunus spinosa* bole, Gamsey Wood, VC 31, Huntingdonshire, TL223.815, January 2017. Herb. Powell 4268. New to the Vice-county. *M. Powell* and the *Cambridge Lichen Group*

Peltigera didactyla: on soil under table tomb, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county.
B.J. Coppins, J.R. Douglass & M. Powell

Pertusaria lactescens: on sandstone table tomb, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county.
B.J. Coppins, J.R. Douglass & M. Powell

Petractis nodispora: on north side of chest tomb, Lady St. Mary Church, Wareham, VC 9, Dorset, GR SY925.872. December 2016. Herb. J. Seawright. Confirmed by Alan Orange. New to the Vice-county and second English record for this species.
J. Seawright

Phaeographis smithii: on small branch of *Quercus* in semi-shade in Penn Wood, Holmer Green, VC 24, Buckinghamshire, GR SU9133.9599, March 2017. Herb. Shipway. New to the Vice-county. *P. Shipway*

Placopyrenium cinereoatratum: on basalt rocks by waterfall, River Tyne, East Linton, VC 82, East Lothian, GR NT592.771, July 2016. Herb. Powell 4280. New to the Vice-county. *B.J. Coppins & M. Powell*

Placopyrenium fuscellum: on sandstone plinth of headstone, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

Placynthiella dasaea: on sandstone headstone, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. An unusual substrate for this normally corticolous or terricolous lichen. New to the Vice-county.
B.J. Coppins, J.R. Douglass & M. Powell

Placynthium tremniacum: numerous small thalli on upperside of flat cement-mortar fragment, fallen from wall above and lying loose on burial plot, Llwyndafydd Chapel, VC 46, Cardiganshire, GR SN370.555, alt 120 m, October 2016. Herb. SPC. Close companions include. *Collema fuscovirens*, *Leptogium pulvinatum* & *Verrucaria muralis*. New to the Vice-county. *S.P. Chambers*

Porina aenea: on boles of *Fraxinus*, Abney Park Cemetery, Stoke Newington (post AGM field meeting), VC 21, Middlesex, TQ33.86., January 2017. Herb. Powell 4257. New to the Vice-county. *M. Powell*

Porina byssophila: on stems of *Fraxinus* and *Quercus*, mainly close to ground level, Abney Park Cemetery, Stoke Newington (post AGM field meeting), VC 21, Middlesex, TQ33.86, January 2017. Herb. Powell 4257. New to the Vice-county.
M. Powell

Porina byssophila: on shaded pebble behind Lytchett Minster parish church, VC 9, Dorset, GR SY960.930. December 2016. Herb. J. Seawright. Confirmed by Mark Powell. New to the Vice-county. *J. Seawright*

Porina byssophila: on rain tracks of old *Quercus* and *Acer campestre* in avenue of old trees within woodland in parkland, south of Highwood Copse, Brockenhurst Park, part of Roydon Woods SSSI, New Forest, VC 11, South Hampshire, SU315.010, March 2017, alt 20 m. New to the county.

M. Powell, N.A. Sanderson & Wessex Lichen Group

Porina rosei: fertile on senescent ancient Fagus, within *Fagus – Quercus – Ilex* pasture woodland, Great Stubby Hat, Busketts Wood, New Forest, VC 11, South Hampshire, SU3071.1088, alt 35 m, February 2017. This Near Threatened lichen is very rarely recorded fertile in Britain. The fertile material is striking and exotic looking, with deeply sunken orange perithecia. As the isidia are largely suppressed near the apothecia the identity of the lichen is not immediately obvious in the field.

N.A. Sanderson

Porpidia crustulata: on isolated sandstone boulder in sandpit, Ling Heath, Kings Lynn. VC 28 West Norfolk, GR TF654.243 April 2017. New to the Vice-couny.

P.W. Lambley, M. Powell & L. Saunders.

Pronectria oligospora: lichenicolous on *Punctelia subrudecta*, on *Prunus* sp. in derelict orchard, Riseley, VC 30, Bedfordshire, TL037.622, January 2017. Herb. Powell 4239. This specimen has 8-spored asci. New to the Vice-county. *M. Powell*

Pronectria oligospora: lichenicolous on *Punctelia subrudecta*, on old *Prunus spinosa* bole, Riddy Wood, VC 31, Huntingdonshire, TL218.817, January 2017. Herb. Powell 4276. New to the Vice-county. *M. Powell* and the *Cambridge Lichen Group*

Pronectria pertusariicola: lichenicolous on *Pertusaria pertusa*, Carn Gafallt, Elan Valley, VC43, Radnorshire, GR SN934.649, February 2017. Herb. Bacciu. New to the county and second record of this species for Wales. *N.G. Bacciu*

Pronectria robergei: teleomorph on *Peltigera didactyla*, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Herb. Powell 4250 and Coppins 25074 (**E**). New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

Psoroglaena stigonemoides: on shaded *Sambucus* stem, Abney Park Cemetery, Stoke Newington (post AGM field meeting), VC 21, Middlesex, TQ33.86., January 2017. Herb. Powell 4257. New to the Vice-county. *M. Powell*

Psorotichia schaereri: growing on limestone curb, beneath iron railings surrounding a tomb in churchyard, West Grimstead (St John's), VC 8, South Wiltshire, GR SU211.265, May 2016. Herb. Powell 4055. This taxon is rather frequent in southern and eastern England, occurring on limestone which retains dampness, such as low coped tombs, ledgers and the bases of headstones. The taxon growing on hard Carboniferous Limestone appears to be slightly different but both are currently recorded as *P. schaereri*. New to the Vice-county. *B.J. Coppins & M. Powell*

Psorotichia schaereri: on limestone chest tomb in churchyard, West Tytherley (St Peter's), VC 11, South Hampshire, GR SU274.297, May 2016. Herb. Powell 4056. New to the Vice-county. *B.J. Coppins & M. Powell*

Punctelia borreri: on leaning bole of old *Prunus spinosa* (in community, rich in Parmelioid lichens), Honeyhill Wood, Kimbolton, VC 31, Huntingdonshire, March 2017. Herb. Powell 4337. New to the Vice-county.

M. Powell & Cambridge Lichen Group

Punctelia reddenda: on leaning bole of old *Crataegus*, Hatfield Forest, VC 19, N. Essex, TL535.202, February 2017. Herb. Powell 4294. New to the Vice-county.

B.J. Coppins, M. Powell, P. Shipway & J.F. Skinner

Pycnothelia papillaria: few thalli on hard humus on abandoned path in short heathland, developed on thick, acid, superficial deposits on summit of chalk downland, Bonchurch Down, VC 10, Isle of Wight, SZ5730.7897 & SZ5731.7896, alt 230 m, June 2015. First record since 1992, from the only known site for this species in the Isle of Wight. *N.A. Sanderson & Wessex Lichen Group*

Pyrenidium actinellum: on *Baeomyces rufus* on soil, Shilstone Hill, Brendon, Exmoor, VC 4, North Devon, GR SS759.451, November 2016. Herb. Putnam. Second and only recent record for the Vice-county for this species. *M. Putnam*

Pyrenidium actinellum: two records from VC 46, Cardiganshire, both on *Baeomyces rufus*; (i) on northeast-facing roadside rockface on west side of the B4459, *c.* 300 m east of Gwardafolog, south of Bwlch-y-fadfa, GR SN439.484, alt 180 m, October 2016; (ii) on heathy southwest-facing roadside bank with, *inter alia, Absconditella celata*, opposite Pen-uwch Chapel, GR SN598.622, alt 255 m, March 2017. Both herb. SPC. First & second Vice-county records for this species. *S.P. Chambers*

Pyrenochaeta xanthoriae: lichenicolous on *Xanthoria parietina*, Roswell Pits, Ely, VC 29, Cambridgeshire, TL549.807, April 2017. Herb. Powell 4369. New to the Vice-county.

M. Powell & Cambridge Lichen Group

Pyrenula chlorospila: on smooth horizontal bark of ancient sloping hollow *Carpinus* bole, in parkland, Sotterley Park VC 25, GR TM46.84., April 2017. Field determination and confirmation by M. Powell. The previous record in the Park was based on chewed out fruits so it was very important to find material with intact perithecia. *P. W. Lambley and Natural England Group, C.J.B. Hitch and M. Powell*

Ramonia interjecta: on planted *Fraxinus* in churchyard,Cherry Hinton (St Andrew's), VC 29, Cambridgeshire, TL489.570, November 2016. Herb. Powell 4214. The small colony of *R. interjecta* occurred where bark was regularly flushed by water from an adjacent branch. New to the Vice-county. *M. Powell* and the *Cambridge Lichen Group*

Ramonia nigra: single apothecium seen on bark of old *Quercus petraea*, within *Quercus petraea* pasture woodland, developed from an 18th century *Quercus* planation, Ravens Nest Inclosure, New Forest, VC 11, South Hampshire, SU2595.1481, alt 105m, February 2017. A new site for this rare Section 41 species. *N.A. Sanderson*

Rinodina biloculata: on twigs within *Quercus – Ulex* scrub on downland over looking the sea, Bonchurch Down, VC 10, Isle of Wight, SZ573.787, alt 230 m, June 2015. New to the Vice-county. *N. Bacciu, N.A. Sanderson & Wessex Lichen Group*

Rinodina biloculata: lignicolous on wooden bench in churchyard, West Winterslow (All Saints), VC 8, South Wiltshire, GR SU229.325, May 2016. Herb. Powell 4044. New to the Vice-county. *B.J. Coppins & M. Powell*

Rinodina bischoffii: on window ledge of church, West Winch, VC 28 West Norfolk, GR TF632159. April 2017. New to the Vice-county.
P.W. Lambley, M. Powell & L. Saunders.

Rinodina confragosa: on sandstone buttress of church wall, Crichton, VC 83, Midlothian, GR NT380.616, July 2016. Herb. Powell 4249. An unusual churchyard record. New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

Rinodina pityrea: lignicolous on old wooden 'headstone' in churchyard, West Winterslow (All Saints), VC 8, South Wiltshire, GR SU229.325, May 2016. Herb. Powell 4044. New to the Vice-county. *B.J. Coppins & M. Powell*

Sarcogyne regularis: on mortar of south wall of church, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county.
B.J. Coppins, J.R. Douglass & M. Powell

Sarcopyrenia gibba* var. *gisleri: on cement top of sandstone headstone in churchyard, Chirnside, VC 81, Berwickshire, GR NT869.560, July 2016. Specimen not retained. New to the Vice-county. *B.J. Coppins & M. Powell*

Schismatomma graphidioides: frequent on two boles of *Salix cinerea* within old growth floodplain pasture woodland, Beaulieu River, New Forest, VC 11, South Hampshire, SU3856.0496, alt 5 m, April 2017. A new location and strong colony for this Section 41 species. *N.A. Sanderson & A.M. Cross*

Scoliciosporum pruinosum: (i) on trunk of *Fagus* in Penn Wood, Holmer Green, VC 24, Buckinghamshire, GR SU922.965; (ii) on trunk of *Quercus* associated with *Lecanactis abietina, GR* SU917.964, March 2017. Herb. Shipway. Confirmed by M. Powell. New to Vice- county. *P. Shipway*

Sphaerellothecium parietinarum: on *Xanthoria parietina* on wall of church ruin, St. Helen's Kirk, Old Cambus, VC 81, Berwickshire, GR NT803.706, July 2016. Specimen not retained. New to the Vice-county. *B.J. Coppins & M. Powell*

Stereocaulon dactylophyllum: one albino tuft, in population of otherwise typically pigmented fertile thalli on blocky mine spoil, Cwmystwyth mine, VC 46, Cardiganshire, GR SN805.744, alt 235 m, March 2017. Herb. SPC. The tuft had numerous pale, flesh-white, 'ghostly' apothecia, which together with the whiter than normal thallus, made it stand out against normal brown-fruited adjacent thalli. Albino morphs of this species do not seem to have been reported before.
S.P. Chambers & C.M. Forster-Brown

Stigmidium epiramalina lichenicolous on *Ramalina cuspidata* on rocks of supralittoral zone, west of Wharley Point, VC 44, Carmarthenshire GR SN335.094, August 2016. Tiny perithecia on older branches, were mostly immature, but a more mature perithecium revealed no interascal filaments and 1-septate ascospores 10-12 x 2.5-35µm. Herb. T. Greenaway 453. Determined by S. Chambers. **New to Wales.**

T. Greenaway

Stigmidium eucline: on *Varicellaria lactea*, on southeast-facing basalt crag, Whitekirk Hill, Whitekirk, VC 82, East Lothian, GR NT598.823, alt 60 m, July 2016. Coppins 25065 (**E**). New to the Vice-county. *B.J. Coppins & M. Powell*

Strigula jamesii: on flushed bark of leaning *Fraxinus* trunk, Abney Park Cemetery, Stoke Newington (post AGM field meeting), VC 21, Middlesex, TQ33.86., January 2017. Herb. Powell 4257. New to the Vice-county. *M. Powell*

Strigula taylorii: large patch on north side of base of mature *Fraxinus* in cemetery, Woodbridge, VC 25, East Suffolk, GR TM26.48., October 2016. Herb. Hitch ex Powell (4188 - 4.1). Determined by M. Powell. New to the county and East Anglia.

C.J.B. Hitch & M. Powell

Strigula taylorii: on at least ten boles of *Fraxinus*, from small pole-sized trees to large trunks, and on *Quercus*, Abney Park Cemetery, Stoke Newington (post AGM field meeting), VC 21, Middlesex, GR TQ33.86., January 2017. Herb. Powell 4257. Most colonies had pycnidia and perithecia intermixed, while several had pycnidia only. The recent spread of this species across eastern England appears to be rapid. It can be tentatively recognised in the field by the more conical appearance of the fruits, when compared with look-alikes such as *Porina aenea*. Microscopic examination is advised for confirmation. New to the Vice-county. *M. Powell*

Syzygospora bachmannii: forming galls on *Cladonia ochrochlora* on a fallen F*agus* trunk, within *Fagus – Quercus – Ilex* pasture woodland, Allum Green, New Forest, VC 11, South Hampshire, SU278.075, alt 45 m, February 2017. New to the county.

A.M. Cross & N.A. Sanderson

Syzygospora physciacearum: lichenicolous on *Physcia adscendens in churchyard*, East Grimstead (Holy Trinity), VC 8, South Wiltshire, GR SU224.272, April 2016. Field record. New to the Vice-county. *B.J. Coppins & M. Powell*

Telogalla olivieri: lichenicolous on *Xanthoria parietina*, growing on limestone gravestone in churchyard, West Winterslow (All Saints), VC 8, South Wiltshire, GR SU229.325, May 2016. Herb. Powell 4045. New to the Vice-county.

B.J. Coppins & M. Powell

Telogalla olivieri: lichenicolous on *Xanthoria calcicola*, growing on limestone gravestone and on *X. parietina* on *Fraxinus* twig in churchyard, West Tytherley (St Peter's, VC 11, South Hampshire, GR SU274.297, May 2016. New to the Vice-county.

B.J. Coppins & M. Powell

***Teloschistes chrysophthalmus*:** young thallus on *Fraxinus* twig, Farley Water Farm, Exmoor, VC 4, North Devon, GR SS744.460, April 2017. Herb. Bacciu. New to the Vice-county. *N.G. Bacciu*

Thelocarpon coccosporum: in groove on top of sandstone headstone in churchyard, Abbey St Bathans, VC 81, Berwickshire, GR NT758.622, July 2016. Herb. Powell 4241. New to the Vice-county. *B.J. Coppins & M. Powell*

Thelocarpon coccosporum: on top of three old sandstone headstones, Gifford-Yester churchyard, VC 82, East Lothian, GR NT534.681, July 2016. Herb. Powell 4247. *T. coccosporum* appears to colonise patches of bare sandstone on the tops of old sandstone gravestones. The bare patches are often created when *Marchandiomyces corallinus* has caused necrosis of parmelioid lichens (especially *Parmelia saxatilis*) with the subsequent falling away of the thallus. *B.J. Coppins & M. Powell*

Thelocarpon coccosporum: on top of sandstone headstone in churchyard, Crichton, VC 83, Midlothian, GR NT380.616, July 2016. Herb. Powell 4249. New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

Thelocarpon coccosporum: on top of sandstone headstone, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Herb. Powell 4250. New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

Thelocarpon laureri: on block of ironstone recently exposed in an active hollow way, on heathland, Morden Bog NNR, VC 9, Dorset, SY9142.9219, alt 15 m, March 2017. New to the county. *V. Giavarini, N.A. Sanderson & Wessex Lichen Group*

Tubeufia heterodermiae: lichenicolous on *Physcia tenella*, growing on twig of *Ilex* in churchuyard, West Grimstead (St John's), VC 8, South Wiltshire, GR SU211.265, May 2016. Herb. Powell 4052. New to the Vice-county. *B.J. Coppins & M. Powell*

Tubeufia heterodermiae: lichenicolous on *Physcia adscendens* on twig, in new cemetery, Woodbridge, VC 25, East Suffolk, GR TM26.48., October 2016. Herb. Hitch ex Powell/(P4186 - 2.12). Determined by M. Powell. Second record of this species in the county. *C.J.B. Hitch & M. Powell*

Tubeufia heterodermiae: on failing thalli of *Physcia aipolia* on handrail of wooden footbridge over Afon Arth in riverside woodland, *c.* 200 m southeast of Llwynywen, near Cross Inn, VC 46, Cardiganshire, GR SN534.632, alt 145 m, December 2016. Herb. SPC. New to the Vice-county and second Welsh record for this species.
S.P. Chambers

Umbilicaria hirsuta: substantial number (1000+) of thalli discovered growing on exposed shale of the Synaulds formation, Jonathans Rock, Long Mynd, VC 40, Shropshire, GR SO449.960, alt 300 m, Novenber 2014. In view of the national rarity of this species, A. Perry (National Trust Ecologist, Long Mynd) sent samples to B.J. Coppins in late 2015, who confirmed the identity by return and noted that it is a first record for England for the species. The Long Mynd supports a very large population of this uncommon species and so far, it appears to be entirely restricted to the Synaulds

shale outcrops. Survey work is ongoing as this population is of National significance. *U. hirsuta* is otherwise only known from Snowdonia in Wales and near Braemar in Scotland. *R.G. Kemp*

Unguiculariopsis lesdainii: lichenicolous on *Lecanora saligna*, on farm gatepost, Riseley, VC 30, Bedfordshire, TL048.637, January 2017. Herb. Powell 4254. New to the Vice-county. *M. Powell*

Unguiculariopsis thallophila: on *Lecanora chlarotera,* on twig of mature *Quercus* at edge of coastal pasture, Llanbedr, VC 48, Merionethshire, GR SH580.268, alt 10 m, December 2016. Field record. New to the Vice-county.

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

Vahliella atlantica: two records from VC 46, Cardiganshire; (i) on dry coastal soil, Craig Glas (Constitution Hill), Aberystwyth, GR SN583.827, alt 50 m, March 2010; (ii) on earthy layer atop crumbling old wall, opposite the Tabernacle Chapel, Llechryd, GR SN217.437, alt 20 m, February 2012. Confirmed by P. M. Jørgensen. Both collections, herb. SPC. New to Wales. *S.P. Chambers*

Varicellaria lactea: for details, see under *Stigmidium eucline*.

Verrucaria fusconigrescens: on granite kerbstone in churchyard, West Tytherley (St Peter's), VC 11, South Hampshire, GR SU274.297, May 2016. Field record. New to the Vice-county. *B.J. Coppins & M. Powell*

Verrucaria murina: on sandstone pebbles in churchyard, Uphall, VC 84, West Lothian, GR NT059.722, July 2016. Specimen not retained. New to the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Verrucaria nigrescens f**.** ***tectorum***: on sandstone pebbles, Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Verrucaria obfuscans: on top of low limestone gravestone in churchyard, West Grimstead (St John's), VC 8, South Wiltshire, GR SU211.265, May 2016. Herb. Powell 4055. New to the Vice-county. *B.J. Coppins & M. Powell*

Verrucaria obfuscans: on slightly calcareous sandstone headstone and mortar of boundary wall, in and around churchyard Abbey St. Bathans, VC 81, Berwickshire, GR NT758.622, July 2016. Herb. Powell 4241 and Coppins 25071 (**E**). New to the Vice-county. *B.J. Coppins & M. Powell*

Verrucaria obfuscans: almost at ground level, top of sandstone chest tomb, Preston Kirk churchyard, VC 82, East Lothian, GR NT582.778, July 2016. Field record. This inconspicuous species appears to be a rather frequent feature of sandstone memorials in East Lothian and Berwickshire. It does not occur on hard, acidic sandstone and tends to grow most often on the plinths of headstones where the proximity to the ground may provide extra moisture and lime from ground water. New to the Vice-county. *B.J. Coppins & M. Powell*

Verrucaria obfuscans: on chamfered plinth of Crichton church, VC 83, Midlothian, GR NT380.616, July 2016. Herb. Powell 4249. New to the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Verrucaria obfuscans: extensive colonies on concrete kerb beneath metal rails, Roswell Pits, Ely, VC 29, Cambridgeshire, TL552.805, April 2017. Herb. Powell 4368. *V. obfuscans* is now known to be widespread in Britain and most records are from church windowsills and memorials. This record suggests it should be looked for also on concrete. The runoff from the metal fence above the concrete kerb may have been a contributory factor in this occurrence. *M. Powell & Cambridge Lichen Group*

Verrucaria ochrostoma: on concrete of Whiteburn Bridge, VC 81, Berwickshire, GR NT754.638, July 2016. Herb. Powell 4240. New to the Vice-county.

B.J. Coppins & M. Powell

Verrucaria ochrostoma: on mortar of boundary wall round churchyard, Gifford-Yester, VC 82, East Lothian, GR NT534.681, July 2016. Herb. Powell 4247 and Coppins 25067 (**E**). New to the Vice-county. *B.J. Coppins & M. Powell*

Verrucaria ochrostoma: on mortar on south and west sides of Crichton church, VC 83, GR NT380.616, July 2016. Herb. Powell 4249. New to the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Verrucaria ochrostoma: on mortar on south side of Torphichen Preceptory, VC 84, West Lothian, GR NS968.724, July 2016. Field record. New to the Vice-county.

B.J. Coppins, J.R. Douglass & M. Powell

Verrucaria ochrostoma: on south facing window-sill, the Minster Church of St Cuthburga, Wimborne, VC 9, Dorset, GR SZ009.999. March 2017. Herb. J. Seawright. Confirmed by M. Powell. New to the Vice-county. *J. Seawright*

Verrucaria pinguicula: growing on limestone coffin tomb in churchyard, West Tytherley (St Peter's), VC 11, South Hampshire, GR SU274.297, May 2016. Herb. Powell 4061. This specimen has fusiform-ellipsoid, occasionally 1-septate ascospores which are at the upper end of the size range for *V. pinguicula*. Other specimens sharing these features have been discovered on memorials in Somerset and Suffolk and they may represent a separate taxon. *B.J. Coppins & M. Powell*

Vezdaea retigera: overgrowing *Agonimia flabelliformis* and bryophytes on base rich bark of old *Fraxinus* within old growth floodplain pasture woodland, Beaulieu River, New Forest, VC11, South Hampshire, GR SU3855.0531, alt 5 m, April 2017. New to Hampshire and an unusual epiphytic record for a normally terricolous ephemeral lichen. *A.M. Cross & N.A. Sanderson*

Vouauxiella lichenicola: lichenicolous on *Lecanora chlarotera*, on young *Fraxinus*, Keysoe Woodland Burial Site, VC 30, Bedfordshire, GR TL074.615, December 2016. Herb. Powell 4237. New to the Vice-county. *M. Powell*

Vouauxiella verrucosa: on *Lecanora campestris* on sandstone headstone in churchyard, Crichton, VC 83, Midlothian, GR NT380.616, July 2016. Coppins 25078 (**E**). New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

Weddellomyces epicallopisma: on *Caloplaca flavescens* on boundary wall round churchyard, Crichton, VC 83, Midlothian, GR NT380.616, July 2016. Specimen not retained. New to the Vice-county. *B.J. Coppins, J.R. Douglass & M. Powell*

Xylographa vitiligo: extensive patch on decaying lignum of *Picea sitchensis* trunk in abandoned log pile beside forestry track, north edge of Cors Caranod, *c.* 1 km northwest of Bethania, VC 46, Cardiganshire, GR SN565.650, alt 230 m, February 2017. Herb. SPC. Second Vice-county record for this species. *S.P. Chambers*

Zwackhiomyces coepulonus: lichenicolous on *Xanthoria parietina* with *Telogalla olivieri* on limestone bird perch, Great Asby Scar, VC 69, Westmorland, GR NY647.102, January 2017. Herb. NDC. Confirmed by B.J. Coppins from micrographs and description. *N.D. Chadwick*

Zwackhiomyces lithoiceae: lichenicolous on *Placopyrenium fuscellum*, (i) The Church of the Holy Rood, Wool, VC 9, Dorset, GR SY847864. March 2017. Herb. J. *S*eawright. Confirmed by Mark Powell; (ii) The Minster Church of St Cuthburga, Wimborne, VC 9, Dorset, GR SZ009.999. March 2017. (See the editorial notes below). *J. Seawright*

Zwackhiomyces lithoiceae - Editorial notes.

Over the years, lichenicolus fungi have been collected on members of the Verrucariaceae and two specimens were initially named *Didymella sphinctrinoides*; (i) collected in 1992 in Suffolk, but not included in NRI lists, and (ii) in 1993 from Colchester, Essex (Bulletin 82/45).

More recently, further collections were named *Zwackhiomyces sphinctrinoides*: (i) lichenicolous on *Placopyrenium fuscellum*, St. Nicholas, Kimmeridge,VC 9, Dorset GR SY916799. January 2013. New to the Vice-county. *J. Seawright* (ii) St. Aldhelm's, Lytchett Heath, VC 9, Dorset, GR SY969945. January 2014. *J. Seawright.*

Now it is realised that these specimens, including material of *Placopyrenium fuscellum* do not conform to *Zwackhiomyces sphinctrinoides* (lacking a hyaline inner layer to the peridium and lacking ornamentation on the ascospores). See New to the British Isles (Bacciu) and Other records (Seawright) cited as *Zwackhiomyces lithoiceae.*

The 'dustbin' names *Didymella sphinctrinoides* and *Zwackhiomyces sphinctrinoides* are now superceded for similar fungi with similar sized spores. growing on members of the Verrucariaceae. A lot of work has been done on these taxa since, and clearly there is still a lot to do! (pers. comm. B.J. Coppins).

Specimens with medium unornamented ascospores growing on host lichens belonging to the Verrucariaceae are being referred to *Zwackhiomyces lithoiceae* for the time being and until more studies are carried out on new material, it is not possible to say exactly what the position is. *C.J.B. Hitch and M. Powell*

British Lichen Society Field Meetings & Workshops Programme 2017 / 18

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

*note: **All members** of whatever level of experience are welcomed on **all BLS Field Meetings**. No member should feel inhibited from attending by the fact that some meetings may be associated with BLS Council meetings or the AGM. Workshops, on the other hand, may be aimed at members who have some level of experience. If so this fact will be specified in the meeting notice.*

BLS AUTUMN MEETING 2017 – Epping Forest

Wednesday 6th(th) (evening) to Sunday 10th (afternoon) September 2017
local organiser – John Skinner

Epping Forest is due for a re-survey - last looked at in 2003 by Peter James and Linda Davies when 64 species were recorded. Records going back to 1784 show that the forest's lichen flora has mirrored the changes in air quality and composition over the years. Many changes can be expected to be found on this Society visit.

A room in the Field Studies Council field centre has been booked for evening use on Wed, Thur, Fri and Sat. This is at: Epping Forest Field Centre, Paul's Nursery Road, High Beach, Loughton, Essex IG10 4AF. Telephone: 020 8502 8500

The meeting will convene at 8.00pm on Wenesday 6th September at the Epping Forest Field Centre for an introductory talk.

There being no suitable group accommodation in the area attendees will have to make their own arrangements. Meeting details and a list of some possible accommodation will be sent out to those interested in attending the meeting.

To indicate an interest in the meeting email Steve Price, the Field Meetings Secretary, on fieldmeetings@britishlichensociety.org.uk or by post to Woodlands, Combs Road, Combs, High Peak SK23 9UP.

BLS AGM 2017 Field Outing – Carlisle, Cumbria

Sunday 21st January 2017

A one day field outing will follow the AGM which is being held in Carlisle, Cumbria. Further details will appear in the BLS Bulletin and will be posted on the BLS website.

BLS WINTER WORKSHOP 2018 – Cloughton, Scarborough

Bring along your problems: identification and techniques

Friday 23rd – Sunday 25th February 2018
Tutors: Brian Coppins and Mark Powell

This workshop will provide members with an opportunity to air and share their lichen identification problems and their problems in using techniques needed to aid identification.

Look out those problematic specimens which have been haunting you; they may be nameable. Problems with techniques can include issues with microscopes / chemical tests / staining etc. Problems and their solutions will be shared throughout the group. No problem too small! However financial, political and domestic problems are out of scope!

The bulk of the time will be spent in the adequately sized meeting room. The grounds of Cober Hill and its environs offer plenty of opportunity to take a short walk and to find more question-posing material.

Meeting Base
The meeting will be residential at Cober Hill, Cloughton, Scarborough, North Yorkshire YO13 0AR
tel: 01723 870310 email: enquiries@coberhill.co.uk
See www.coberhill.co.uk to have a look at the accommodation and facilities.

Accommodation and costs
Accommodation for 20 people in single and twin en-suite rooms has been reserved and a deposit paid by the BLS. These bed spaces are being held for us until the mid-August 2017 (6 months before the meeting date). Subject to availability rooms will be able to be booked after this date.

Full board accommodation (incl. dinner, breakfast and packed lunch) for the two nights is £169 per person (inc. VAT at 20%). This price includes the use of the meeting room until late Sunday afternoon. The group package is for the 2 nights and there is no reduction for a shorter stay. The earliest check-in time for rooms is 15.00. Dinner is at 19.00.

Booking
Attendees should book their rooms with the Field Meetings Secretary, Steve Price, email: fieldmeetings@britishlichensociety.org.uk or by post to Woodlands, Combs Road, Combs, High Peak SK23 9UP and send him a £45 deposit, cheques payable to 'The British Lichen Society' (not 'BLS' please). If members prefer to pay by bank transfer please request details from the Field Meetings Secretary.

Bookings need to be made and the deposit of £45 paid by 15 August 2017. The deposit once paid by BLS to Cober Hill will be non-refundable.
Cancellation of places less than 16 weeks before the meeting will incur extra charges, therefore the balance (£124) needs to be paid by the end of October 2017. Please advise of any special dietary needs and also if you do not need dinner on the evening of arrival. Note there will be no reduction in the cost if you do not take dinner that night.

Microscope work
The meeting room has been reserved for the duration of the meeting for microscope work and presentations. The BLS microscopes will be available for communal use.

Timetable
Meet for dinner on Friday 23rd at 19.00hrs. We need to vacate the bedroom accommodation after breakfast Sunday 24th and the meeting room by 16.00hrs on the Sunday afternoon. A packed lunch will be provided on the Sunday. Further details of the programme will be sent out to attendees nearer the time of the meeting.

BLS SPRING FIELD MEETING - Galloway

Monday 23rd to Monday 30th April 2018
Field-sites organiser: John Douglass

This meeting will study a largely under recorded area of Galloway in South West Scotland. Habitats will including woodland, coastal habitats, gardens and the occasional church and cemetery. Trip will be made westwards onto the Rhins of Galloway.

Meeting Base
Conifer Lodges, Minnigaff, Newton Stewart DG8 6AN. See http://solidluxury.co.uk/locations/conifer-lodges-dumfries-galloway-properties-sleeping-2-to-8/ or Google 'Conifer lodges solid luxury' to view the accommodation. We are staying in the 'Lady Galloway lodges'.

Accommodation and costs
The BLS has booked four **self-catering lodges** (luxury log cabins). Each lodge has one double and two twin bedrooms (and a hot- tub!). Should there be enough demand additional lodges may be able to be booked. The cost per person for the week is £140 for sharing a twin / double bed room and £210 for single occupancy. In the first instance there will be a maximum of 1 single occupancy per lodge. This will leave us with 20 bed spaces.

Booking
Attendees should book onto the meeting with the Field Meetings Secretary, Steve Price, email: fieldmeetings@britishlichensociety.org.uk or by post to Woodlands,

Combs Road, Combs, High Peak SK23 9UP and send him a £35 deposit per person, cheques payable to 'The British Lichen Society' (not 'BLS' please). The balance of the costs will be requested in March 2018. If members prefer to pay by bank transfer please request details from the Field Meetings Secretary.

Microscope Work
Microscope work will have to take place in the lounge / dining areas of the lodges. Bring your own microscopes if you can. The BLS stereo and compound microscope will also be available for communal use. If possible please bring your own consumables (microslides / cover slips / razor blades / chemicals).

Timetable
Arrival time is from 16.00hrs on Monday 23 April. The meeting will run from the evening of the 23rd when we will gather in one of the lodges after dinner for an introductory meeting. We vacate the accommodation before 10.00hrs on the Monday 30th. Further details of the programme will be sent out to attendees nearer the time of the meeting.

Maps of the area *(all of these may not be relevant)*

- OS Explorer 1:25,000 - 309 - Stranrear & The Rhins
- OS Explorer 1:25,000 - 310 - Glenluce & Kirkcowan
- OS Explorer 1:25,000 - 311 - Wigtown, Whithorn & The Machars
- OS Explorer 1:25,000 - 319 - Galloway Forest Park South

(note: map 319 includes the area around the accommodation)
British Geological Survey Scotland Sheets 1 & 3 - Rhins of Galloway

BLS SUMMER FIELD MEETING - Borrowdale, Lake District, Cumbria

Sunday 22nd to Sunday 29th July 2018
Field-sites organiser: Allan Pentecost

This meeting based at the head of the Borrowdale will study near-by upland areas, lowland areas of North Cumbria and the Borrowdale valley.

Meeting Base
Glaramara House, Seatoller, Borrowdale, Nr Keswick, Cumbria, CA12 5XQ. Tel: 017687 77222, Fax: 017687 77198, Email: info@glaramara.co.uk. See http://www.glaramarahouse.co.uk/ to view the accommodation and facilities.

Accommodation and costs
The BLS has reserved a number of single and twin en-suite rooms and a meeting room at Glaramara House. The hotel is geared-up to accommodate groups such as ours

involved in outdoor activities. The cost per person for the week is £539 (£77 per night) for dinner, bed, breakfast and packed lunch. This cost includes the provision of the meeting room. Other accommodation in the area includes camp-sites, bunk-barns and a Youth Hotel at Honister.

Booking

Attendees should book onto the meeting with the Field Meetings Secretary, Steve Price, email: fieldmeetings@britishlichensociety.org.uk or by post to Woodlands, Combs Road, Combs, High Peak SK23 9UP and send him a £50 deposit per person, cheques payable to 'The British Lichen Society' (not 'BLS' please). The balance of the costs will be requested in May 2018. If members prefer to pay by bank transfer please request details from the Field Meetings Secretary.

The bedrooms are being held for us until April 2018. Subject to availability rooms will be able to be booked after this date. Please advise of any special dietary needs.

Microscope Work

Microscope work will take place in the Fell View function room of which we have exclusive use. Bring your own microscopes if you can. The BLS stereo and compound microscope will also be available for communal use. If possible please bring your own consumables (microslides / cover slips / razor blades / chemicals).

Timetable

Rooms are available from 15.00hrs on Sunday 22 July. The meeting will run from the evening of the 22nd when we will gather in the Fell View room after dinner for an introductory meeting. We vacate the accommodation before 10.00hrs on the Sunday 29th. Further details of the programme will be sent out to attendees nearer the time of the meeting.

Maps of the area

- OS Explorer 1:25,000 - OL4 - The English Lakes - North Western

British Geological Survey 1:50,000 Sheet 29 - Keswick

Although it is extremely rare for anything to go wrong with the arrangements for our field meetings and workshops, it has happened. In 2015 the hotel we had booked for accommodation cancelled without warning. The BLS is not liable for such actions, and will not reimburse participants for losses out of the Society's control. Attendees on our meetings are advised to consider holiday insurance (note that for insurance purposes our meetings are best classified as themed holidays). The Society does not arrange such cover although it does of course have Public Liability Insurance.

In the unfortunate event of an unforeseen cancellation, participants should be diligent in keeping receipts of <u>all</u> expenditure they incur as a result of such action. The case for re-imbursement may depend on the production of receipts.

TEXTING THE EMERGENCY SERVICES

In the UK, register your mobile phone to be able to send SMS text messages to call the emergency services. In areas of weak or variable mobile phone signals, as is often the case when out in the field, this may be the only way of calling for emergency assistance. Once registered, by simply sending an SMS message to 999 you can call for help and the emergency services will be able to reply to you.

To register text the word '**register**' to the number 999. A response should be received asking for confirmation of the registration request. See www.emergencySMS.org.uk for more information.

Note: the service is intended for use only when it is not possible to call using voice based phone services.

Further information from Rob Hindle, on the http://www.go4awalk.com/index.php website

The emergency SMS service was established originally for deaf, hard-of-hearing and speech-impaired people. It allows users to contact the UK 999 services by sending an SMS text message. Although the website specifically addresses that demographic it is open to other users.

There are problems:
Firstly, as it uses SMS, delivery of messages cannot be guaranteed and secondly, it may be necessary to exchange a number of messages before help is sent. The last point is very important because people imagine that if one SMS message gets through, help will be on its way. This is not the case as the emergency services may need to ask more questions about your location and the nature of the problem. If the emergency service does not receive a response to their questions, no action will be taken. This exchange of SMS messages means that making a voice 999 call will always be quicker.

Message should include:

- *emergency service required,*
- *nature of incident,*
- *accurate location.*

For our purposes that might be 'ambulance. hiker has broken leg. Madwomans Stones, Kinder Scout SK137880'

Things to bear in mind (and apologies if I've misunderstood anything):

- *only use the text service if voice 999 call fails to connect.*
- *one text message can be up to 140 characters (over twice the length of the example). May as well make maximum use…*

- *the message may not get delivered. Assume not and continue first aid and alternative ways of seeking help.*
- *all mobile carriers should process 999 calls regardless of which network provider you normally use and irrespective of credit on the account. That increases the chances of getting a signal of some sort.*
- *the phone should keep trying to send an SMS so moving to higher vantage point or the other side of a hill may help.*
- *I believe an SMS message only needs 50 milliseconds of connection so a brief weak connection may be enough to get the message through.*
- *duplicate location information in different formats if possible - for example using a map grid reference people sometimes get it wrong, swap eastings and northings for example so give a landmark too.*

Steve Price
Field Meetings Secretary

Lichen study groups and the BLS

Working together has numerous benefits – sharing knowledge and resources, learning together, benefiting from specialisms (at any level) and dividing up those necessary but tedious tasks. There is already a variety of lichen working groups within the UK (and doubtless abroad also), ranging from highly informal assemblages to more organized groups with defined objectives and their own constitutions. Many of these are local in nature, but some (e.g. the BLS Churchyard Survey) are more specialist and with a broad geographical remit. Information on those already in existence is available on the BLS website, and groups not represented here are encouraged to advertise their existence in this way.

The BLS would like to encourage the formation of more lichen study groups, whether these are local enterprises focusing on recording (perhaps at vice-county level), groups focused on particular lichens, or habitat-based partnerships (perhaps maritime or montane lichens). It is however critical that such activities are locally driven rather than directed from on high – unless there is a genuine demand, it is unlikely that they will flourish.

With this focus on sustainability in mind, there are various ways in which the BLS can help. Groups with their own constitutions can be affiliated to the BLS, and benefit from the Society's public liability insurance – for more details

visit the website or contact the Treasurer. The BLS can also provide support for set-up activities, for example paying for venue hire, providing advice on planning and strategy, or small-scale specialist tuition.

If you would be interested in setting up a study group, tell us what you are planning and the Society will do its best to support and encourage you. There are no formal rules – what works for you should work for us all. Contact any of the Society's officers (see the inside front cover of this *Bulletin*) and they will point you in the most appropriate direction.

Lichen records and the NBN Atlas

For many years the NBN Gateway has given us easy access to records for lichens and many other groups of plants, animals and fungi, but as the database grew it struggled to cope with the amount of use it was getting. It has now been replaced by the NBN Atlas (https://nbnatlas.org). This is a very different website, based on the highly successful Atlas of Living Australia (www.ala.org.au) but tailored for use in the UK. Our version is still at an early stage of development, and inevitably there have been a few initial problems, but the NBN are working hard to resolve these. They will then be developing the functionality further and would welcome suggestions for future enhancements.

To coincide with this change, we updated our general and churchyard datasets during March 2017 so you should now have access to many more lichen records:

	General	Churchyard	
England	554,679	454,838	1,009,517
Scotland	400,428		400,428
Wales	122,038	15,544	137,582
			1,547,527

We still have a backlog of churchyard records to import so the England Churchyards dataset will be updated again later in the year, and we hope to bring the Mapping Scheme and Rare and Threatened datasets up to date at the same time.

As well as the BLS data, there are lichen records on the NBN Atlas that have not been through our verification procedures and these can include mistaken identifications and input errors. You can filter the results by Data Resource to show only BLS datasets if you wish.

You may also find that some datasets that were on the Gateway are not on the NBN Atlas, or are only on at reduced resolution. These include the Francis Rose Diaries (but we have a copy of the FR lichen records if you need to refer to them), and also some of the local record centre datasets.

Bearing in mind the uncertain future faced by the local record centres in the current financial climate, **all lichen records should be submitted directly to the BLS for inclusion in our database**. If you wish also to send them in to a local records centre or another recording scheme that doesn't give us a problem, but please don't assume that they will pass records on to us – they don't!

Also, the substrate and location information included in our database is now proving to be a valuable resource for all sorts of analyses. However, the results can only be as good as the information included with the records so please **include substrate and scale habitat codes** when you can, and **use grid references at an appropriate resolution**. For instance, if a species list refers to a whole site it is misleading to give each record the same 6-figure (100m resolution) grid reference. There is no way of knowing that was not the actual location of a particular lichen, so a 4-figure (1km) grid reference might be more appropriate. On the other hand, if you find something interesting it should be given a 6 or 8-figure grid reference, to ensure that its precise location is known.

It is exciting to see how much use is being made of our data now, not just for planning and conservation purposes but also by academic researchers and students. Keep up the good work!

Janet Simkin
janetsimkin@btinternet.com

NOTICE OF ANNUAL GENERAL MEETING
20 January 2018

The 2018 BLS AGM will be held in the lecture theatre at Tullie House Museum and Art Gallery in Carlisle, Cumbria on Saturday 20th January starting at 10 AM.

A series of talks on the lichens of Cumbria will be given at the same venue in the afternoon. Several other talks will also be arranged. There is available space for posters and displays plus refreshments in the adjoining function room. A suitable dining venue will also be arranged plus a local field trip for Sunday 21st January.
There is a good rail service to Carlisle but parking close to Tullie House is limited. However, there are plenty of car parks a short distance away close to the town centre.

Further details will be provided in the Winter Bulletin.

Minutes of the Annual General Meeting

Natural History Museum, London – Saturday 21st January 2017

Members present: Judith Allinson, Rod Ashwell, Lesley Balfe, Joseph Beale, Ishpi Blatchley, Graham Boswell, Richard Brinklow, Paul Cannon, Ginnie Copsey, Brian Coppins, Sandy Coppins, Peter Crittenden, Andrew Cross, Amanda Davey, Simon Davey, John Douglass, Bryan Edwards, Vince Giaverini, Terence Hackwill, David Hill, Barbara Hilton, Peter Lambley, Tracey Lovering, Fay Newbery, Heather Paul, Allen Pentecost, Mark Powell, Steve Price, Maxine Putnam, David Richardson, Neil Sanderson, Mark Seaward, John Skinner, Eluned Smith, Catherine Tregaskes, Amanda Waterfield, Tim Wilkins, Pat Wolseley.

Apologies for absence: Andy Acton, Ann Allen, Juliet Bailey, David Brown, Mary Hickmott, Chris Hitch, Sir David Smith, Sheila Street.

Deceased members: Dr D.S.H. Cannon (Cumbria), Kenneth Hill (Essex) and Jack Laundon (London).
Jack Laundon passed away on 31st Dec 2016. He was a founder member of the Society (1958), secretary (1964-1984), president (1984-1985), and editor of the Bulletin (1963-1979). He was a recipient of the Ursula Duncan Award.

Mark Seaward spoke about Jack's contribution to the BLS and especially his help to members and the importance of his time as editor of the Bulletin. Sandy Coppins used a picture of Jack to demonstrate his role at field meetings and to highlight all the contributions from members who had benefitted from Jack's help. There will be an obituary in the *Lichenologist*.

The **Minutes of the AGM in 2016** were proposed by John Skinner, seconded by Ishpi Blatchley and passed unanimously.

Allan Pentecost gave a short account of BLS highlights in the last year including Ishpi Blatchley's work for the Churchyard Committee, Brian and Sandy Coppins' lifetime achievement award for their work on lichens in Scotland from the RSPB and Mark Powell's contribution to a film made for the BBC *Gardener's Question Time* that will be shown some time in March. Neil Sanderson was thanked for his contributions to Conservation and to the RSPB report on the State of Nature in the UK prior to Brexit.

Matters arising: none.

BLS Constitution: All members had received notice of changes to the Constitution of the Society which required an annulment of the present Constitution in order to draft a new Constitution: The inclusion of an annulment clause in the Constitution was proposed by Janet Simkin and seconded by Steve Price. All were in favour.

Officers and Committeee Chair reports.

***Secretary*: ** Pat Wolseley reported that the split in the workload between herself and Sandy Coppins had made the job feasible. She is responsible for arranging the meetings and writing the minutes while Sandy is responding to emails via the BLS Secretary address.. However while Sandy feels that she is happy to be involved with members via the website, Pat does not want to continue to be secretary and would like to find someone younger and more active to take on the secretary's role by the next AGM.

***Treasurer*: The Financial Report for the year 1st July 2015 to 30th June 2016 was presented by John Skinner.** The full Trustees' Report and Accounts may be viewed on the Charity Commission website.

Financially, the Society had another very satisfactory year. Total income for the year was £148,872 which is approximately £13k less than the previous year but that year's income had been swollen by a £25k legacy. By far and away the most significant source of income was the Proprietor Share of *The Lichenologist* which produced an income of just over £109k.

Income from members' subscriptions was not significantly greater than for the previous year. The huge increase in field meetings income reflects the repayment of £7k from Warner Leisure Hotels for their cancellation of our booked accommodation for the Isle of Wight field meeting.

Expenditure totalled £115,696, roughly £6k up on the previous year. The large increase in Fundraising Costs is explained by the fact that we revalued our sales stock, removing (on paper) items that were not selling and lowering its nominal value by about £9k.

The largest item of expenditure, over £49k, was on *The Lichenologist*. When creditors and debtors are taken into account the net profit from *The Lichenologist* is some £70,284, an extraordinary tribute to Peter Crittenden and his team. The net profit is up by just over £2k and the forecast for the next year looks promising. Meanwhile sales from the digitalised journal content are declining fast as that market becomes saturated.

Putting income and expenditure together the total funds carried forward are £466,126.

The accounts for the current Financial Year will feature the almost exhausted Wallace-Burnet-Gilbert Fund, retitled the Education Fund and topped up to £10k. The Peter James Bequest will also be separately accounted as a restricted fund.

John thanked colleagues on Council for their input into the complicated financial problems and the American Treasurer, Jim Hinds, for his rapid and helpful responses to questions.

Questions from the floor: David Richardson asked where the Bulletin expenses appeared in the accounts. John Skinner explained that the Bulletin expenses are included in the Membership support while the Lichenologist expenses are incurred in respect of our contract with CUP.

The Statement on Finances was proposed as accepted by John Skinner and seconded by Peter Crittenden and passed by a vote with unanimous support.

Paul Cannon proposed a vote of thanks to John Skinner for his work in putting together the accounts for the BLS and this was warmly acknowledged from the floor.

***Conservation committee*:** Bryan Edwards reported that in the last year this committee has been involved with the revision of the SSSI guidelines for habitat selection with major responsibility taken by Neil Sanderson and Tim Wilkins. The deadline for final copy is mid June so this is now a priority. Although the objective was to expand and trial indicator species for a range of habitats this has not been possible in all habitats for epiphytic, saxicolous and terricolous species. However this will be an ongoing project for the BLS together with running workshops in specific habitats e.g. acid coastal rocks. The Nitrogen meeting called by Plantlife was attended by 4 BLS members and Neil Sanderson reported that this was an excellent meeting with information from a wide geographic range as well as a range of specialists from air quality (CEH) to farming (NFU). The pdf is available and Janet Simkin suggested that we put a link on the website.

The conservation committee is now divided into four groups, the Churchyard committee and three national groups. Bryan thanked Ishpi Blatchley for all the work that she had done for this. Sandy Coppins had sent a report about activities in Scotland and Tracey Lovering about activities in Wales based around CENNAD - the lichen apprenticeships scheme funded by Plantlife which is now operating throughout Wales. Bryan mentioned the importance of the Bulletin and New Rare and Interesting records that highlight members finds.

Data committee: Janet Simkin presented the Data report on behalf of Les Knight, who was unable to attend.

Sandy Coppins asked if the last three years data that is not at present on NBN will be included before the NBN closure. Janet replied that all general records will be in, not necessarily including churchyards; 150 spreadsheets have been added since Christmas 2016 with a further 100 to go before the NBN deadline.

Education and Promotion Committee: Fay Newbery reported that during 2016 the EPC has arranged the publication and sale of a calendar containing pictures from the photography competition in 2014; thanks to Sue Knight who took the lead on this. The complete suite of education materials has been revised to fit recent changes in school curricula thanks to Barbara Hilton and Ann Allen. This will be uploaded to the website and advertised as widely as possible amongst teachers. In the absence of a website manager the EPC have continued to look for additions that can easily be made to the

website. The EPC has also taken a keen interest in the CENNAD lichen apprenticeship scheme, begun last year in Wales, and are keen to disseminate good practice from this scheme and to support new training initiatives. In 2017 the EPC aims to increase additions and updates to the website, concentrating on areas that support people new to lichenology or progressing to intermediate skill level. EPC continues to make inexpensive lenses available to all members who lead lichen walks or run lichen courses. These can be lent or sold to participants.

Bulletin: Paul Cannon observed that the Bulletin is the members' publication and dependent on contributions from the members to make it a good read. It was noted that we need a new Bulletin editor when Paul becomes president in 2018.

Lichenologist: Peter Crittenden reported that two large "special" issues were produced in 2016. With 995 pages, Vol **48** is the largest volume of *The Lichenologist* ever produced. There are no special issues planned for 2017 and so hopefully life will quieten down a little.

Unsatisfactory service from the typesetters continues to be an issue. In the special issue on *Trypetheliaceae* (Vol **48** Part 6) the index produced by Robert Lücking for this issue was erroneously incorporated into the final paper while on the back page it was correctly listed as a distinct item with its own page numbers – sadly we did not catch this error. This kind of disheartening and crazy performance is typical. In the January 2017 issue, we had asked that three book reviews should run on rather than each appear on a new page. So they did this but then left in two of the original book reviews on separate pages, i.e. two book reviews were repeated – we caught this error. So please members, if you spot errors let us know.

Following a meeting with the publishers of Open Access on-line journals it was quite clear that a switch to this company would more or less wipe all profits from the journal. Following discussions initiated discussions with Elsevier, since the BMS seems very happy with this publisher, it became clear that to publish as we do now would require quite a few opt outs from Elsevier's usual practice. Nonetheless I think that they should "stay in the frame" for future consideration.

Peter is currently canvasing views on whether we should continue to produce an annual index/contents list. This is produced as a loose insert with the January issue. It is a lot of work to produce this and now would entail buying some indexing software. However, CUP told us at a recent meeting that outside the BLS membership only 4 print copies of the journal are sold. So the principal recipients of the print copy are BLS members in the UK. How many members bind their copies of the *Lichenologist* with index pages in the front? CUP consider that this is redundant, do members agree?

Peter thanked the whole team and in particular Justin Cox the copy editor for their contribution to the success of the Journal.

Discussion concerning access to papers in the *Lichenologist*: David Richardson described difficulty in accessing papers while CUP was not on-line. Mark Seaward suggested

that a cumulative index every 5-10 years would be useful or alternatively putting the title page in each issue. David Hill suggested that locating a paper was more important than having an index of every species. Barbara Hilton suggested search engines could find name or aspect of study but perhaps not date. John Skinner asked if the indexing software was redundant if we decided not to continue with the index.

Website: Janet Simkin noted that the website is the public face of the Society, and Janet has been keeping it ticking over since last year when she announced that she would like to stand down as website editor. She had prepared a list of jobs that this entails but so far no-one had come forward. She suggested that this could be a job share but it does need members and chair people to take responsibility for their own sections.

David Richardson suggested that the list of jobs should be illustrated in a Powerpoint slide on the screen so that members could see what these entail and could offer to contribute in part.

Field Meetings: Steve Price provided a report on meetings in 2016, and those planned for 2017. With great regret, the Spring 2016 meeting, planned for the Isle of Wight between 15 and 22 April, had to be cancelled at very short notice due to Warner Leisure Hotels cancelling our group booking at Norton Grange, giving only 10 days notice - citing *"an unidentified clash in our reservation system"* as the reason for the cancellation. This was highly unsatisfactory, and resulted in considerable extra work for the Field Meetings Secretary and the Treasurer in dealing with the fallout. The local organizers Sheila and Les Street were nevertheless thanked for their hard work in organinzing the sites, and this was not entirely wasted as a few members organized a mini-event after organizing their own accommodation.

Herbarium: Richard Brinklow reported that the herbarium was well used by the Tayside lichen group but that not many other members used it as it involved posting specimens. Richard would appreciate specimens as this is a valuable resource. His details are in the Bulletin and on the web.

Archives: Mark Seaward reported that the archives occupied 20m of bookshelf space with information on people and six units of filing cabinets. These are important records of the society's activities over the past 50 years and will need to be housed somewhere at a future date. However these did not include the minutes of past AGMs and in particular the inaugural meeting that was reported in the Bulletin. Pat Wolseley reported that the reports of early meetings when Jack Laundon was secretary are accessioned in the library at the Natural History Museum. These could be scanned so that they were available in the archives of the society. An urgent requirement was an updated index to the Bulletin. Brian Coppins reminded members that Barbara Benfield had undertaken this in the past.

Vanessa Winchester asked when there would be another Lichen membership handbook that included addresses and e-mails. Janet pointed out that there was a

privacy problem with publishing personal data such as e-mails but that both addresses and e-mails of members were available on the RSB membership portal that all members could log into.

Election of officers to fill vacancies on Council

John Douglass, Maxine Putnam and Catherine Tregaskes were standing down as members of Council. However four new members were required due to Niall Higgins, who was proposed in 2016, not taking up his position.

Andy Acton is an active member and referee for the BLS as well as an ecologist for the Centre for Ecology and Hydrology and the Institute of Terrestrial Ecology working in Argyll. He was proposed as a Council member by Allan Pentecost.

Dave Genney has a post doc in mycology working on fungi and bryophytes for Scottish Natural Heritage. He was proposed as a Council member by Allan Pentecost.

Graham Boswell is an active member of the BLS in the South West and has been the BLS organiser of Making the Small things Count a joint project with Plantlife. He was proposed as a member of Council by

Dave Lamacraft has been specializing in lower plants for Plantlife Wales and is an active member of the Conservation Committeee. He is now the IPA Lower Plants Champion for England and Wales at Plantlife. He was proposed as a member of Council by Tracey Lovering.

Vanessa Winchester proposed that we elect new members of Council en bloc and David Richardson seconded this. It was supported by all members.

Officers of the Society

Heidi Doring was now living in Germany and is resigning from her role as Membership Secretary and Chair of the Membership Services Committee. All other officers stood for re-election and were proposed by Brian Coppins and seconded by Sandy Coppins. Everyone indicated their approval.

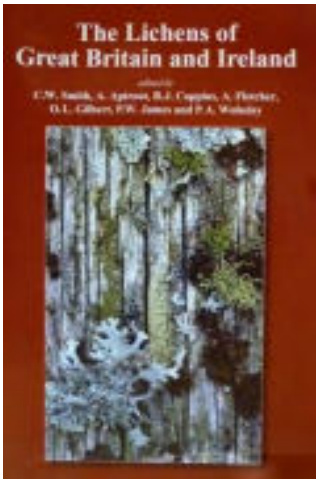
John Skinner proposed that we should thank Heidi for all the work that she did in co-ordinating the transfer of membership data to RSB. Paul Cannon emphasized that the society still needs someone who will deal with strategic membership matters.

AOB: Sandy Coppins suggested that all local groups and field meetings run by BLS members should be on the website. Steve Price and Neil Sanderson pointed out that these must be clearly labelled as independent as they are not covered by BLS insurance.

Date and place of next AGM: Allan Pentecost proposed that the 2018 AGM should be in Carlisle on 20th January at the Tulley House Museum. Seconded by Steve Price. Further information will be available in the Summer Bulletin.

Publications and other items for sale

Please contact The Richmond Publishing Co. Ltd, The Cottage, Allerds Road, Slough, SL2 3TJ, tel. (+44) (0)1753 643104, email rpc@richmond.co.uk to purchase these items and to enquire about overseas postage prices outside of Europe. RPC now accepts BACS transfers (account no. 90901210, sort code 20-78-58) and payments via Paypal (Paypal address rpc@richmond.co.uk)



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

Out of Print. This work is currently being reprinted and should be available later in 2017. Please contact Richmond Publishing Company (details above) to reserve copies and be advised on publication.

Lichen Atlas of the British Isles, ed. M.R.D. Seaward
The Atlas has been published in fascicles, unbound A4 sheets hole-punched for keeping in a ring binder. Each species account includes a distribution map and a discussion of the lichen's habitat, ecology, identification and status.
Fascicles 1 and 2 (*Cladonia* part 1) are out of print.
Cat.3. Fascicle 3: The foliose *Physciaceae* (*Anaptychia*, *Heterodermia*, *Hyperphyscia*, *Phaeophyscia*, *Physcia*, *Tornabea*) plus *Arctomia*, *Lobaria*, *Massalongia*, *Pseudocyphellaria*, *Psoroma*, *Solorina*, *Sticta*, *Teloschistes*. (54 spp) 1998.
Cat.4. Fascicle 4: *Cavernularia*, *Degelia*, *Lepraria*, *Leproloma*, *Moelleropsis*, *Pannaria*, *Parmeliella*. (36 spp) 1999.
Cat.5. Fascicle 5: Aquatic Lichens and *Cladonia* part 2. (64 spp). 2000.
Cat.6. Fascicle 6: *Caloplaca*. (58 spp) 2001.
All fascicles are offered to members and non-members at a special price of £3.00 each, (approximately half price). Postage & Packing £3.50 UK, £10.00 Europe, **per fascicle**.
Cat.7. Fascicles 3 to 6 for £9.00 (Buy 3, get one free!). per fascicle. Postage and packing £10.00 UK, £25.00 Europe.

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. Price £8.00 members, £10.00 non-members. Postage and packing £3.50 UK, £8.50 Europe.

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

An update and revision of the 2003 edition and now extended to include lichenicolous fungi. Provides a comprehensive catalogue of threat statuses. Also included are lists of specially protected species in England, Scotland and Wales and those species for which Britain has an internationally important population. It is no. 13 of the JNCC's Species Status volume series. A4 paperback 155pp. £7.00. Postage and packing £5.00 UK, £10.00 Europe.

Cat.10. Surveying and Report Writing for Lichenologists Ed. D.J. Hill (2006)

Guidelines on commissioning surveys, fieldwork, identification and report writing, aimed principally at those people and organisations commissioning surveys and at those undertaking them. However, much of the information is of value to any lichenologist engaged in field recording.
BLS members £7.00; non-members £10.00. Postage & packing £2.50 UK, £6.50 Europe.

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

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

BLS members £2.00; non-members £3.00. Postage & packing £1.50 UK, £2.50 Europe.

Cat.14. The Lichen Hunters by O.L. Gilbert (2004). Hardback, 208pp.
If you have been on any lichen field meetings in the last fifty years, this is a book you will enjoy. The late Oliver Gilbert's boundless enthusiasm comes across in every page as he describes field meetings and explorations around Britain. Many past and present members of the Society are fondly remembered in this delightful book. Special price, now £6.00. Postage & packing £4.50 UK, £10.50 Europe.

Cat.15. 'Understanding Lichens' by George Baron (1999). Paperback, 92pp.
An excellent introduction to lichenology, from the basic biology of lichens to their environmental importance as well as the history of the science.
BLS members £8.95; non-members £9.95. Postage and packing £2.50 UK, £6.50 Europe.

Cat. 16. A Field Key to Common Churchyard Lichens by Frank Dobson (2003)
Spiral-bound book with strong paper. Illustrated keys to lichens of stone, wooden structures, soil and mosses. 53 colour photographs. Covers many common lowland lichens.
BLS members £6.50; non-members £7.50. Postage and packing £2.50 UK, £6.50 Europe.

Cat. 17. A Field Key to Coastal and Seashore Lichens by Frank Dobson (2010)

A superb guide to over 400 species. 96 colour photographs. In the same format as cat. 16.
BLS members £10.00; non-members £12.00. Postage and packing £2.50 UK., £6.50 Europe.

Cat. 18. A Field Key to Lichens on Trees by Frank Dobson (2013)

A superb guide to around 500 species. 96 colour photographs. In the same format as cat. 16.
BLS members £15.00; non-members £17.00. Postage and packing £2.50 UK, £6.50 Europe.

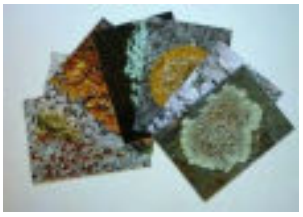
Cat. 21 and 22. Lichen Wall Charts illustrated by Clare Dalby.

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 feature over 40 species in colour, nomenclature updated to 2010. £5.00 per poster, £4.00 per poster for purchases of 8 or more. Postage and packing (for up to two posters) £6.50 UK, £7.00 Europe.

Cat.23. Parmelia identification CD-Rom
Although the nomenclature has been superceded, this CD provides a useful range of photographs and other information for identification. BLS members: £5.00; non-members £7.00. Postage and packing £2.00 UK, £5.00 Europe.

Cat.25. Greetings Cards/Notelets by Claire Dalby

A set of five cards with envelopes, featuring five exquisite pen and ink illustrations of British lichens.
£2.00 per set. Postage & Packing £2.00 UK, £3.50 Europe.



Cat.26. BLS Postcards

A set of 16 beautiful photographic postcards of British lichens.
£2.00 per set. Postage & Packing £1.50 UK, £3.50 Europe.

Cat.27. Woven ties with below-knot motif of BLS logo. Attractive ties with discreet BLS logo. Colours available: maroon, navy blue, brown, black and gold.
£7.00. Postage & Packing £1.50 UK, £3.50 Europe.

Cat. 28. Car sticker, diam. 12 cm. peels off easily. Recognise fellow members in the car park!
£1.00. Postage & packing £1.00 (UK), £2.50 (Europe).

Cat. 29. Enamel badge, diam. 2.5 cm, pin fixing, matt finish. A well -made attractive badge.
£1.00. Postage & packing £1.00 (UK), £2.50 (Europe).

Cat. 30. Fabric badge, diam. 6 cm. Ideal for sewing onto a cap or rucksack.
£1.00. Postage & packing £1.00 (UK), £2.50 (Europe)

Cat. 31. Lichens – An Illustrated Guide to the British and Irish Species 6th Edition (2011)

This enlarged edition (496pp) 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 6th edition has been revised to conform with the nomenclature of 'The Lichens of Great Britain and Ireland' ed. Smith, C.W. et al. (2009) and more recent changes. Over 160 additional species to the previous edition have been added so over 1,000 species are now treated.

Entries usually consist of a description of each species, a photograph, notes on habitat, chemical tests, line drawings to clarify the description and a distribution map giving three date separations. There is an enlarged generic key and a much extended section on sterile species. A generic synopsis is included to assist the more experienced lichenologist.
Paperback edition is now out of print (a new edition is expected within the next two years) but ***a small number of hardback copies are available at the paperback price of £35.00.*** Postage & packing £5.00 UK, £12.00 Europe.

Publication of the Winter 2017 Bulletin

Copy for the Winter 2017 Bulletin should reach the editor (contact details on the inside front cover) by 1 October 2017

British Lichen Society Bulletin no. 120
Summer 2017

Index