British Lichen Society *Bulletin* no. 102 Summer 2008

British Lichen Society

Bulletin

50th Anniversary Year **no. 102: Summer 2008**

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British Lichen Society Bulletin no. 102

Summer 2008

Welcome to the new-style BLS Bulletin, adorned with full-colour images (which I'm sure you've already noticed) and with a new Editor attached. I've worked with lichen names for much of my professional life, but have only recently started to focus on the organism(s) themselves. I'm continually amazed by their extraordinary diversity of form, and by the often incredibly subtle differences between species as they appear under a hand lens. We are currently in a period of great change as DNA sequences show time and again that 250 years of morphological taxonomists haven't got things quite right (or anything like right in some cases!) Nevertheless, the days of portable automated identification machines aren't yet quite among us, so the hand lens and the chemical kit will be useful for some time to come. The BLS plays a crucial role bringing together professional and amateur lichenologists all over the world, and I consider it a pleasure and a privilege to help make things happen.

This issue contains the Proceedings of the 50th Anniversary Meeting of the BLS, with fascinating articles looking back over the history of the Society as well as cutting-edge presentations on subjects of current interest. We also have a responsibility to look to the future. Council has recently agreed to set up a "forward-thinking" initiative to ensure that the BLS reaches its 100th anniversary and beyond in a robustly healthy condition, so good ideas will be more than welcome, either as articles for publication or private notes to the President. Ultimately, this is your *Bulletin* and you will direct what goes into it. *Please* say what you like (enthusastically!) and what you don't (sympathetically!) and consider contributing anything from a letter to a full article. Colour pictures should be an ongoing feature, so these are welcome also. I'll be delighted to hear from you, via email or at the contact address on the opposite page.

Paul Cannon, BLS *Bulletin* editor: email p.cannon@cabi.org

Front cover: the BLS 50th Anniversary Cake

This magnificent cake, in the form of large and small rounded boulders, was set on a side table in the Great Hall at Nettlecombe during the AGM festivities. So realistic was it, that many people thought it was part of the Lichen Exhibition…. The decoration was exquisite, and most life-like representation of lichens enabled a "species list" to be made:

- *Cladonia chlorophaea* (with perfect granular soredia in the cup)
- *Cladonia floerkeana*
- *Solorina saccata*
- *Xanthoparmelia mougeotii*
- *Xanthoria parietina*

There were also some unidentified crusts on the rock surface, but TLC was required to attempt these, and unfortunately all material was consumed!

The cake was beautifully made (with a really scrummy chocolate cake as the "rock" matrix), by Emma Coull, a Master Cake Maker and Decorator in SE Scotland (contact: Emma Coull, 42 Acheson Drive, Preston Pans, EH32 9NE, tel: 01875 819849). Emma was given as a guide and inspiration *The Observer's Book of Lichens* (K.L. Alvin, 1997, Frederick Warne, London), the edition with illustrations mostly by Claire Dalby. Thanks to Sandy Coppins for this information, and the photograph was contributed by Dave Genney.

www.uklichens.co.uk

This piece was contributed at the request of the Bulletin Editor. It provides a vivid picture of the origins and evolution of this remarkable internet resource, but perhaps glosses over the sheer amount of work needed! Some of the images from www.uklichens.co.uk are reproduced in the colour centrespread of this Bulletin, to give a taste of what is there to those who are not familiar with the website.

The UKLichen website will be two years old in June. The idea came originally out of my own needs for a memory aid. At the time I was not spending enough time on lichens and it was difficult to remember the names of ones I had found and identified from year to year. Does that strike a chord? There were so many other responsibilities, interests and commitments. So I started to create a photo library so that I could quickly whiz through the pictures to refresh my memory and maybe they would stick in my head more easily. It was an easy step to then consider setting up a website to make these pictures available to everyone else.

I was fortunate, the previous year, to get a decent tax refund which I had banked, but decided to blow it all on a digital SLR (Nikon D70s), now that they had finally become more affordable. I added a 60mm macro lens and headed for the Kindrogan Field Centre to try to kick-start my flagging lichen knowledge and for a week of busy, but gentle, life-enhancing inspiration delivered by the Coppinses. One of the great things about field courses and field meetings generally is the melting pot and exchange of ideas that goes on and it was wonderful to be at Kindrogan with such a great bunch of people. Dave Genney, SNH lower plants officer, was also there and he also had internet ideas which we chatted about. Dave wanted to form a discussion group which emerged a short time later as the wonderful resource that is the Yahoo Group: Scottish Lichenology.

When I got home from Kindrogan I found out that most of my pictures were rubbish. Either my shutter speed was too slow or I used the in-built flash which is no good for close-ups. I experimented for a while with a flash diffuser and even a homemade flash attachment made out of a plastic milk bottle. Finally, I bit the bullet again and splashed out on a brilliant macro flash unit that does it all automatically so I have no excuses any more. Refreshed by Kindrogan, and the positive atmosphere there, I felt confident that a photo-website was a good idea and I set about finding the best web host, learning to write web-lingo, and taking better photos. I also contacted Jacqui Middleton to check that my ideas wouldn't conflict with plans for the new BLS website.

As I write this I can recall how exciting it felt as I started to build my site into reality: learning new skills and the thrill of being part of the web community. There was a lot of jubilant 'air punching' going on in our flat when UKLichens went live. To be honest, though, sometimes I felt twinges of being a bit of an impostor because, although I first joined the BLS in 1982, I hadn't done much and knew almost nobody. So who was I to launch into this prominent website thing? Well, I needn't have worried because the BLS is a very welcoming bunch of nice people. There is a great depth and breadth of knowledge and skills here but we don't all have the time

to do everything and even though I am not a brilliant lichen expert I can contribute in other ways, one of which is UKLichens.

The support that I have received has been tremendous. It is great when someone sends an email saying how useful your site is or sends you a good picture to put on it. I also get lots of requests to use my pictures in educational leaflets, textbooks etc. both here and abroad. There is a great deal of interest about lichens out there and people send me photos to identify (100's) which I can usually do because they are obvious, common species, and if not it is easy to say 'needs microscopic examination and chemical tests' or 'I don't know'.

Obviously my current priority is to add more species. There is a mixture of very common and the very rare which is reflected by what I find myself, pictures people send me and what other people identify for me to photograph (great – less work for me!). But there are still loads of common lichens which I don't have pictures of yet. It is ironic that those easy, common ones are the last ones you take photos of, yet they are the species that budding lichenologists find first and need pictures of to get them started.

One of the main obstacles to adding more of my own photos is the time I have to spend trying to identify the specimen before the photo can be loaded up. I seem to encounter difficult specimens with monotonous regularity – the description seems to fit at least two species and too often I spend the whole evening checking my diagnosis for one sample (sounds familiar?) I wish I had more time to highlight diagnostic features for difficult species.

When I think that I have got a reasonable number of photos I might spare some time 'pimping' the site up a bit. But only a bit because I want to keep it simple and to enjoy having a life away from the computer sometimes. I am currently working on a simple lichen key to help with basic identification and allow people to narrow down the photo options. This leaves me with lots of respect to those who have already produced lichen keys – it's not easy!

I have started a web log called 'Licheneering' – a great expression coined by my wife Karen. There is a link to it from UKLichens. For those not familiar with the idea a 'blog' is just a comments scrapbook on the internet where you can add text or photos etc. My blog is about things I find and places I go. It feels strange at first to expose your own exploits like that. Many of us prefer to lose ourselves in the hills rather than be on the stage. But by putting our stories out there we will popularise our subject and there is nothing more interesting than hearing about other people's experiences (which is why we have the *Bulletin* in addition to *The Lichenologist*).

My web host, 1 and 1, provides some neat services such as visitor data which shows that UKLichens gets 'hits' from all over. In March there were 3,600 visitors from 54 countries: the Cocos Islands (1) to Chile (4), Mexico (18) to Malaysia (1), Poland (57) to Pakistan (1). Maybe one day I will have to start an International Section.

Many thanks to everyone who has given invaluable and much appreciated support with identification, sending photos, giving encouragement, or simply by visiting the website.

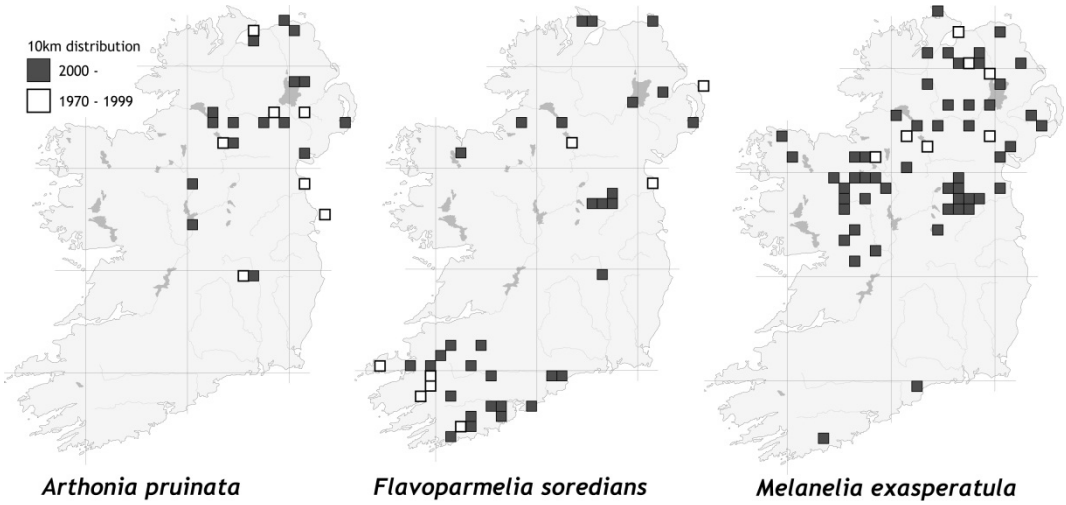
Mike Sutcliffe

LichenIreland 2005-2008

The British Lichen Society mapping scheme and its associated database is widely recognized as a model recording programme, which has greatly strengthened knowledge of lichens and underpinned conservation policy in the UK. However, to date it has focused only on the island of Great Britain (i.e. England, Scotland and Wales – in strict alphabetical order!)

The LichenIreland project aims to determine the status and distribution of lichen species across the island of Ireland. To assist the project a Steering Committee, consisting of representatives from National Parks and Wildlife Service (NPWS), Environment and Heritage Service (EHS), National Botanic Gardens Glasnevin, lichen fieldworkers, and the Ulster Museum was initially established. The project is funded by NPWS and EHS with funding in-kind from National Botanic Gardens Glasnevin.

It was agreed that the British Lichen Society (BLS) should be represented, with Professor Mark Seaward agreeing to act as the BLS representative. Furthermore, with the establishment of the National Biodiversity Data Centre, Waterford, Úna Fitzpatrick was nominated as their representative. The Committee has at all times guided the direction of the project, with funding and fieldwork duties being agreed throughout the course of the year.



Example maps from the project to date

A comprehensive data set is being collated on the Recorder database and information will be disseminated through a web site specifically designed for the project (http://www.habitas.org.uk/lichenireland/). When the CEDaR database is transferred to Recorder 6, the lichen data set will also be made available through the National Biodiversity Network (NBN) Gateway for validation and verification. The LichenIreland project inherited a limited data set of approximately 2,300 records, collated largely through the BSBI Atlas 2000 Project. From the outset the priority has

been to combine collation of the currently available Irish data set (held by BLS and made available to the project), with the collection, collation, management and dissemination of both new and historical records. To date, 94,916 records for c.1,293 taxa from 850 10km squares have been collated on Recorder. Even so, this leaves approximately 150 10km squares without any lichen records. These squares remain a priority for the project.

Flavoparmelia soredians with *Parmelia sulcata*, Killough, County Down

In association with the collation and ultimate dissemination of information, there was a requirement to undertake the training of new recorders. To facilitate and encourage the collection of new records, particularly in areas of Ireland previously un- or under-recorded for their lichens, a number of fieldworker grants have been provided. These fieldworkers have added considerably to our knowledge, with one (Vince Giavarini) recording *Teloschistes chrysophthalmus* in Ireland for the first time since the 1860s.

Despite significant advances, by the end of the current funding period there will still be considerable gaps in our understanding of the lichen biota of Ireland. Specifically, there remains a significant number of 10km squares to be visited. Some recording has centred on coastal and upland habitats/sites, but other specific habitats have not been the focus of any systematic recording. On both these grounds, there is justification in LichenIreland being awarded a two-year funding extension and a recent application for a project extension has been successful.

Damian McFerran
Project Manager for LichenIreland
Centre Manager, Centre for Environmental Data and Recording (CEDaR)
(damian.mcferran@NMNI.com).

The LichenIreland project has attracted substantial interest from the press. One article is reproduced below, with permission from the Irish Times Weekend Review.

Lichenologists Rolling Up To Gather Our Moss

A lost boy scout might have trouble finding north if he relied on the moss growth on our oak trees: in Mayo's moist climate, moss flourishes all the way round. But in between, and on the branches, too, the brown bark is mottled with a mosaic of small, flat lichens, silver and pale greeny-grey.

A closer look finds each one edged with a fine black line, as if drawn by a pen. The patches have grown at a millimetre a year and now pattern the branches as prettily as snakeskin.

What took me out there with a magnifying glass was a column on lichens on my favourite naturalists' magazine, *British Wildlife*. "Great things have been happening in Ireland", it ran. "Money has been forthcoming, enough to tempt and encourage lichenologists from Britain to go across the water and to indulge in what is probably what is the greatest spree of 'square bashing' for lichens ever undertaken." The squares, of course, are those on the map of this island, and the basic thing happening has been the three-year *LichenIreland* survey, funded with government money from north and south. It "will dramatically change the [record] of lichen distribution in Ireland", as Sandy [Alexandra] Coppins, President of the British Lichen Society, puts it.

A good deal of Ireland's natural history was pieced together by the Brits and on this sort of project we still need their experts. Scottish Natural Heritage paid for the apprenticeship of many of these professional "lichen consultants" now rambling our wilder landscapes, churchyards and drystone walls, sometimes alongside trained Irish recorders. And it is the Ulster Museum in Belfast, fount of groundbreaking tomes on Ireland's dragonflies and moths, that has taken on the masterminding of LichenIreland as well www.habitas.org.uk/lichenireland.

With clean, moist air from the ocean and masses of bare rock, lichens are what the west of Ireland does particularly well. I think of an old gable wall on the deserted island of Duvillaun, north of Achill, tufted from top to bottom with a wind-shimmering cloak of *Ramalina siliquosa*, or sea ivory, or of the gale-shorn oaks of Old Head wood, near Louisburgh, wreathed in leafy fronds of *Lobaria pulmonaria*, or tree lungwort.

That's the oldest common name for a lichen, dating back to 1568, and it's a great pity there aren't many more such vernacular inventions. "Sea ivory" is splendid, as is "devil's matches" for the scarlet tipped fruits of *Cladonia* on bogs. Some names we've lost since Irish speaking countrydwellers stopped using lichens to dye their socks – crotal, or scraith-cloch, for example, for the silvery rosettes of *Parmelia saxatilis*, growing everywhere on the rough granite walls of Connemara. But most of our 1,000-odd species are still locked up in Latin.

Connemara holds some two-thirds of them and has long been a Mecca for British lichenologists, guided on occasion by our own Howard Fox from the

National Botanic Gardens. It's no surprise that new discoveries in the present all-Ireland survey have happened just across the bay in Connemara at the rocky mouth of Killary Harbour.

The Latin names wouldn't mean much, but three very rare lichens have turned up in "ancient wood pasture" of ash and hazel, and when you think that hazel once covered Ireland before the big trees arrived, this little fragment of wilderness at the ocean's edge could be very ancient indeed. That's part of the excitement of lichenology – making finds that link back to lost ecosystems and landscapes.

Sandy Coppins is a particular fan and student of Atlantic hazelwoods on exposed coasts of Western Scotland and Ireland, with their rich and distinctive lichen flora. Lungwort and others of the Lobarion community are often a special feature at their heart. Along with the fabulous ferns, mosses and liverworts of old woods like those at Killarney, they form part of a "Celtic rain forest" of special biodiversity.

The resilience and persistence of hazel made it a great material for coppicing, as an ever-renewing stool of branches (I cut my own bean-poles, dead-straight and taller than myself, from the "sun-shoots" of our hazels). But hazel left to grow away on its own can reach extraordinary ages: a Finnish ecologist dated one stool on a Baltic island to 990 years ago.

Dr Coppins urges proper recognition for Atlantic hazelwoods as an "ancient relict habitat" that has been missed from the EU's Natura conservation network. In this, the final year of the LichenIreland survey, the scrubby hazel copses of the west, crouched on knolls, under cliffs or in coastal ravines will be getting a specially close inspection.

Michael Viney
Irish Times Weekend Review, 12 January 2008

Lichens on Plymouth pavements

After I led a lichen walk around Ford Park cemetery in Plymouth last year, one of the secretaries at Derriford Hospital sent me some newspaper cuttings from a local paper about white patches appearing on Plymouth pavements. The following article with this headline appeared, reproduced with permission:

Nuclear fall-out scare over area
Appearance of white patches after rainfall
Is acid rain falling on Saltash and Plymouth?
Could it be radioactive fallout from disintegrating nuclear submarines?

Or is some other atmospheric pollution causing strange white patches to appear on local pavements? One Saltash woman thinks the rain is bringing down something nasty - and possibly dangerous. "I first noticed it about two years ago" Mrs Sue Devernia [not her real

name] *told the EXTRA. Mrs Devernia has lived in the same bungalow in Saltash for 59 years. Two winters ago she started seeing round white patches appearing on paths around her home, and on pavements in the road where she lives. "I always used to wash down the paths with soapy water and blamed that at first. I do like things to be clean. Then I looked over the road and down the street and saw it there."*

The patches are caused by something in the rain, Mrs Devernia believes. They are white at first, but then turn black.They are not lichen, and it's difficult to see that they could be caused by chemicals leaking out of the pavement materials, because they also appear on walls and on tarmac. "They are down by the Post Office, too" said Mrs Devernia who has also seen them at Derriford. When she first mentioned the patches to people they didn't believe her, but now friends agree - they have started to discover them all over the place, too.

The first and most obvious explanation was that they were discarded chewing gum but they are not. "There would have to be a ton of the stuff" said Mrs Devernia. The patches don't scrape off easily with a knife, and appear to be non-organic, almost calcareous like limestone or chalk. She is worried that they may be caused by acid rain, and perhaps radioactive fall-out emanating from the former Soviet Union. "They have got 88 submarines laid up in Murmansk, disintegrating,and they're doing nothing about them," she said. "What happens with the nuclear material in the water? Could it be taken up in the rain?" The submarines, which belonged to the former Soviet Navy, are laid up in Murmansk, because the Russian Navy neither wants them or can afford to maintain them.

Mrs Devernia, the widow of a former Royal Navy Chief engineer turned Methodist Minister, has tried to find out what the patches could be, but without result. "I rang up Cornwall Environmental Department and the University of Plymouth but nobody wanted to bother" she said. "But I think we should be told. And if they don't know what causes it they should find out." One possible explanation, from a Cornwall County Council officer is salt, used on the roads in winter. But how that gets over Mrs Devernia's roof and into her back garden isn't explained.

Following this article there were a couple more articles and several letters with various headlines:

Firm starts probe into white spots
Patch riddle deepens
Oh dear, what can they be?
The white patch mystery spreads
Mystery white blobs are turning yellow
There was also a tongue-in-cheek poem entitled
'Mystery dotter works at night'

Various suggestions as to the cause of the white patches including acid rain, chewing gum, lichens, and loose-bowelled seagulls! Further reports of white patches came from Dorset, Wales and near Sellafield in Cumbria. Most respondents seemed rather amused but some appeared genuinely concerned.

As a result of this article I decided to do a little research into lichen presence on Plymouth pavements. Seven randomly chosen pavements in the Plymouth area were chosen and 1 metre square quadrats examined for white patches. Two pavements were in shopping areas with heavy pedestrian traffic and the other five in more

suburban areas. As well as examining white patches, non white lichens were noted as was the presence of bryophytes. One Sunday morning I set out and spent some time in the knee-elbow position around Plymouth. My wife was convinced I would be arrested, but in the event I was merely asked by a couple of ladies if I was feeling alright. One was about to ring 999 for an ambulance….

Results

Shopping areas. George Street in central Plymouth and Yelverton shopping parade were examined, and the white patches appeared to be 100% discarded chewing gum.

Suburban areas. White patches in areas with less pedestrian traffic were mostly three lichens, *Lecanora campestris, Aspicilia contorta* and *Physcia caesia*, with occasional bird droppings and patches of chewing gum. Most pavements had some patches of moss, mostly in cracks and crevices providing a damper habitat. A total of 19 lichen species was noted.

	Woolwell	Glenholt	Estover Industrial Estate	Mainstone	Derriford
Agonimia tristicula			●		
Aspicilia contorta	●	●	●	●	●
Caloplaca citrina		●	●	●	●
Caloplaca crenulatella	●		●		
Caloplaca holocarpa			●		
Collema auriforme				●	
Lecanora campestris	●	●	●	●	
Lecanora dispersa	●	●		●	●
Lecidella stigmatea			●	●	
Phaeophyscia orbicularis	●				
Physcia caesia	●			●	●
Protoblastemia rupestris			●	●	
Toninia aromatica			●		
Verrucaria nigrescens	●				●
Xanthoria parietina			●	●	●

Discussion

No surprises really. As we know lichens do not establish and thrive with heavy trampling, but the large amount of chewing gum in central Plymouth could be related to the presence of a large chewing gum factory in the city!

Plymouth pavements have had a good lichen growth as long as I have lived near the city, presumably due to its geographical position, although why Mrs Neea only noticed the white patches a couple of years ago must remain a mystery. The seagull population has not changed much either.

Bob Hodgson
rhodgson@tinyworld.co.uk

Serendipity and locating lichens

The present article is a follow-up to one written for the *Yahoo! Group* : *Scottish Lichenology*, 2006, message 38 on the subject of the serendipitous finding of *Phaeophyscia nigricans* on the window sill next to my computer.

Near the Gaur hydroelectric plant (Rannoch in Highland Perthshire) there is a small plantation (regularly visited by passers by because it is the only secluded site in this open morainic wasteland), and close beside this there is some disturbed ground with bits of metal, concrete etc. evidently levelled during the construction (or more recent refurbishment) of the power station. One day in June 2006 I tripped over some partially embedded wire here, came to rest and saw immediately in front of me what looked like small (up to 4 mm diameter) squirrel-gnawed hazel nuts. This was not really likely and indeed they were not. They proved to be apothecia of *Solorina spongiosa*, complete with associated blue-grey cephalodia.

At first I thought the cephalodia were free-living cyanobacteria growing between mosses (*Barbula*), but study at home showed their true nature. The coralloid cephalodia encrusted the lower parts of the thallus margins to the apothecia, with just a few algal clumps situated inside the cups. Those on the ground looked black, those on the thallus cups much lighter grey - perhaps they had dried out more. Extensive patches of cephalodia without lichen thalli agree exactly with the description in the *Lichen Flora* (1992).

How old is this site? The Tummel Hydroelectric Power Scheme (the Gaur power station is part of this) was started in the 1930's with later extension work - with the Gaur installation being the first in Britain to be remotely controlled - but the age of this particular disturbed area is not known to me. The presence of virtually open ground where the *Solorina* occurs suggests that it could not have been in existence for many years otherwise it would have been overgrown by grasses and other vascular plants. Flowering *Sisyrinchium montanum* plants (of garden origin in Perthshire) also suggest a recent origin for this site. *Solorina spongiosa* thus appears to be a recent adventive at Gaur.

We have previously seen *S. spongiosa* only on an earth bank (a short-duration shore feature possibly caused by the pressure of grounding sea ice) on the sea shore near Húsavík, northern Iceland, but the Lichen Flora text refers to other temporary habitats such as quarry floors and sand dunes. The picture emerges of a preference for sites of short duration where *S. spongiosa* is an early coloniser. By their nature their occurrence must be unpredictable. I regard the Gaur find (which proved to be a new 10 km square record) as being a good example of serendipity in field lichenology.

D.H. Dalby

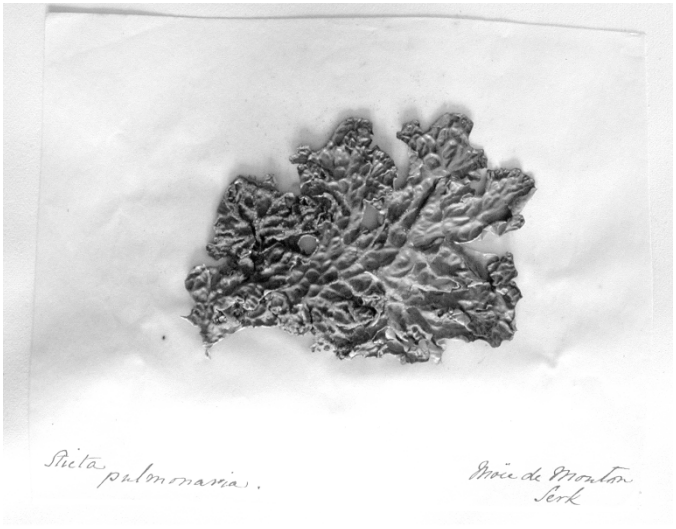
An image of the colony of Solorina spongiosa described above may be found at the UKLichen website (http://www.uklichens.co.uk)

Lobaria pulmonaria and *Teloschistes* species in the Channel Islands

With the rediscoveries in 2007 of *Lobaria pulmonaria* (in Sark) and *Teloschistes chrysophthalmus* (in Guernsey), both previously considered extinct in the Channel Islands, it is timely to have an overview of their historical status in these islands. For completeness, *Teloschistes flavicans* is included as it is now very rare in the Channel Islands. Making known these discoveries may encourage continued search for these rare and attractive species. Their preferred habitats are discussed in order to aid understanding of their requirements and conservation.

Lobaria pulmonaria

In June 2007, Peter Brown, a regular visitor to Sark, discovered *Lobaria pulmonaria* on a holm oak on the west of Sark, at L'Ecluse, not far from the grounds of La Seigneurie. This is the only confirmed modern record for this species in the Channel Islands, although in the nineteenth century it was known as a rare lichen for Guernsey, Jersey and Sark.



Specimen of *Lobaria pulmonaria* from the Collings Collection, Guernsey

The first published record of *Lobaria pulmonaria* (as '*Sticta pulmonaria*') for the Channel Islands was provided by Frederick Corbin Lukis for Guernsey in the *Appendix* to Babington's *Florae Sarnicae* (1839). Lukis is recognised as one of Guernsey's foremost early natural historians. Subsequently, in Ansted and Latham's *The Channel Islands* (1862), Mrs Louisa Collings (daughter of Lukis and wife of the Seigneur of Sark), provided records of '*Sticta pulmonacea*' for Guernsey. Leighton, in *The Lichen-flora of Great Britain, Ireland and the Channel Islands* (edn 3, 1879), cites '*Sticta pulmonaria* CHANNEL ISLANDS: Guernsey, Rev. T. Salwey. La Coupe, Bantry Bay, Jersey. Mr Larbalestier.' Marquand, in *The Flora of Guernsey and the Lesser Channel Islands* (1901) published a record for Guernsey; '*Sticta pulmonaria* Ach. Rare. On old trees in the road opposite Sausmarez, St. Martin's: rather poor, and in small quantity.' At this time there were no records of this species given for the Lesser Channel Islands of Alderney, Herm, Jethou and Sark. However, in Marquand's *Supplement* (1923) to the *Flora*, he gives '*Sticta pulmonaria*, 1903, Derrick', for Sark and in his 1908 lichen list of 33 lichens for Sark (provided in the *Supplement*

and based on his examination of the Collings Collection, Guernsey), he cites '*S.* (*Stictina*) *pulmonaria*, Ach. Moie de Mouton' for Sark.

From the evidence of these published records and specimens we can conclude that, although quite rare in the Channel Islands, *Lobaria pulmonaria* was known in the nineteenth century for Guernsey, Jersey and Sark.

Present status

Disregarding occasional unsubstantiated reports, until 2007 we had considered *Lobaria pulmonaria* to have become extinct in the Channel Islands. The discovery by Peter Brown in June 2007 of this species in Sark is the sole modern record.

The colony in Sark is well-developed and healthy and found in an interesting epiphytic community on a holm oak, probably no more than 60 years of age. *Lobaria pulmonaria* is confined to the west, south-west and south-facing aspects from about 0.25m to 1.25m up the trunk and is accompanied by some moss intermixed with *Flavoparmelia caperata*, *Parmotrema reticulatum* and *Ramalina farinacea*. Further species, on other aspects, all showing characteristic distribution positions on the bark, include *Acrocordia gemmata, Arthonia pruinata, Bacidia rubella, Cresponea premnea* (in poor condition, overgrowing *Lecanactis subabietina*), *Enterographa crassa, Lecanora expallens, Leprocaulon microscopicum, Opegrapha prosodea, Rinodina roboris* (rather atypical material) and *Roccella phycopsis* (one small thallus).

Why *Lobaria pulmonaria* should be present now on what appears to be this one tree in Sark is puzzling. This species appears to have precisely-tuned reliance on a combination of factors, including the pH of the substrate, the degree of shelter and shade. Predation by molluscs has been shown to be very damaging in transplant experiments with this species (Peter James, *personal communication*). In Sark the holm oak with *L. pulmonaria* leans towards a tree-lined track on the north and east and receives filtered light from the south and west where the woodland slopes downwards providing some shelter and humidity for the *Lobaria* which is on this face. The nineteenth century record from Moie de Mouton (a substantial rock outcrop separated from Sark at high water) is also from the western coast of the island, but was probably from heathland, a habitat rapidly disappearing from Sark. Any direct connection between the sites would seem remote, although the present material may be a relic, a surviving representative of a more extensive colony in the past.

While *Lobaria pulmonaria* is in a somewhat vulnerable position, it does not directly face the track. Without drawing undue attention to its presence, helpful residents, justly proud of this handsome lichen, keep a watchful eye.

Specimens seen

Guernsey, unlocalized, 1847, *Rev. T. Salwey*, as *Sticta pulmonaria* (**BM**). This specimen is accompanied by the published account taken from Leighton 1879 and is the Salwey specimen to which Leighton refers. Unlocalized (as 'Sarnia'), det. *C.L. & L.E.C.* as *Sticta pulmonacea* (Collings Collection, tray 13, folder Z).

Jersey: La Coupe, 1867, *CL.*, as *Sticta pulmonacea* (**BM**). This Jersey specimen is at present in the boxed Larbalestier Collection at the BM.

Sark: Moie de Mouton, as *Sticta pulmonaria* (Collings Collection, tray 7, folder P).

Teloschistes

Teloschistes chrysophthalmus was discovered in November 2007 by Charles David in Guernsey on blackthorn at Jerbourg. This species was known in the nineteenth century, found on branches of apple trees in Guernsey, Jersey and Sark. The lichen had been considered extinct in the Channel Islands because there had been no modern records and that found in Jersey in 1966 is presumed lost. This new find in Guernsey in late 2007 is the sole current record for the Channel Islands. *T. flavicans*, known from Alderney, Guernsey, Jersey and Sark in the nineteenth century, is found only in Guernsey and Sark today.

The first published records of *Teloschistes chrysophthalmus* and *T. flavicans* (as *Physcia chrysophthalma* and *P. flavicans*, respectively) appear in the lichen lists of Ansted and Latham's *The Channel Islands* (1862). Charles Larbalestier provided these authors with records of both species for Jersey, as did Louisa Collings for Guernsey. At this time there were no published records of lichens in Sark, although it was recognised as potentially rich. Neither *Teloschistes* species had been noted by Babington in his *Primitiae Florae Sarnicae* (*Appendix* of 1839) which included Gosselin's earlier list of 1788. Marquand in *The Flora of Guernsey and the Lesser Channel Islands* (1901) listed both species for Guernsey on p. 286: *'Physcia chrysophthalma*, L. Guernsey (Crombie).' and '*Physcia flavicans*, Sw. Rare: always on rocks, never on trees in these islands. Thinly scattered all along the southern cliffs from Jerbourg to Pleinmont'. For Sark, Marquand (p. 443) gives: '*P. chrysophthalma*, L. Larbalestier. Crombie. Orchard at (Salwey)' and '*Physcia flavicans* Sw. Crombie, Island of Brechou (Larbalestier)'. (Brechou is considered part of Sark, being separated from it only by the narrow channel of the Gouliot Passage.) Marquand's 1908 list for Sark in his 1923 *Supplement* gives '*Physcia chrysophthalma*, L. Branches of Apple Trees, Sark' In 1901, Marquand also listed for Alderney on p. 399, '*Physcia flavicans*, Sw. On rocks Clanque, Hanging Rock. Chaise à Emauve'.

From the evidence of published records and specimens we can conclude that in the nineteenth century *Teloschistes chrysophthalmus*, although rare in the Channel Islands, was present in Guernsey, Jersey and Sark. *T. flavicans* was recorded from these islands and in addition Alderney; it was probably also rare at this time.

Teloschistes chrysophthalmus is now only known from Guernsey, and *T. flavicans* from Guernsey and Sark. The Guernsey material of the latter species comprises a small cliff community which, since being rediscovered by Bridget Ozanne in 1996, remains stable. Unfortunately, the Sark material survives tenuously in a fragile and threatened heathland community on a mist-prone cliffside. The current distribution in the south-western British Isles of these two oceanic coastal species of *Teloschistes* is of ecological and conservation signficance.

The recent discovery of *Teloschistes chrysophthalmus* in Guernsey may be a random event rather than the beginning of a new trend. It is also possible that more of this lichen is about but inaccessible and not easily noticed in the canopy of rosaceous trees, including apple. However, climate change and increased eutrophication might be favouring its renewed colonisation. In recent sightings of *T. chrysophthalmus*, including those in Ireland (Vince Giavarini, *pers. comm*.) and Herefordshire (Clifford Smith, *pers. comm*.), it has been associated with a corticolous

community, incorporating *Xanthoria* and *Physcia* species, indicating nutrient enrichment.

Other changes, such as habitat destruction (especially reduction in maritime heathland) and development, may be especially detrimental for the establishment and survival of *Teloschistes flavicans*. This species has been reported in a wayside tree canopy (*Fraxinus*) in Pembrokeshire (Peter James, *pers. comm.*) and is an epiphyte in two of 12 south-western coastal core localities studied by Gilbert & Purvis (1996). However, the requirements of *T. flavicans* appear very different from those of *T. chrysophthalmus*. The former is generally associated with rock (saxicolous), often granite, and heathland (terricolous) communities which are reliant on misty, windy maritime conditions such as on exposed headlands, especially on islands of south-western Britain (e.g. the Pembrokeshire islands of Ramsey, Skomer and Skokholm). *Erica* and *Calluna* species, with lichens such as *Cladonia ciliata* var. *tenuis*, *C. furcata*, *Hypogymnia physodes*, *Parmelia saxatilis*, *P. sulcata*, *Parmotrema perlatum*, *Ramalina* species and *Usnea flammea*, help to anchor it in Lundy island along the relatively undisturbed mist-prone western coast. Lundy probably has the most abundant colony (c. 30,000 thalli) of *T. flavicans* in the British Isles (Gilbert & Purvis, 1996). No *T. flavicans* has been found on the more sheltered eastern coast of Lundy. Two factors are critical for the success of *T. flavicans*: a) the site - its preference being windy gulleys along which sea mist regularly blows, and b) appropriate species which will anchor it. At Bull Hole, Skomer, for example, *T. flavicans* was found entangled in the liverwort *Frullania* (Wolseley *et al.*, 1996).

In the Channel Islands, especially in Sark, windswept misty areas most favourable for *T. flavicans* are subject to increasing pressure due to nearby building developments and invasive bracken. Any remaining *T. flavicans* is likely to retreat to inaccessible cliffs in Guernsey and Sark and has probably already done so in Alderney where it may now be extinct.

It would be appreciated if BLS members and surveyors would keep a watchful eye in appropriate habitats for these *Teloschistes* species and report any new records of either to Sandy Coppins (e-mail: lichensel@btopenworld.com) so that their distribution can be monitored.

Specimens seen

Teloschistes chrysophthalmus

Channel Islands: '**Jersey** and **Sark**', on branches of apple trees, 1867, *C. Larbalestier* no. 22 'Crombie Cat. p. 296, *Lich. Caesar. et Sarg.*' as *Physcia chrysophthalma* (**BM**). '**Jersey** and **Sark**', on branches of apple trees, 1867, no. 22 (Collings Collection, tray 14, folder AB) [This specimen is part of the *Exsiccati Lichenes Caesarienses et Sargienses* Fasc. 1 given by Charles Larbalestier as a gift to Mrs Collings in 1867. It would appear to be part of the collection represented by the BM Larbalestier specimen no. 22 of 1867].

Guernsey: unlocalized, 1877, *Salwey* 'Crombie Cat. p. 296' as *Borrera chrysophthalma* (**BM**). Unlocalized, as *Physcia chrysophthalma* (Collings Collection, tray 12, folder Y).

Jersey: St Peter's Valley, 1861, *C. Larbalestier* 'Herb. George Davies. - Reed 1892' as *Physcia chrysophthalma* (**BM**). Rozel, on apple trees, Aug. 1873, *E.M. Holmes* 'Herb. W. Joshua. Crombie Cat. p. 296' as *Physcia chrysophthalma* (**BM**). St. Mary, L'Ecluse; on old apple tree near farm, 12 April 1966 *P.W. James* (**BM**) [site now lost].

Sark: unlocalized, in orchard, 1877, *Salwey* 'Crombie Cat. p. 296' as *Borrera chrysophthalma* (*Parmelia*) (**BM**).

T. flavicans

Alderney: unlocalized, on rocks, 1873, *C. Larbalestier* 'Crombie Cat. p.295.' as *Physcia flavicans* (**BM**).

Guernsey: unlocalized, 1847, *Salwey* (Lichens Sarniens) (**BM**; two duplicates). Unlocalized, on trees and rocks, as *Physcia flavicans* (Collings Collection, tray 12, folder Y).

Jersey: Lacherys Cliffs [the site may be La Chevre], Jan. 1861, *C. Larbalestier* 'Herb. George Davies. - Reed 1892' as *Borrera flavicans* (**BM**). [Miscellaneous early Jersey specimens dated 1864, possibly not collected by Larbalestier, are in the boxes of the Larbalestier Collection at BM. Both species of *Teloschistes* are represented].

Sark: unlocalized, on rocks, 1867, *C. Larbalestier* no. 21 'Crombie Cat. p. 295, *Lich. Caesar. et Sarg.*' as *Physcia flavicans* (**BM**). Unlocalized, as *Physcia flavicans* (Collings Collection, tray 7, folder P). Unlocalized, on rocks (Collings Collection, tray 14, folder AB). [This specimen is part of the *Exsiccati Lichenes Caesarienses et Sargienses* fasc. 1 given by Charles Larbalestier as a gift to Mrs Collings in 1867].

Acknowledgements

Peter Brown and Charles David are commended on their discoveries of *Lobaria pulmonaria* and *Teloschistes chrysophthalmus*, respectively, which they immediately reported to the British Lichen Society. Peter James, Barbara Hilton and Pat Wolseley are gratefully thanked for their helpful comments and reading of the manuscript, and Sandy Coppins for agreeing to co-ordinate records. Curators Alan Howell (Guernsey Museum and Art Gallery) and Scott LaGreca (BM) are thanked for help with herbarium specimens.

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An image of Lobaria pulmonaria from the Channel Islands may be found in the colour centrespread.

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Churchyard News

As with most people, when given a choice between good news and bad, I prefer to get the bad news out of the way first, followed by the good. The curse of "Health and Safety" issues related to churchyards continues to raise its discomforting head and to generate deplorable news. It has now become such a regular feature of the management of churchyards and particularly of municipal cemeteries that I have become weary of sending letters to local authorities reminding them of their environmental and social responsibilities when they threaten to lower headstones or "make safe" memorials.

A large section of Welford Road Cemetery within the City of Leicester was recently enclosed in offensive orange safety netting and galvanised fencing (both new and expensive) embellished with the usual rash of warning notices attached to wooden stakes (again new and, to add insult to injury, tanalised!). The Council, having been refused permission by The Ecclesiastical Court to "lay down" significant numbers of gravestones, was making safe the memorials by barring public access. It seems as though nothing is able to squeeze money out of the ratepayers' pockets more effectively than "Health and Safety" issues. Not to be put off I climbed through the barrier and was later caught by the cemetery authorities "risking life and limb" within this danger zone. Feeling irascible and donning my eco-warrior persona, I was left to my studies when I pointed out that I was prepared to be prosecuted rather than move! What happened to the "need for a sensitive approach" stated in a Home Office report of January 2004 on Burial law etc. or the possibility of "the over-reaction to unsafe gravestones potentially causing great distress" outlined by Anne McGuire in 2005, then Under-Secretary of State for Work and Pensions?

Churchyard Sub-committee meeting 2007

Having relieved myself of this gripe I turn to much pleasanter matters. The Churchyard Sub-committee convened their 2007 meeting on the Llyn peninsula, a delightful part of North Wales, with picturesque churches of mainly igneous rocks and hard slates and sandstones, but also with an abundance of lime mortar. Although we were side-tracked for a day mapping *Teloschistes flavicans* on Mynydd Perafynydd

peninsula we did manage to visit eight churches in almost as many hectads. As is to be expected from a peninsula site there was some marine influence—*Caloplaca marina* (at Criccieth Church) and *Caloplaca maritima* at a number of other sites, but there were other, more important, discoveries. *Parmelina pastillifera,* on roofing slates at St Tudwens (first record on a church in the UK—although it has been recorded from trees within other yards), required some ingenuity in its sampling and determination, but of far more significance, *Llimonaea sorediata,* a pinkish "*Dirina* look-alike," was found by Steve Chambers on two stone blocks high on the north wall. It was a case of found and saved. Two locals, visiting the church during our survey, informed us that the north wall was soon to be rendered and whitewashed—a condition of the maintenance grant. We pleaded the conservation case—the first churchyard site in the UK, very few records in Wales, etc. etc. They appeared interested, then concerned, and finally seemed motivated to do something about it and, following a letter to the diocese, I received reassuring notification and church photograph from them saying that only the old mortar was to be raked-out and replaced. As often happens with new finds, it leads to expectation, and to further discovery—*Llimonaea* was also found at St Gwynhoedl, low down within a slate ventilation opening, again on the north wall; and on the Mynydd Perafynydd peninsula. I have notes for several churches in Derbyshire and Staffordshire with "pink *Dirina*" and the walls of Perranuthnoe church in Cornwall also support "pink *Dirina*" in abundance. If the inland records are *Llimonaea* (I will revisit the sites during the summer) then the species may be expected to turn up in other areas. Consequently, to raise awareness, the table below summarises the differences between *Llimonaea* and *Dirina.*

A Comparison of *Llimonaea sorediata* and *Dirina massiliensis* f. *sorediata*
Both species are rarely fertile so the comparison is limited to asexual characteristics, thallus morphologies and habitat preferences. Information about *Llimonaea* is from *Lichenologist* **39**(4): 309-314 (2007).

	Limonaea sorediata	*Dirina massiliensis* f. *sorediata*
Thallus	Thin, 0.25-0.3 mm, smooth to slightly uneven with areoles 0.1-0.5 mm diam	Thicker, 0.6-1.6 mm, more knobbly with areoles 1-2mm diam
Colour	Pale creamy white (soft pink soralia)	Pale brown-grey often with violet tinge
Prothallus	Conspicuous as dark brown-blackish rim to thallus	Inconspicuous when on calcareous stone. Pale brown on acid stone.
Soralia	Soft pink when fresh fading to white, farinose	Grey-brown, larger, 0.5-1.8 mm diam
Habitat	Vertical acid cliffs in coastal areas with exposed westerly aspect. Stone walls	Widespread on calcareous stone and mortar esp. N and E side of churches, Rarely on siliceous stone

I am one who firmly believes that any enclosed trees are part of the churchyard habitat and that any epiphyte records should be included in the total for the yard (if only because trees, in many Victorian yards, may be older than the building itself). This has led, at times, to some interesting philosophical discussion amongst colleagues as to whether tree branches, fallen outside the yard, should likewise be included, or perhaps thrown back and then included (taking a legal view of trees

overhanging adjacent property). The reason for these remarks is that *Anisomeridium robustum* ad int. (previously found by Alan Orange during the Pembrokeshire field meeting of 2005: see BLS Bulletin No 97, p. 22) was recorded on an ash at St Tudwens — another discovery by Steve Chambers. Other new records for churchyards in the UK, recorded during the meeting, included *Lecanora ecorticata*, on the access wall to Penmorfa church and the lichenicolous fungus *Dactylospora parellaria* on *Ochrolechia parella* at Pistyl.

The meeting on the Llyn peninsular was a delight from start to finish, with days of warm sunshine and breathtaking sunsets across a flat calm Irish Sea (looking out for the final "Green Flash"). The hospitality we received at "The Welsh Language and Heritage Centre" at Nant Gwrtheyrn was outstanding—when we could understand what they were saying! This comprises a modernised quarry village enclosed within a cirque of rearing granite walls, with the cry of Choughs above and the wash of the sea below. It would make a wonderful, evocative site for a general field meeting. This year Sheila Street is to host our meeting on the Isle of Wight, to which we are all looking forwards.

Other News

During the autumn field meeting in Charnwood Forest members visited Swithland church and were shown fertile *Psilolechia leprosa* growing below the copper canopy of the porch light..This is a common metallophyte in the Midlands, usually associated with copper run-off from conductors and window grills etc. It has never been recorded fertile in any of the Midland counties — and most of the parish churches have now been surveyed — so this site may well be unique. Brian Coppins named *Buellia badia* growing on a north-facing windowsill. This was new to the county of Leicestershire and only the second churchyard record (previously recorded by Francis Rose in Frensham Church, Surrey).

Members of the Churchyards Sub-committee continue to work in their own areas. Mark Seaward has surveyed numerous yards in north and south Lincolnshire (VC's 54 and 53). Joy Ricketts and Clifford Smith have sent in cards from Shropshire (VC 40). Steve Chambers has taken heed of my plea in a previous Bulletin "to go to church more often" particularly in Cardiganshire (VC46). I continue to work my way south in Warwickshire (VC 38), a county with many fine yards. St John Baptist, Berkswell supports close to 120 species and was the yard which confirmed to the BBC that lichens ARE fascinating, ARE breathtaking, ARE "show-stoppers", and more than worthy of being included in the TV series "Nature of Britain." Sadly for St John, sea views were also needed for the final location and so it lost the dignity, if that is the word, of being filmed for a BBC documentary, to St Gennys in Cornwall. But whatever the location, the remarkable allure and wonder of these tenacious organisms were beautifully captured for prime time viewing, if only for a few minutes. Well-done BBC!

Committee members have given a considerable number of talks during 2007. One to the Rutland Natural History Society attracted nearly 70 people and was followed by a wonderful morning at St. Peter, Belton in Rutland Church (see an account under that Societies' web site). A talk at Lichfield Garrick Theatre (to the

Mechanics' Institute) was delivered to well over 150 people, including a group of sixth formers getting to grips with "mutualistic associations" on the back row, as demanded by the A level Biology syllabus! The significant attendance might have been an aberration as the comedian Ken Dodd was playing to a packed audience in the adjacent auditorium and some of his flock might have gone astray. The lichen talk, together with chemical displays, an exhibition of natural dyeing, a section on fine scent appreciation etc. went on (by request) for nearly three hours. Ken Dodd, not to be outdone, went on for over six hours until the early hours of the morning — something for us all to aim for.

Gwent's Living Churchyards Project

This project is based on the successful "Caring for God's Acre Project" in Herefordshire and aims to "increase awareness of the value of Gwent's churchyards, cemeteries and sacred grounds as sites of great importance for wildlife." It is due to run for three years. The Churchyards Sub-committee has been asked for help. Training days, surveys etc. are being pencilled in for this summer and it should prove to be a very interesting and exciting initiative. Gwent has not received much attention in the past; only 10 churches have been surveyed in VC 35 Monmouthshire, the main VC enclosed by this administrative area, and more thorough coverage is long overdue. The 2009 Churchyards meeting may take place in Gwent to give further support to the project.

Staffordshire Churchyard Records

The Staffordshire churchyard records are now available on the Internet in atlas form (Website: Staffordshire Ecological Records/Online atlases etc.). Craig Slawson and his team at the Staffordshire Ecological Records Centre are to be congratulated for the effort involved in inputting all the data into such a clear and accessible form. The atlas also includes records from primary habitats and should be of great use to those visiting the county in the future. There is still much to do in this very interesting but overlooked County.

Putting the records straight

In the excellent account of the Churchyard Sub-committee Somerset meeting in 2006 by Ann Allen — excellent because of its interesting analysis of how records relate to substrata — two errors crept in and have been pointed out by Brian Coppins. I, and not Ann, take the blame. *Opegrapha parasitica* was recorded as growing on *Dirina massiliensis* f. *sorediata*. It only parasitizes *Aspicilia calcarea* or *A. contorta* subsp. *hoffmanniana* and, although *A. calcarea* was also present at the same location it is probably safer to erase the record and leave it for future visitors to determine. *Toninia verrucarioides* was recorded as growing on *Verrucaria nigrescens*. The host was — on further investigation of a collected specimen — *Placynthium nigrum.* It should be pointed out that the more common species of *Toninia* recorded during the meeting, *T. aromatica,* is indistinguishable in the field from *T. verrucarioides* but there is a difference in epithecium colour and chemistry (*T. verrucarioides*, brown-black, N- or faintly violet; *T. aromatica* olive green to bright green, N+ violet.)

And for the future?
Mark Seaward has suggested that the map, originally produced by Tom Chester as part of the Lowlands Churchyard Project, showing hectads in which at least one churchyard has been surveyed, be updated. This will be included in the next Bulletin. It will show the present distribution in the UK of hectads that have been visited, together with squares containing churches that require a visit. It might encourage members to do more work in out-of-the-way churchyards before the price of petrol becomes so expensive that even modest journeys become prohibitive. Does anyone have a well-behaved horse to sell me?

Ivan Pedley

Literature Pertaining to British Lichens - 42

Lichenologist **39**(5) was published on 1 November 2007, **39**(6) on 4 January 2008, and **40**(1) on 29 February 2008.

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

NB. Authors of articles on British and Irish lichens, especially those including records and ecological observations, are requested to send or lend me a copy so that it can be listed here. This is particularly important for articles in local journals and newsletters, and magazines.

AGUIRRE-HUDSON, B., KOKUBIN, T., SPOONER, B.M. & TIBELL, L. 2007. Taxonomy of *Calicium victorianum* (F. Wilson) Tibell (*Caliciaceae*, *Lecanorales*), a lichenized ascomycete new to Europe. *Lichenologist* **39:** 401–407. **Calicium victorianum*, with short-stalked ascomata, is reported from West Sussex.

ALLEN, A. 2007. *Lundy Lichens*. Lundy: Lundy Field Society (www.lundy.org.uk). Pp 48. ISBN 0-9530532-9-6. An illustrated guide, with about 50 colour photos, to 50 lichens (and their habitats) growing on this island, off the north coast of Cornwall.

AHTI, T. ET AL. 2007. *Nordic Lichen Flora Vol. 3, Cyanolichens*. Uppsala: Museum of Evolution, Uppsala University on behalf of Nordic Lichen Society. Pp 219. ISBN 978-91-85221-14-1. Includes chapters by: P.M. JØRGENSEN on *Arctomiaceae* (pp 9–11), *Coccocarpiaceae* (pp 12–13), *Collemataceae* (pp 14–42), *Heppiaceae* (pp 43–45), *Lichinaceae* (pp 46–76), *Massalongiaceae* (pp 87–90), *Pannariaceae* (pp 96–112), *Peltulaceae* (pp 132–133) and *Placynthiaceae* (pp 134–142); by P.M. JØRGENSEN & T. TØNSBERG on *Lobariaceae* (pp 77–86); O. VITIKAINEN on *Nephromataceae* (pp 91–95) and *Peltigeraceae* (pp 113–131). Dot maps by 'county' are provided for all species (pp 147–170), and most species are illustrated by colour photographs (pp 171–209). An appendix (pp 143–146) lists nomenclatural novelties, which are mostly typifications, but includes a few new combinations. New typifications (as epitypes or lectotypes)

using localized British collections are: *Collema auriforme*, *C. crispum*, *C. cristatum* var. *marginale*, *C. fuscovirens, C. nigrescens*, *Leptogium gelatinosum*, *L. saturninum* ["Glen Lovhay" should read "Glen Lochay"], *Lichina pygmaea*, *Lobaria scrobiculata*, *Sticta fuliginosa*, *Peltigera didactyla*, *P. horizontalis* and *Placynthium lismorense*. Name changes applicable to the British flora include: *Placynthium dolichoterum* (Nyl.) Trevis. (1869) (syn. *P. pluriseptatum*); and *Pterygiopsis concordatula* (Nyl.) P.M. Jørg. (2007) (syn. *P. coracodiza*). *Leptogium byssinum*, with its entirely paraplechtenchymatous thallus anatomy and prototunicate asci, is shown to belong to the genus *Epiphloea* Trevis. (1880) in the *Heppiaceae*, with the new combination *E. byssina* (Hoffm.) Henssen & P.M. Jørg. (2007). *Thrombium thelostomum* (Ach. ex J. Harriman) A.L. Sm., originally described from Co. Durham, is said to be probably conspecific with *Pyrenocarpon flotowianum* (Hepp) Trevis. (1855) in the *Lichinaceae*.

BYLIN, A., ARNERUP, J., HÖGBERG, N. & THOR, G. 2007. A phylogenetic study of *Fuscideaceae* using mtSSU rDNA. *Bibliotheca Lichenologica* **96:** 49–60. The *Fuscideaceae* comprises *Fuscidea* and [the non-British] *Maronea*, and is referred to the order Umbilicariales. *Ropalospora* is shown not to be closely related to *Fuscidea*, and the family *Ropalopsporaceae* is reinstated and tentatively placed in the Umbilicariales.

CLARK, S.J., HENDERSON, I.F., HILL, D.J. & MARTIN, A.P. 1999. Use of lichen secondary metabolites as antifeedants to protect higher plants from damage caused by slug feeding. *Annals of Applied Biology* **134:** 101–108. Extracts of 15 lichen species were tested for antifeedant properties against the field slug *Deroceras reticulatum*. Two of the least effective lichens have endolithic thalli (*Clauzadea metzleri* and *Staurothele caesia*), suggesting that these species have little need of chemical protection from grazing. The most effective lichen was the non-British *Letharia vulpina*.

CREWE, A.T., PURVIS, O.W. & WEDIN, M. 2006. Molecular phylogeny of *Acarosporaceae* (*Ascomycota*) with focus on the proposed genus *Polysporinopsis*. *Mycological Research* **110:** 521–526. *Acarospora* as currently delimited is not monophyletic, and neither *A. smaragdula* nor *A. badiofusca* belong in the genus in its strict sense. The genus *Polysporinopsis* Vězda in not acceptable, because its type species, *A. sinopica*, belongs to the main clade of *Acarospora* s.str.

FRISCH, A., LANGE, U. & STAIGER, B. 2007. Lichenologische Nebenstunden. Contributions to lichen taxonomy and ecology in honour of Klaus Kalb. *Bibliotheca Lichenologica* **96:** i–xiii, 1–343. Of the 27 contributing papers, several are of relevance to British and Irish lichens, and these are entered separately.

GUEIDAN, C., ROUX, C. & LUTZONI, F. 2007. Using a multigene phylogenetic analysis to assess generic delineation and character evolution in *Verrucariaceae* (*Verrucariales, Ascomycota*). *Mycological Research* **111:** 1145–1168. An analysis of 83 taxa, representing all main genera of the family. This study clearly shows the polyphyletic nature of many of 'traditional' genera, especially *Verrucaria*. Morphology is not forgotten, and a valuable discussion of characters, together with colour sections of thallus structure, is provided. Although not yet used on the British list, the genera *Bagliettoa* and *Placidium* are shown to be

monophyletic. Few nomenclatural innovations are made here, but these are likely to soon be forthcoming [watch this space!].

HAFELLNER, J. 2007. The lichenicolous fungi inhabiting *Tephromela* species. *Bibliotheca Lichenologica* **96:** 103–128. Taxa occurring in the British Isles are the lichenicolous lichens *Carbonea assimilis*, *Lecanora sulphurea* and *Rimularia furvella*, and the non-lichen-forming *Lichenodiplis lecanorae* s. lat., *Marchandiomyces corallinus*, *Muellerella atricola* and *Skyttea tephromelarum*. *Muellerella atricola* (Linds.) Sacc. & D. Sacc. (1905) has usually been treated as a synonym of *M. lichenicola*. Its basionym, *Microthelia atricola* Linds., is neotypified with a collection from Co. Kerry, as the original material (also from Kerry) is apparently lost. *Skyttea tephromelarum* Hafellner & Kalb (1988) is often considered a synonym of *S. elachistophora*, but the host of the type specimen of that taxon is *Tylothallia biformigera*.

JØRGENSEN, P.M. 2007 – see AHTI, T. ET AL. 2007 (above).

JØRGENSEN, P.M. & TØNSBERG, T. 2007 – see AHTI, T. ET AL. 2007 (above).

LLOP, E. 2007. *Lecanorales. Bacidiaceae I. Bacidia y Bacidina*. [*Flora Liquenológia Ibérica*]. Barcelona: Sociedad Española de Liquenología. 49 pp. ISSN 1696-0513. Includes keys and descriptions to Iberian species of *Bacidia* s. lat., and the new combination *Bacidina caligans* (Nyl.) Llop & Hladun (syn. *Bacidia caligans*).

LÜCKING, R., BUCK, W.R. & RIVAS PLATA, E. 2007. The lichen family *Gomphillaceae* (Ostropales) in eastern North America, with notes on hyphophore development in *Gomphillus* and *Gyalideopsis*. *Bryologist* **110:** 622–672. *Gomphillus calycioides* and *Jamesiella anastomosans* [syn. *Gyalideopsis anastomosans*] are included in this treatment, including photos of the young and mature isidioid hyphophores ('thlasidia') of the latter.

LUMBSCH, H.T., SCHMITT, I., MANGOLD, A. & WEDIN, M. 2007. Ascus types are phylogenetically misleading in *Trapeliaceae* and *Agyriaceae* (*Ostropomycetidae*, *Ascomycota*). *Mycological Research* **111**: 1133–1141. Although the ascus structure in *Agyrium* is very like that of *Trapelia*, molecular studies show that they are not related. Hence, *Agyrium* is retained in the *Agyriaceae*, but the *Trapeliaceae* is reinstated for *Trapelia* and related genera such as *Lithographa*, *Placopsis*, *Placynthiella*, *Ptychographa*, *Rimularia* and *Trapeliopsis*. The genus *Ainoa* is shown to be more closely allied to the *Baeomycetaceae*.

MAYRHOFER, H. & SHEARD, J. 2007. *Rinodina archaea* (*Physciaceae*, lichenized Ascomycetes) and related species. *Bibliotheca Lichenologica* **96:** 229–246. *Rinodina orculariopsis* is confirmed as a synonym of *R. sicula* H. Mayrhofer & Poelt (1979).

NORDIN, A., TIBELL, L. & OWE-LARSSON, B. 2007. A preliminary phylogeny of *Aspicilia* in relation to morphology and secondary product variation. *Bibliotheca Lichenologica* **96:** 247–266. Three major monophyletic groups were discovered: (1) large spores, short conidia and usually containing aspicilin (e.g. *A. calcarea*, *A. caesiocinerea* and *A. contorta*); (2) small spores, variable chemistry and conidial length (e.g. *A. simoënsis*); (3) spores of variable size, conidia of medium length and containing β-orcinol depsidones (e.g. *A. cinerea*, *A. epiglypta* and *A. laevata*). The problems concerning the difficulties in separating *A. grisea* and *A. simoënsis* are mentioned.

OBERMAYER, W. & MAYRHOFER, H. 2007. Hunting for *Cetrelia chicitae* (Lichenized Ascomycetes) in Eastern European Alps. *Phyton* **47:** 231–290. A detailed study of the *Cetrelia olivetorum* complex in Eastern Europe. [This paper provides valuable chemical and morphological information and discussion to a group not yet well 'resolved' in the British Isles].

SCHOLZ, P. 2007. Lichen distribution maps: a World index and bibliography. *Haussknechtia*, *Beiheft* **14:** 1–379. An index and bibliography of published distribution maps, containing 48,330 datasets from 2283 literature sources. There is no index to country or region, but in the bibliography the number and geographical scope of the maps is given for each reference. Added, searchable (including by geographical area) information is available on the internet at www.gbif-mycology.de/DatabaseClients/GBIFlichenmaps/GBIFlichenmapsFind.cfm.

SCHULTZ, M. 2008. *Metamelaena umbonata* new to British Isles. *Lichenologist* **40:** 81–83. A few collections (from Angus and Perthshire) previously referred to *Poroscyphus coccodes* have been found to belong to **Metamelaena umbonata* Henssen (1989), in the genus **Metamelaena* Henssen (1989).

SEAWARD, M.R.D. 2007. Lichens of Offaly. In FEEHAN, J. (ed.) *County Offaly: The State of the Wild*, pp 36–37. Tullamore: Offaly County Council. A checklist of 271 taxa for this under-recorded county.

SEAWARD, M.R.D. 2007. Mosses, liverworts and lichens. *Trans. Lincs. Nat. Un.* **26:** 246–247. Enumeration of new county and divisional records for Lincolnshire.

SHEPPARD, M. 2007. A liking for lichen. *ICON News*, November 2007: 22–26. A plea for greater consideration when treating external stone (e.g. gravestones) covered in microbiological growth. This well-illustrated, semi-popular article highlights the importance of lichens in protecting stonework, in addition to their intrinsic scientific and aesthetic interest. The journal is the newsletter for the Institute of Conservation.

SPARRIUS, L. & APTROOT, A. 2007. A new lichenicolous *Enterographa* species from Brittany (France). *Lichenologist* **39:** 315–317. Original description and illustrations of *Enterographa brezhonega* Sparrius & Aptroot, a parasite of *Porina rosei* [since discovered in the New Forest, Hampshire].

TÕRRA, T. & RANDLANE, T. 2007. The lichen genus *Usnea* (lichenized Ascomycetes, *Parmeliaceae*) in Estonia with a key to the species in the Baltic countries. *Lichenologist* **39:** 425–438. Includes descriptions, keys, illustrations and discussion on characters of much value to British lichenologists.

VITIKAINEN, O. 2007 – see AHTI, T. ET AL. 2007 (above).

B J Coppins
Royal Botanic Garden Edinburgh

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 1QY, in the format of species, habitat, locality, VC no, VC name [nomenclature to follow BLS *Bulletin* 79, which is based on the Biological Record Centre 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 users], 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 by e-mail, my address is cjbh.orchldge@freeuk.com, or if not, then typescript. Copy should reach the subeditor at least a fortnight before the deadline for the *Bulletin*. *Please read these instructions carefully*.

New to the British Isles

Byssoloma diederichii Sérus. (1998): on leaves of *Camellia*, "Wake-Walker Wood", East Bergholt, VC 25, East Suffolk, GR 62(TM)/06-35-, December 2007. Herb. P.M. Earland-Bennett (**E**) and C.J.B. Hitch R17. Determined by E Sérusiaux. The apothecia of this species are often absent, as in these collections. However, it has numerous bluish grey pycnidia (colour most evident when damp), 50–100 µm diam, with bacilliform conidia 3–4 × 1.2–2 µm in size, growing on a thin, inconspicuous slightly scurfy, grey-green thallus. The pycnidial wall is blue-green (N+ red). In the Suffolk collection (in **E**), the minute black pycnidia of *Arthonia muscigena* are also present. The bacilliform conidia are distinct from the pyriform or soleiform conidia of the other British species of *Byssoloma*. The pycnidia are rather like those of *Fellhaneropsis myrtillicola*, but the microconidia of the latter are much narrower (4–8 × 0.5–1 µm). This species is otherwise known from northeast and central France, northeast Spain and Madeira, where it has been recorded mostly on the leaves (occasionally twigs) of *Buxus*. For original description and discussion, see Sérusiaux (*Cryptogamie, Bryol. & Lichénol.* **19:** 197–209, 1998). **BLS no. 2497**.

P.M. Earland-Bennett & C.J.B. Hitch

Endococcus verrucosus Hafellner (1994): on thallus of *Aspicilia grisea*, on low outcrop on south side of Afon Pysgotwr Fach, Allt Rhyd-y-groes NNR, VC 44, Carmarthenshire, GR 22(SN)/7547.4884, alt 200 m, October 2007. Herb. Coppins 22431 (**E**). The spores in the Welsh collection long remain pale brown, measuring 12–14 × 7–8.5 µm, and have a warted surface; the spore wall swells to 1–1.5 µm wide

in K and has a distinctly granular appearance. Not to be confused with *E. verrucosporus* Alstrup, which has smaller, darker spores and parasitizes *Ionaspis lacustris*. For description and illustrations see Hafellner (*Herzogia* **10:** 1–28, 1994). **BLS no. 2487**. *B.J. Coppins, J.R. Douglass & R.G. Woods*

Enterographa brezhonega Sparrius & Aproot (2007): lichenicolous on thinly isidiate *Porina rosei* thalli, frequent over about 200 × 100 mm of bark and scattered over several square metres, on post-mature *Quercus petraea*, in *Quercus petraea – Fagus – Ilex* pasture woodland, Great Wood, Bramshaw, New Forest, VC11, South Hampshire, GR 41(SU)/2559.1556, February 2008. Herb. Sanderson 1075 (**BM**). Confirmed by L. Sparrius, from photograph & description. Associated species included the lichens *Agonimia octospora*, *Biatora epixanthoides*, *Catinaria atropurpurea*, *Dimerella lutea* and *Thelopsis rubella* and the bryophytes *Zygodon rupesteris*, *Homalothecium sericeum*, *Metzgeria furcata*, *Hypnum andoi* and *Hypnum resupinatum*. Very unlike other British members of the genus, this lichenicolous species consists solely of lirelliform, often branched apothecia 0.1–0.6 mm long scattered across the host thallus. These occur mainly in 0.2–0.5 mm diameter pseudostromata formed from 2–5 apothecia twisted together. The pseudostromata have a white pruina. Asci 4-spored with ascospores (12–)15–20 x 2.5–3 µm, (4–)6–septate. The small pseudostromata could be easily overlooked for myxomycete fruits, but, if looked at closely, the convoluted white lirellae are highly distinctive, and very attractive. Previously only recorded from the type locality in Brittany in similar old growth habitat, but to be expected in other sites with large populations of *Porina rosei*. See Sparrius & Aproot (*Lichenologist* **59**: 315–318, 2007). Photograph at http://www.uklichens.co.uk/. **BLS no. 2491**.

N.A. Sanderson

Lecidea pullata (Norman) Th. Fr. (1874): on *Juniperus*, Meikle Cairn, 4 km southwest of Cabrach, VC 93, North Aberdeenshire, GR 38(NJ)/420.254, alt 430 m, October 2005, Ellis L400 (**E**). Confirmed by Tor Tønsberg. A sorediate crust with a bluish grey prothallus and punctiform (mostly *ca* 0.1 mm diameter) pale green or brown-tinged soralia with farinose soredia. Chemical reactions negative, except for being UV+ white, and contains sphaerophorin and ± isosphaeric acid. For sterile material TLC is recommended for separation from some forms of *Lecidea nylanderi* (divaricatic acid) and *Mycoblastus caesius* (perlatolic acid). The convex, blackish, often bluish-pruinose apothecia of this species are not present on the Scottish specimen, but are not uncommon in material from Scandinavia. For full description see Tønsberg (*Sommerfeltia* **14:** 1–331, 1992). **BLS no. 2488**. *C.J. Ellis & B.J. Coppins*

Micarea vulpinaris (Nyl.) Muhr (1987): on hard lignum of pine stump splashed by water, just south of footbridge on west bank of Lui Water, Braemar, VC 92, South Aberdeenshire, GR 37(NO)/06-91-, alt 395 m, September 2004. Palice 9633 in E. Confirmed by B J Coppins. Elsewhere known only from Scandinavia, Belgium and the Czech Republic. For detailed description and illustrations see Coppins (*Bull. Brit. Mus. (Nat. Hist.)* **11**(2): 17-214, 1983), as *M. muhrii*. **BLS no. 2489**. *Z. Palice*

Pronectria oligospora Lowen (1995): on thallus of *Punctelia subrudecta* on *Fraxinus* trunk (veteran tree #6), Nettlecombe Park, Exmoor, VC 5, South Somerset, GR 31(ST)/05-37-, alt 150 m, January 2008. Herb. Coppins 22508 (**E**). Perithecial wall orange, K–; asci 4- to 5-spored; ascospores 1-septate, multiguttulate, smooth-walled, 14.5-18 × 4-5.5 µm. For full description see Lowen (*Mycotaxon* **53:** 81–95, 1995). **BLS no. 2492**. *B.J. Coppins*

Reconditella physconiarum Hafellner & Matzer (1990): on thallus of *Physconia distorta*, Dundonnell Estate, VC 105, West Ross, GR 28(NH)/115.851, alt 50 m, November 2007. Herb. Coppins 22460 (**E**); *ibid*., 28(NH)/110.861. Herb. Coppins 22477 (**E**). Elsewhere reported from Austria, Croatia, Portugal and Sweden. Recognized by its rather large (0.2–0.5 mm diameter), sessile perithecia and simple, pale brown ascospores 15-21 × 6-10 µm in size. For description and illustrations see Matzer & Hafellner (*Bibliotheca Lichenologica* **37**, 1990). **BLS no. 2490**. *B.J. & A.M. Coppins*

Roselliniopsis ventosa (Rostr.) Alstrup (1994): (i) on thallus of *Placopsis lambii*: Feith Dhomhnuill Mine, *c*. 7 km northeast of Strontian, VC 97, West Inverness-shire, GR 17(NM)/86-66-, alt 240-260 m, June 1992. Herb. Coppins 15343 (**E**); (ii) The Storr, Trotternish Ridge, Skye, VC 104, North Ebudes, GR 18(NG)/502.536, alt 330 m, May 2005. Herb. Coppins 22216 (**E**); (iii) no locality, "com. Dickson [James Dickson] Menzies Herbarium" (**E**). Characterized by its 8-spored asci with uniseriate ascospores, brown, non-septate ascospores with a pore at each end, 10–13(–14) × (8–) 9–11 µm. *Roselliniopsis gelidaria*, also on *Placopsis* spp., differs in having 4-spored asci with septate ascospores. For discussion and notes see Alstrup *et al*. (*Ann. Soc. Sci. Faeroensis* **40:** 104–105, 1994). **BLS no. 2493**. *B.J. Coppins*

Other Records

Abrothallus welwitschii: on *Sticta limbata* on horizontal *Salix caprea* bough in sheltered valley-floor woodland, Cwm Wyre, VC 46, Cardiganshire, GR 22(SN)/569.702, alt 70 m, January 2008. Herb. SPC. New to Cardiganshire. *S.P. Chambers*

Alectoria sarmentosa subsp. ***sarmentosa***: on *Betula* in riparian woods along tributary of Rhiddorroch river, Rhiddorroch SSSI, Glen Achall, near Ullapool, VC 105, West Ross, GR 28(NH)/2576.9310, August 2007. Field record. Previously recorded by Francis Rose in 1991 on birch at Glen Achall at GR 28(NH)/25.93 and GR 28(NH)/24.93. *A. Griffith*

Anisomeridium ranunculosporum: on *Quercus* in ancient pasture woodland at Killary Bay Little, VC H16, West Galway, GR 02(L)/7758.6328, September 2007. Field record. Rare in Ireland and appears to be new to Co. Galway. *A. Acton*

Anisomeridium viridescens: (i) on old *Corylus* bushes in overstood coppice, Old House Copse, VC 7, North Wiltshire, Spye Park, GR 31(ST)/9480.6678, February 2008; (ii)

Upper Selves Wood, *ibid*. 31(ST)/9440.6716, February, 2008. Herb. Sanderson 1098. See notes below. *N.A. Sanderson*

— — (iii) widespread on old *Corylus* bushes in abandoned pasture woodland on greensand undercliff, Bonchurch Landslip, VC 10, Isle of Wight, GR 40(SZ)/58-78-, February, 2008. Herb. Sanderson1117. Two new vice-county records for an under recorded black dot. *N.A. Sanderson*

Arthonia arthonioides*:* on *Alnus* at Rhiddorroch SSSI, Glen Achall, VC 105, West Ross, GR 28(NH)/2487.9269, September 2007. A nationally scarce species that is rare this far north. *A. Acton*

— —*:* on birch at Inverpolly SAC/SSSI, VC 105, West Ross, GR 29(NC)/0720.1840 and GR 29(NC)/1096.1202, October 2007. The most northerly British records according to NBN. *A. Acton*

Arthonia ligniaria: on lignum of fallen *Pinus* branch, Binning Wood (NW), VC 82, East Lothian, GR 36(NT)/59-80-, alt 10 m, October 2007. Herb. Coppins 22504 (**E**). New to the Lothians. *B. J. Coppins*

Arthonia vinosa: (i) on lignum of *Pinus* bone, Coulin Pinewood SSSI, VC 105, West Ross, GR 28(NH)/0063.5550, Herb. Acton AA000191; (ii) on bark plate of dead *Pinus* snag, 28(NH)/0071.5545, both February 2007. Herb. Acton AA000189 in E. Unusual substrata for this species, which is usually found on the bark of deciduous trees. *A. Acton & A. Griffith*

— —*:* on bark of old open-grown *Pinus* at Strathvaich pinewood, Beinn Dhearg SSSI, VC 106, East Ross, GR 28(NH)/3421.7676, September 2007. An unusual substratum for this species *A. Acton*

Arthophacopsis parmeliarum: on *Parmelia sulcata*, Talladale Gorge SSSI, VC 105, West Ross, GR 18(NG)/91-70-, alt 15–20 m, November 2007. Herb. Coppins 22498 (**E**). New to West Ross. *B.J. Coppins*

Arthopyrenia subcerasi: on *Betula pubescens* var. *tortuosa*, in rocky old growth *Betula* pasture woodland, east side of Creag Ghuanach, Loch Treig, VC97, West Inverness-shire, GR 27(NN)/3011.6800, 290 m, May 2007. Determined by N A Sanderson. Herb. Sanderson 1054. A new vice-county record for this rarely recorded Near Threatened RDB species. *N.A. Sanderson, A.M. Cross & P. Aspen*

Bachmanniomyces uncialicola: on *Cladonia uncialis* subsp. *biuncialis*, Black Tor Copse NNR, VC 4, North Devon, GR 20(SX)/564.892, alt *c* 370 m, March 2003. Herb. B.J. & A.M. Coppins 20811 (**E**). New to England. *B.J. & A.M. Coppins*

— —: on *Cladonia uncialis* subsp. *biuncialis* with *Pseudevernia furfuracea* agg., *Cladonia diversa* and *Ochrolechia frigida*, Great Shunner Fell, near Hawes, VC 65, North-west Yorkshire, GR 34(SD)/85-96-, alt 670 m, August 2007. Herb. Henderson. Determined by A. Henderson. New to Yorkshire and second record for England. *D.R. Grant*

Bacidia incompta: on wound tracks on bark and lignum of two ancient hollow *Fraxinus*, in sheltered valley in ancient parkland, Spye Park, VC 7, North Wiltshire, GR 31(ST)/9530.7637 & 31(ST)/9530.6721, February, 2008. Herb. Sanderson 1085. Recorded from one *Fraxinus* in 2003 by Simon Davey, this population was refound, and a second population located in 2008. Spye Park now joins the handful of sites outside the New Forest with more than one tree supporting this Vulnerable RDB and BAP species. *N.A. Sanderson*

Biatoridium delitescens: in rough bark fissures on trunk of *Fraxinus excelsior* in sheltered valley-floor woodland, Cwm Wyre, VC 46, Cardiganshire, GR 22(SN)/57-70-, alt 80 m, January 2008. Herb. SPC. Second Welsh record and new hectad from same valley woodland complex where first found in 1994 (22(SN)/55-69-. See NRI, *BLS Bulletin* **75** p. 35). *S.P. Chambers*

Calicium lenticulare: on *Quercus* lignum (of fallen phoenix oak) in woodland at Kentra Bay and Moss SSSI, VC 97, West Inverness-shire, GR 17(NM)/649.673, May 2007. Herb. Acton AA000197. *A. Acton & A. Griffith*

Caloplaca cerinella: on sunny *Sambucus* twigs, Wharram Percy mediaeval derelict village (English Heritage site), Malton, VC 61, South-east Yorkshire, GR 44(SE)/85-64-, September 2007. Herb. Hitch H40. New to Yorkshire.
A. Henderson & C.J.B. Hitch

Caloplaca lucifuga: on trunk of *Quercus* tagged 02398; by sawn off bough, Cawdor Wood SSSI, VC 96, East Inverness-shire, GR 28(NH)/8417.4885, October 2007. Herb. Coppins 22500 (**E**). New to Inverness-shire, third and furthest north Scottish record. *B.J. Coppins, A.M. Coppins & D. Genney*

Caloplaca ulcerosa: with apothecia, on trunk of large *Ulmus* (girth 3.35 m) in pasture, Dundonnell Estate, north of Dundonnell House, VC 105, West Ross, GR 28(NH)/110.861, alt 30 m, November 2007. Herb. Coppins 22473 (**E**). New to West Ross and the north-west Highlands. *B.J. & A.M. Coppins*

Catillaria nigroclavata: on trunk of mature *Populus tremula*, on edge of overstood coppice, Briddlesford Copse, VC 10, Isle of Wight, GR 40(SZ)/5480.9045, May 2007. Herb. Sanderson 1019. Confirmed by B.J. Coppins. New to the Isle of Wight.
N.A. Sanderson

Catillaria nigroclavata: on trunk of *Populus tremula*, in *Populus tremula* grove in upland *Fraxinus – Corylus* pasture woodland, above Seathwaite Bridge, VC 70, Cumberland, GR 53(NY)/23812.12946 ±18m, alt 235 m, May 2007. Herb. Sanderson 1020. Confirmed by B.J. Coppins. New to northern England. *N.A. Sanderson & A.M. Cross*

Chaenotheca chlorella: on strip of lignum exposed on old *Quercus*, in former pasture woodland, Waggoners Wells, VC 12, North Hampshire, GR 41(SU)/8597.3424, January 2008. First record for Hampshire for this Near Threatened RDB species.
N.A. Sanderson

Chaenothecopsis retinens: on *Schismatomma cretaceum* on *Quercus*, Ashclyst Forest, VC 4, North Devon, GR 20(SX)/997.986, February 2008. B. Benfield (**E**). Determined by B.J. Coppins. Third British record. *B. Benfield*

Chaenothecopsis savonica: on lignum inside ancient hollow *Fraxinus*, sheltered valley in ancient parkland, Spye Park, VC 7, North Wiltshire, GR 31(ST)/9530.7637, February 2008. Herb Sanderson 1092. First record for southern England for this Near Threatened RDB species. *N.A. Sanderson*

Chrysothrix chrysophthalma: on a decorticate Scots pine at Callop pinewood above Loch Shiel, Ardgour Pinewoods SSSI/SAC, VC 97, Westerness GR 17(NM)/9197.7716, April 2007. This species was previously known only from the woodlands in the Cona Glen section of the Ardgour Pinewoods SSSI. *A. Acton*

— —: (i) on *Quercus* lignum in woodlands at Kentra Bay and Moss SSSI, VC 97, West Inverness-shire, GR 17(NM)/649.673, May 2007. Herb. Acton A000197; (ii) on tree stump at Laudale woods, Sunart SSSI/SAC, VC 97, West Inverness-shire, GR 17(NM)/7529.5948, June 2007. Herb. Acton A000225; (iii) on pine stumps in pinewood at Rhiddorroch SSSI, Glen Achall, VC 105, West Ross, GR 28(NH)/2473.9274 (one stump), GR 28(NH)/2487.9269 (one stump) and 28(NH)/2551.9286 (2 stumps). August 2007. *A. Acton*

Cladonia macrophylla: in dry *Calluna vulgaris* heath at Kildrummy, VC 93, North Aberdeenshire, GR 38(NJ)/4219.2108, September 2006. *A. Acton*

Cliostomum flavidulum: (i) on mature and post mature *Quercus petraea* trees on lower Greensand scarp woods, Northpark Coppice, Fernhurst and Rake Hanger, Milland, VC13, West Sussex, GR 41(SU)/9070.2535 and 41(SU)766.296, January 2008; (ii) on single Quercus in a sheltered valley in ancient parkland, Spye Park, VC 7, North Wiltshire, GR 31(ST)/9476.6789, February 2008. All field records, confirmed by Pd+ yellow to red reaction. More new records for this under recorded species.
N.A. Sanderson

Collema fasciculare: several thalli on one *Salix* (with *Leptogium burgessii*), Keeloges woodland, Clew Bay, Co. Mayo, GR 02(L)/9498.9519, September 2007 (field record). Very rare in Ireland and possibly a new record for Co. Mayo.
A. Acton & A. Meredith

Enterographa sorediata: on old *Quercus* in sheltered area of parkland, Nettlecombe Park, VC 5, West Somerset, 31(ST)0505.3693. BLS meet, January 2008. First record A Aptroot & L B Sparrius, February 2003, from the park. Second record, determined by N A Sanderson, from the specified tree, as two large patches about 20 cm diameter, confirmed with Pd + orange/red reactions of medulla & soredia, plus smaller patches unconfirmed with Pd. The latter had some apothecia visible. Ivy (*Hedera helix)* is a possible threat on this tree. Associated species were *Cresponea premnea* and *Lecanographa lyncea*, the latter with *Milospium graphideorum* parasitising it.
N.A. Sanderson

— —: on dry bark of two ancient *Quercus* in sheltered valley in ancient parkland, Spye Park, VC 7, North Wiltshire, GR 31(ST)/9513.6754 & 31(ST)/9521.6746,

February 2008. Confirmed with Pd + orange/red reactions of medulla in field. Second Record for Wiltshire for this Near Threatened RDB and BAP species.

N.A. Sanderson

Eopyrenula grandicula: widespread on old *Corylus* bushes in sheltered valley in ancient parkland, Spye Park, VC 7, North Wiltshire, GR 31(ST)/94-67- & 31(ST)95-67-, February, 2008. Herb. Sanderson 1096. Unusually for this species, it was frequently fertile at this site. New to North Wiltshire. *N.A. Sanderson*

Fellhanera subtilis: on sheep-nibbled *Vaccinium myrtillus* stems along livestock trails through NVC H18 bilberry heath, Little Hill, Glascwm, VC 43, Radnorshire, GR 32(SO)/175.538, alt 430 m, February 2008. Herb SPC. New to Radnorshire.

S.P. Chambers

Fuscopannaria ignobilis: on one old *Quercus* and four old *Fraxinus* trees, in *Betula pendula – Fraxinus – Quercus* pasture woodland, Craiganour Woods, Loch Rannoch, VC 88, Mid Perthshire, 27(NN)/63-59- & 27(NN)/64-59-, May 2007. Field record. A more detailed survey of the site first reported in Bulletin 100, with three additional trees recorded for this Vulnerable RDB & BAP species.

N.A. Sanderson, A.M. Cross & P. Aspen

Fuscopannaria mediterranea: on fallen trunk of *Fraxinus*, Dundonnell Estate, south of Dundonnell House, VC 105, West Ross, GR 28(NH)/116.853, alt 50 m, November 2007. Herb. Coppins 22465 (**E**). *B.J. & A.M. Coppins*

Fuscopannaria sampaiana: on old *Fraxinus*, in *Betula pendula – Fraxinus – Quercus* pasture woodland, Craiganour Woods, Loch Rannoch, VC 88, Mid Perthshire, 27(NN)/6411.5912, May 2007. Field record. Very rare in the vice-county and this appears to be the easternmost site in the central Highlands for this Near Threatened RDB and BAP species. *N.A. Sanderson, A.M. Cross & P. Aspen*

— —: 3 moribund thalli on dead *Sorbus aucuparia* in pinewood at Rhiddorroch SSSI, Glen Achall, near Ullapool, VC 105, West Ross, GR 28(NH)/2493.9266, August 2007. A new 10 km record for this species which is rare in the northwest Highlands.

A. Acton

Geltingia associata: parasitic on *Ochrolechia tartarea*, on ancient *Alnus* and *Betula pubescens* var. *tortuosa* trees, old growth *Betula* pasture woodland, Coille Fearna and Slochd na Saobhaidhe, at Creag Ghuanach, Loch Treig, VC97, West Inverness-shire, GR 27(NN)/2914.6810 & 27(NN)/301.694, 316 m & 400 m, May 2007. Determined by N A Sanderson. Herb. Sanderson 1036 & 1052. A rarely recorded parasite, which causes noticeable damage to its host.

N.A. Sanderson, A.M. Cross & P. Aspen

Gomphillus calycioides: (i) well-developed patches on *Quercus* at Malranny, VC H27, West Mayo, GR 02(L)/ 8226.9720 and 02(L)/8233.9717 (both on horizontal branches), April 2007; (ii) on *Quercus*, GR 02(L)/8231.9713, September 2007. Field records. Rare in Ireland and new to Co. Mayo. *A. Acton*

Graphina ruiziana: on roadside *Ilex* (tagged no. 2814) along the main road at Malranny woods, VC H27, West Mayo, GR 02(L)/8239.9694, April 2007. *A. Acton*

Gyalecta flotowii: on three ancient *Fraxinus* and one *Acer campestre*, sheltered valleys in ancient parkland, Spye Park, VC 7, North Wiltshire, GR 31(ST)/9530.7637, 31(ST)/95301.67291, 31(ST)/9530.6721 & 31(ST)/9585.679. Herb. Sanderson 1084, 1086, 1088 & 1089. Recorded from two *Fraxinus* in 2003 by Simon Davey. These populations were refound, and a further two populations located in 2008. This is the first time the recorder has found this Near Threatened RDB species for many years. How rare is this species now? *N.A. Sanderson*

Hertelidea botryosa: on two old burned pine stumps just south of the WGS exclosure at Strathvaich pinewood, Beinn Dearg SSSI, VC 106, East Ross, GR 28(NH)/34-76-, September 2007. Confirmed by B.J. Coppins. Previously recorded by Pauline Topham in 1971 in 28(NH)/34-75-. *A. Acton*

Lecanactis subabietina: (i) on *Quercus* within a narrow strip of old pasture woodland below cliffs at Portencross Coast SSSI, VC 75 Ayrshire, GR 26(NS)/1773.5007; (ii) on veteran *Fraxinus*, *ibid.*, GR 26(NS)/1774.5016, September 2006. Herb. Acton AA000176 and AA000177. Confirmed by B.J. Coppins. Rare in Scotland. *A. Acton*

Lecidea doliiformis: (i) on *Quercus* lignum at Kentra Bay and Moss SSSI, VC 97, West Inverness-shire, GR 17(NM)/6498.6722, May 2007. Herb. Acton AA000199; (ii) fertile on veteran *Quercus* in ravine woodland at Laudale, Sunart SSSI/SAC, VC 97, West Inverness-shire, GR 17(NM)/7481.5972, June 2007. *A. Acton & A. Griffith*

— —: on lignum and bark of ancient hollow *Quercus* and on mature *Pinus sylvestris*, parkland, Spye Park, VC 7, North Wiltshire, GR 31(ST) 9499.6759 & 31(ST)/9513.6729, February, 2008. Field record. New to North Wiltshire. *N.A. Sanderson*

Leptogium brebissonii: (i) on at least 5 old *Salix* in woodlands at Malranny, VC H27, West Mayo, GR 02(L)/8236.9700, September 2007. Field record. and appears to be new to Co. Mayo. *A. Acton & R. Thompson*

— —: (ii) on *Fraxinus* in ancient woodland pasture, Killary Bay Little, VC H16, West Galway, GR 02(L)/7757.6332 and at 02(L)/7758.6335, September 2007; (iii) in coastal woodlands on one *Fraxinus* and at least 8 *Corylus* between GR 02(L)/775.638 and 02(L)/774.638, September 2007. Field records. Very rare in Ireland. *A. Acton*

Leptogium britannicum: on calcareous dune grassland, Keem Strand, Achill Island, VC H27, West Mayo, GR 03(F)/5599.0416, August 2007. Field record. *A. Acton*

Leptogium burgessii: on *Salix* with *Collema fasciculare* at Keeloges woodland, Clew Bay, VC H27, West Mayo, GR 02(L)/9498.9519, September 2007. Field record. Appears to be new to Co. Mayo. *A. Acton & A. Meredith*

Leptogium hibernicum: (i) on 5 stems (*c.* 3–10 cm dbh) of *Corylus* in woodland in the Garbh Allt ravine, above Lochshiel, VC 97, West Inverness-shire, GR

17(NM)/794.704; (ii) on 5 stems of one hazel (*c.* 3–10 cm dbh) in the Allt na Claise ravine, *ibid*. GR 17(NM)/7994.7126, January 2007. Field records; (iii) on at least 4 old *Corylus* (including at least 55 thalli) on one *Corylus* in woods at Blar na Caillich Bhuidhe SSSI, VC 97, West Inverness-shire, GR 17(NM)/6813.9131, May 2007. Field records. *A. Acton*

Leptogium juressianum: in *Salix* carr, Malranny, VC H27, West Mayo, GR 02(L)/8236.9700, September 2007. Herb. Acton AA000300. In the British Isles only recorded from Ireland, where it is rare. New to Co. Mayo. Previously only known from much further south at Glengarriff and Killarney. *A. Acton & R. Thompson*

Leptogium palmatum: hundreds of small thalli (mostly *c.* 2 × 3 cm to 4 × 4 cm) on a little-used forestry track, Halsary Forest (afforested blanket bog), in the Flow Country, VC 109, Caithness, GR 39(ND)/1886.4994, October 2006. Herb. Acton AA000179. Confirmed by B.J. Coppins. New to Caithness. *A. Acton & A. Griffith*

— —: on dune grassland at Menie links, VC 92, South Aberdeenshire, GR 38(NJ)/9928.2175, September 2006. Herb. Acton AA000158. *A. Acton & B.J. Coppins*

Leptogium saturninum: on trunks of 18 *Fraxinus* in pasture or alongside the river, Dundonnell Estate, north of Dundonnell House, VC 105, West Ross, GR 28(NH)/11-86-, alt 30 m, November 2007. Field records. Previously known from only one tree at this site, to the south of the house [28(NH)/117.854 and still present in November 2007], within Dundonnell Woods SSSI. However, the larger population of this priority lichen is outwith the SSSI, and it is the second largest known British population after that at Rassal Ashwood NNR. *B.J. & A.M. Coppins*

Llimonaea sorediata: (i) dominant on dry, northeast-facing base of old *Acer pseudoplatanus*, closely associated with *Enterographa crassa*, *Schismatomma decolorans* and fertile *Diploicia canescens*, in flowerbed in caravan park grounds, Morfa Bychan, nr. Aberystwyth, VC 46 Cardiganshire, GR22(SN)566.772, alt 40 m, June 1990. Confirmed by P. van den Boom. Herb SPC. Tree since felled. (ii) in medley of 'look-a-like' crusts, inc. *Opegrapha gyrocarpa*, *Belonia nidarosiensis* and *Dirina massiliensis f. sorediata*, on siliceous block faces variously (or not) affected by mortar downwash, north wall of St. Tudwen's church, Lleyn Peninsula, VC 49, Caernarfonshire, GR23(SH)274.368, alt 50 m, September 2007. Field record. SPC & BLS Churchyard group, (iii) on ventilation block inset at base of north wall, St. Gwynhoedl's church, Llangwnnadl, Lleyn Peninsula, VC 49, Caernarfonshire, GR23(SH)208.333, alt 30 m, September 2007. Field record. SPC & BLS Churchyard group, (iv) in recess at base of gabbro outcrop on coastal headland, Mynydd Penarfynydd, Lleyn, VC 49, Caernarfonshire, GR23(SH)216.260, alt 50 m, September 2007. Herb SPC. First Welsh records. *S.P. Chambers*

Lithothelium phaeosporum: (i) on trunk of large *Fraxinus*, Dundonnell Estate, south of Dundonnell House, VC 105, West Ross, GR 28(NH)/115.849, alt 45 m, November 2007. Herb. Coppins 22453 (**E**); (ii) *ibid.*, 28(NH)/116.853, alt 50 m. Herb. Coppins 22434 (**E**). New to West Ross, and furthest north British records. *B.J. & A. M. Coppins*

Lobaria pulmonaria: two large patches high on trunk of ancient *Fraxinus*, in sheltered valley in ancient parkland, Spye Park, VC 7, North Wiltshire, GR 31(ST)/95301.67291, February, 2008. Field record. New to Spye Park. With the apparent loss of this species from Savernake Forest, this is now probably the most easterly colony in the county. *N.A. Sanderson*

Lobaria scrobiculata: fallen from bough of *Quercus*, Cawdor Wood SSSI, VC 96, East Inverness-shire, GR 28(NH)/8417.4885, October 2007. Herb. Coppins 22492 (**E**). Last seen at this site in 1975 by Peter James and Francis Rose, and believed lost.
B.J. Coppins, A.M. Coppins & D. Genney

Loxospora elatina: 2 fertile thalli on old oaks in woodlands, Callop, along Loch Shiel, VC 97, West Inverness-shire, at GR 17(NM)/9047.7979 and 17(NM)/8981.7927. April 2007. This species is only very rarely found fertile in Britain. *A. Acton*

Megalaria pulverea: (i) on moribund mosses on wet heath below Achill head, Achill Island, VC H27, West Mayo, GR 03(F)/5516.0471, August 2007; (ii) on *Calluna* stems among siliceous block scree, Lough Corryntawy, *ibid.*, GR 03(F)/5789.0584, September 2007. Records from two unusual habitats. *A. Acton*

Megalospora tuberculosa: on *Fraxinus* at Coulin Pinewood SSSI, VC 105, West Ross, GR 28(NH)/0070.5566, February 2007. Herb. Acton AA000188 (**E**). Confirmed by B.J. Coppins. *A. Acton*

Menegazzia subsimilis: (i) on *Betula* in woodlands, Kentra Bay SSSI, VC 97, West Inverness-shire, GR 17(NM)/6352.6748, May 2007. Herb. Acton AA000203; (ii) on *Quercus ibid*. GR 17(NM)/6493.6720, May 2007. Herb. AA000193.
A. Acton & A. Griffith

— —: (i) on *Betula*, Blar na Caillich Bhuidhe SSSI, VC 97, West Inverness-shire, GR 17(NM)/6806.9176, May 2007. Herb. Acton AA000211. Confirmed by B.J. Coppins; (ii) on *Alnus* in woodlands along the Allt Sailean an Eorna, Sunart SSSI/SAC, VC 97, West Inverness-shire, GR 17(NM)/7014.6443; (iii) on *Salix*, *ibid*. GR 17(NM)/7012.6443, May 2007. Herb. Acton AA000210.
A. Acton

Micarea adnata: on lignum on three *Castanea* stools in working coppice, on steep north facing scarp slope, Northpark Coppice, Fernhurst, VC13, West Sussex, GR 41(SU)/8880.2615, January 2008. Confirmed by B.J. Coppins from a scan. Herb. Sanderson 1070. The first record for lowland England for this upland, but not oceanic, species. This adds to the flora of disjunct upland species of lichens and mosses found in sheltered humid locations in the Weald. *N.A. Sanderson*

Micarea alabastrites: on veteran *Betula* in even-aged oakwood, Errif, *c.* 17 km south of Westport, VC H27, West Mayo, GR 02(L)/9597.6815, September 2007. Rare in Ireland and only the second record for Co. Mayo. *A. Acton*

Micarea misella: on light brittle lignum at base of small standing decorticate dead *Quercus petraea*, Torrent Walk, (Dolgellau) VC 48, Merionethshire, GR 23(SH)757.184, alt 100 m, November 2007. Herb SPC. New to Merionethshire.
S.P. Chambers & R. Gwynn

Milospium graphideorum: for details, see under *Enterographa sorediata*.

Minutophoma chrysophthalmae: on *Chrysothrix chrysophthalma* at Rhiddorroch SSSI, Glen Achall, VC 105, West Ross, GR 28(NH)/2551.9286, August 2007. *A. Acton*

Mniaecia nivea: this liverwort parasite recorded (rarely) by lichenologists, was found on liverwort mats on small sandrock boulders in woodlands, on north-facing scrap at Northpark Copse and at Bexleyhill, Fernhurst, VC13, West Sussex, GR 41(SU)/9191.2450, 41(SU)/9100.2532, 41(SU)/9095.2530, 41(SU)/9095.2529, 41(SU)/9074.2526, 41(SU)/8816.2585 & 41(SU)/8816.2667, January 2008. Herb. Sanderson 1072. New to West Sussex. *N.A. Sanderson*

Mycomicrothelia wallrothii: on bark of *Betula pendula*, in *Betula pendula – Fraxinus – Quercus* pasture woodland, Craiganour Woods, Loch Rannoch, VC 88, Mid Perthshire, GR 27(NN)/6380.5915, May 2007. Herb. Sanderson 1031. Determined by B.J. Coppins. First record for Mid Perthshire for this rarely recorded species.
N.A. Sanderson, A.M. Cross & P. Aspen

Myriospora heppii: (i) on shelly limestone fragment semi-impressed in ground beside sludge mound, Gwyn-fynydd gold mine, Coed y Brenin, VC 48, Merionethshire, GR 23(SH)/736.280, alt 130 m, December 2006. Herb. SPC. Confirmed by A. Orange. New to Merionethshire.
S.P. Chambers & A. Seddon

— —: (ii) on mortar chunks lying on railway ballast, Vale of Rheidol railway station, Capel Bangor, VC 46, Cardiganshire, GR 22(SN)/648.797, alt 25 m, July 2007. Herb SPC. Confirmed by A. Orange. New to Cardiganshire. *S.P. Chambers*

Nectriopsis rubifaciens: on *Parmelia sulcata* on *Betula* twig, Talladale Gorge SSSI, VC 105, West Ross, GR 18(NG)/91-70-, alt 15–20 m, November 2007. Herb. Coppins 22497 (**E**). New to Scotland. B.J. Coppins

Nigromacula uniseptata: on *Hypotrachyna laevigata* on east side of old *Betula*, Coed Gwyn-fynydd, VC 48, Merionethshire, GR 23(SH)/736.280, alt 170 m, January 2008. Herb SPC. New to Wales. *S.P. Chambers & A. Seddon*

Opegrapha dolomitica: for details, see under *Sclerococcum griseisporodochium*.

Opegrapha fumosa: on *Quercus* in woodlands, Kentra Bay SSSI, VC 97, West Inverness-shire, GR 17(NM)/6351.6754, May 2007. Herb. Acton AA000200.
A. Acton & A. Griffith

Opegrapha rotunda: on thallus of *Physconia distorta*, Dundonnell Estate,north of Dundonnell House, VC 105, West Ross, GR 28(NH)/111.864, alt 30 m, November 2007. Herb. Coppins 22481 (**B**). *B.J. & A.M. Coppins*

Opegrapha sphaerophoricola: (i) on *Sphaerophorus globosus* on *Betula* in woodlands, Kentra Bay SSSI, VC 97, West Inverness-shire, GR 17(NM)/6325.6714, Herb. Acton AA000201; (ii) on *Quercus*, *ibid.*, GR 17(NM)/6492.6736, Herb. Acton AA000195, May 2007. Only the third known British location for this species. In

Scotland previously known only from Coulin Pinewood SSSI, but since recorded in Sunart and near Ullapool (see below). *A. Acton & A. Griffith*

— —: on *Sphaerophorus globosus* on veteran *Betula* at Laudale woods, Sunart SSSI/SAC, VC 97, West Inverness-shire, GR 17(NM)/7478.5949, June 2007. *A. Acton*

— —: on *Sphaerophorus globosus* on *Betula* in wet *Alnus – Betula* woodlands at Rhiddorroch SSSI, Glen Achall, near Ullapool, VC 105, West Ross. GR 28(NH)/2441.9293, August 2007. *A. Acton*

Opegrapha subelevata: on shale cutting, Torrs Walk, Ilfracombe, VC 4, North Devon, GR 21(SS)/51-46-, May 2007. Field record with photograph. Confirmed by B. Benfield. Third site in North Devon. *T. Holwill*

Parmeliella parvula: on *Betula* in ancient pasture woodland, Killary Bay Little, VC H16, West Galway, GR 02(L)/7757.6332, September 2007. This species is rare in Ireland. *A. Acton*

Parmeliella testacea: (i) on several *Corylus* in coastal woodlands at Killary Bay Little, VC H16, West Galway, GR 02(L)/7741.6385; (ii) on a *Corylus*, *ibid.*, GR 02(L)/7740.6385; (iii) on a *Corylus*, several small thalli and 3 large patches (10 × 6 cm, 8 × 5 cm, 6 × 4 cm), *ibid.*, GR 02(L)/7738.6383; (iv) on *Acer pseudoplatanus* a thallus (8 × 5 cm), *ibid.*, GR 02(L)/7738.6385 (v) on *Corylus*, several thalli (the two largest 7 × 4 cm and 7 × 3 cm), *ibid.*, GR 02(L)/7736.6387, September 2007. Very rare in Ireland and possibly the most northerly current record in Ireland. *A. Acton*

Phaeophyscia endophoenicea: on trunk of *Fraxinus*, Dundonnell Estate, north of Dundonnell House, VC 105, West Ross, GR 28(NH)/11-86-, alt 30 m, November 2007. Herb. Coppins 22474 (**E**). New to West Ross and northwest Highlands. *B.J. & A.M. Coppins*

Phoma lobariicola: on *Lobaria scrobiculata* parasitized by *Plectocarpon scrobiculatae*, Dundonnell Estate, south of Dundonnell House, VC 105, West Ross, GR 28(NH)/11-85-, alt 50 m, November 2007. Herb. Coppins 22450 sub *Plectocarpon scrobiculatae* (**E**). Second British record. *B.J. & A.M. Coppins*

Piccolia ochrophora: on trunk of *Fraxinus,* Dundonnell Estate, south of Dundonnell House, VC 105, West Ross, GR 28(NH)/115.851, alt 50 m, November 2007. Herb. Coppins 22501 (**E**). Furthest north British record. *B.J. & A.M. Coppins*

Phyllopsora rosei: on *Quercus* in area of felled conifer plantation at Ardmolich, Moidart, VC 97 West Inverness-shire, GR 17(NM)/7030.7185, April 2007. *A. Acton*

Porina coralloidea: on *Quercus* within area of felled conifer plantation at Ardmolich, Moidart, VC 97 West Inverness-shire, 17(NM)/7030.7185, April 2007. *A. Acton*

Porina rosei: on old *Quercus* in abandoned *Fraxinus – Corylus – Quercus* pasture woodland on a greensand undercliff, Bonchurch Landslip, VC 10, Isle of Wight, GR 40(SZ)/5822.7385, February 2008. Herb. Sanderson 1116. New to the Isle of Wight,

but severely threatened by ivy (*Hedera helix*) as is much of the lower plant interest of this important undercliff. *N.A. Sanderson*

Ptychographa xylographoides: on lignum inside hollow old *Betula pubescens* var. *tortuosa* tree, in open *Betula* pasture woodland, Allt a' Choarruin, Creag Ghuanach woods, Loch Treig, VC97, West Inverness-shire, GR 27(NN)/299.703, alt 400 m. Determined by N A Sanderson. Herb. Sanderson 1039. New 10 km national grid square record for a Near Threatened RDB species.
A. Sanderson, A. M. Cross & P. Aspen

Pyrenula hibernica: on *Corylus* in *Fraxinus-Corylus-Quercus* ravine woodland above Camastorsa, Sunart SSSI/SAC, VC 97, West Inverness-shire, GR 17(NM)/6692.6258, March 2007. Field record. *A. Griffith*

Ramonia chrysophaea: on light, base-rich bark of *Quercus petraea* trunk, in gorge of the Afon Rheidol opposite Derwen, VC 46, Cardiganshire, GR 22(SN)/73-77-, alt 70 m, August 2007. Confirmed by A. Orange. Herb SPC. A rare species in Wales known from only 2 extant sites. First Cardiganshire record. *S.P. Chambers*

Rinodina roboris* var. *roboris: on an *Ulmus* at top of cliffs at Portencross Coast SSSI, North Ayrshire, VC 75, Ayrshire, GR 26(NS)/1796.5073, September 2006. Herb. Acton AA 000178. *A. Acton*

Roselliniella microthelia: on *Trapelia placodioides* on old wall, east side of Traprain Law, East Linton, VC 82, East Lothian, GR 36(NT)/58-74-, alt 115–135 m, May 1988. Herb. Coppins 17841 (**E**). *B.J. & A.M. Coppins*

Schismatomma quercicola: (i) on *Betula* in ancient pasture woodland, Killary Bay Little, VC H16, West Galway, GR 02(L)/7752.6331, September 2007; (ii) on *Betula* in even-aged oakwood, Errif, *c.* 17 km south of Westport, VC H27, West Mayo, GR 02(L)/9600.6815, September 2007. Very rare in Ireland and possibly new county records. *A. Acton*

Sclerococcum griseisporodochium: on drier faces at top of shaded, damp, cave-like recess in northwest-facing Carboniferous limestone scarp, with *Acrocordia conoidea*, *Opegrapha dolomitica* & *Porina linearis,* near Piked Acre Wood, Clitheroe, VC 59, South Lancashire, GR34(SD)77-43-, alt 150m, August 1997. Herb. NMW & duplicate in Herb. SPC. Confirmed by B.J. Coppins. Second British record and new to England. *S.P. Chambers*

Sclerophora peronella: (i) on wound tracks of two ancient *Betula pubescens* var. *tortuosa* trees in old growth *Betula* pasture woodland, Slochd na Saobhaidhe, Creag Ghuanach, Loch Treig, VC97, West Inverness-shire, GR 27(NN)/2993.6958, alt 334 m; (ii) *ibid*. GR 27(NN)/3007.6944, alt 397m; (iii) also in an ancient hollow *Alnus*, in relic woodland, Coille Fearna, Creag Ghuanach, Loch Treig, VC97, West Inverness-shire, GR 27(NN)/2914.6810, 316m, all May 2007. New 10km national grid square records for a Near Threatened RDB species. *N.A. Sanderson, A.M. Cross & P. Aspen*

Scoliciosporum pruinosum: on bark crevices of *Quercus robur*, Central Wood, Bookham Common, VC 17, Surrey, GR 51(TQ)/130.565, January 2007. Herb. Aguirre-Hudson, 154250 (**K**(**M**)). *M.B. Aguirre-Hudson*

Staurothele rugulosa: on damp vertical side of low limestone block, disused quarry beside minor road south of Lune Head Farm, between Brough and Middleton-in-Teesdale, VC 65, North-west Yorkshire, GR 35(NY)/856.203, alt 420 m, July 2007. Herb SPC. Confirmed by A. Orange. New to the vice county. *S.P. Chambers*

Staurothele succedens: on flat top of damp limestone block, in disused quarry beside minor road south of Lune Head Farm, between Brough and Middleton-in-Teesdale, VC 65, North-west Yorkshire, GR 35(NY)/856.203, alt 420 m, July 2007. Herb SPC. Confirmed by A. Orange. Second vice county record. *S.P. Chambers*

Strigula taganannae: in rain tracks of ancient *Fagus* in pasture woodlands, (i) Eaves Hill, Busketts Wood, New Forest, VC 11, South Hampshire, GR 41(SU)/3059.1141, October 2004. Herb Sanderson 787; (ii) Coomy Hat, *ibid*. GR 41(SU)/3114.1099 April 2007. Herb. Sanderson 1000; (iii) Wood Crates, New Forest, VC 11, South Hampshire, GR 41/2684.0826, November 2007. Herb. Sanderson 1059. Confirmed by B.J. Coppins and A. Orange. Specimens now at **E** & **NMW**. New to mainland Great Britain. Previously recorded only from one site in northwest Ireland. The New Forest specimens were found only with black pycnidia *ca* 0.25 mm diameter, that contain large (8-) 11-septate conidia 32–44 × 4–5 µm in size. These are sunk in a whitish grey thallus. In the field it resembles a small *Acrocordia gemmata*. *N.A. Sanderson*

Teloschistes chrysophthalmus: on bark of *Prunus spinosa* at edge of cliff path facing southeast, with *Physcia adscendens*, *Ramalina canariensis*, *R. farinacea*, *R. fastigiata* and *Xanthoria parietina*, Jerbourg Point, VC 113, Channel Isles, GR (UTM) WV/337.746, November 2007. Confirmed from photograph by S. Davey. First record for Guernsey since the 1860s. Last recorded in mainland Britain in 1998 and in Jersey in 1966 [see also article by Ann Allen in this *Bulletin*]. *C.T. David*

Thelidium pluvium: on finely laminated, wafer-thin Silurian mudstones, below cascade in upland streamlet, Craig Cwmtinwen, Cwmystwyth, VC 46, Cardiganshire, GR 22(SN)/832.748, alt 390 m, May 2007. Confirmed by A Orange. Herb SPC. New to the vice county. *S.P. Chambers*

Thelocarpon olivaceum: on upper side of small stone shaded by fence on railway ballast, Vale of Rheidol railway station, Capel Bangor, VC 46, Cardiganshire, GR 22(SN)/648797, alt 25 m, July 2007. Determined by A. Orange. Herb. SPC. New to Wales. *S.P. Chambers*

Thelopsis rubella: (i) on veteran *Quercus* in woodlands above Lochshiel, VC97, West Inverness-shire, GR 17(NM)/8018.7120; (ii) *ibid*. GR 17(NM)/8015.7120, January 2007. Field records. *A. Acton*

Trapelia corticola: (i) on *Quercus* in ancient pasture woodland, Killary Bay Little, VC H16, West Galway, GR 02(L)/7752.6331, September 2007; (ii) on *Quercus* in even-

aged *Quercus* woodland, Errif, *c.*17 km south of Westport, VC H27, West Mayo, GR 02(L)/9594.6804, September 2007; (iii) on bare peat amongst block boulder scree near Lough Corryntawy, Achill Island, VC H27 West Mayo, GR 03(F)/5788.0588, September 2007. Field records Apparently rare in Ireland. Appears to be new to Co. Mayo. The last record is from an unusual substratum for this species. *A. Acton*

Tremella normandinae: on *Normandina pulchella* on *Corylus*, Ballachuan Hazelwood, Seil, VC 98, Argyll Main, 17(NM)/76-15-, October 2007. Herb. Coppins 22507 (**E**). Second Scottish record. *B.J. Coppins*

Verrucaria canella: on and around *Aspicilia calcarea* thalli on southeast-facing Dalradian limestone outcrop, Lismore, VC 98, Main Argyll, GR 17(NM)/890.455, alt 10 m, June 2007. Field record. New to Scotland. *S.P. Chambers*

Vezdaea cobria: on finely processed mine spoil sludge colonised by young *Betula* saplings, with *V. retigera*, Gwyn-fynydd gold mine, Coed y Brenin, VC 48, Merionethshire, GR 23(SH)/736.280, alt 140 m, January 2008. Herb SPC. Both new to Merionethshire. *S.P. Chambers & A. Seddon*

Vezdaea retigera: for details, see under *Vezdaea cobria.*

Wadeana minuta: on trunk of large *Fraxinus*, Dundonnell Estate, south of Dundonnell House, VC 105, West Ross, GR 28(NH)/115.850, alt 45 m, November 2007. Herb. Coppins 22451 (**E**). Furthest north British record. *B.J. & A.M. Coppins*

Weddellomyces epicallopisma: on *Caloplaca flavescens* on outside of west-facing boundary wall, Nefyn church, VC 49, Caernarfonshire, GR 23(SH)/308.406, alt 30 m, September 2007. Field record. New to the vice county.
S.P. Chambers & BLS Churchyard Group

Corrigenda

I am indebted to Bernard Abbott for pointing out two errors that occurred in the last issue of NRI (*BLS Bulletin* **101** p. 68), viz *Lecanographa dialeuca* (Cromb.) Egea & Torrente (1984) should read *Lecanographa dialeuca* (Cromb.) Egea & Torrente (1994) and *Llimonaea sorediata* van den Boom & M Brand (2007) should read *Llimonaea sorediata* van den Boom, M Brand & Elix (2007).

Also Neil Sanderson has pointed out:

"In *BLS Bulletin* **94** p. 91, my record of *Lecidea hypopta* from GR 41(SU)/187.021, New Forest, has, on re-examination of the specimen, proved to be a small dark coloured *Lecanora aitema* with no visible thalline margin."
"In *BLS Bulletin* **101** p. 79, my record of *Leptogium subtile* from 52(TL)/9514.2418, Essex, would on comparison with other specimens appear to be best regarded as a small specimen of *Leptogium tenuissimum*. A picture of the specimen can be viewed at www.uklichens.co.uk/."

Compiled by Chris Hitch
cjbh.orchldge@freeuk.com

Future meetings

Autumn Field Meeting: Wooler, Northumberland

2-6 October 2008, led by Janet Simkin

The autumn field meeting will include visits to a variety of habitats in north Northumberland, including Holy Island, the whin outcrops near Bamburgh and one of the Cheviot valleys. There are some lovely rural churchyards including Kirknewton (famous for the grave of Josephine Butler and a Norse carving of the magi) and Old Bewick (with the best apse in the north of England). The lichens are quite interesting as well. Good weather cannot be guaranteed but early October is usually quite pleasant in Northumberland – by local standards! The theme of the meeting will be recording, and there will be workshops in the evenings on the use of spreadsheets, Recorder and the NBN Gateway, amongst other things.

We will be based at the Tankerville Arms Hotel, an old coaching inn in Wooler (www.tankervillehotel.co.uk). The room rate is £45 a night B&B, and most of the rooms are available for single occupancy if required. Dogs are welcome. Dinner will be £10-£12 a night. To book, please phone the hotel on 01668 281581 and say you are part of the British Lichen Society party. They will ask for a £25 deposit. There are other options nearby including a privately run youth hostel. The hotel is on the outskirts of Wooler, on the A697. The nearest train station is probably Berwick, but Alnmouth and Morpeth are aslo within reach and we should be able to arrange lifts if needed.

Provisional schedule:

Thursday

5.00 PM	Education and Promotions Committee
7.00 PM	Meet in the bar, then dinner
9.00 PM	Introduction to the area and the recording workshop

Friday

Visits to local sites for those not involved in meetings

10.00AM	Data committee
2.00PM	Council
7.00PM	Dinner
8.30PM	Workshop on preparing records for input (covering species names and aggregates, the use of the syn list, substrate codes, collection details, how to handle unconfirmed records etc.)

Saturday

AM/PM	Visit to Holy Island (causeway open 09.20-16.30)
7.00PM	Dinner
8.30PM	Workshop on the use of spreadsheets, together with a practical session on grid refs and vice counties.

Sunday

AM/PM	Visit to the whin outcrops near Bamburgh, taking in a churchyard or two on the way back.
7.00PM	Dinner
8.30PM	Workshop on internet resources such as the NBN Gateway, GBIF and SNHi.

Monday

AM	Workshop on using Recorder 6 (for those who want it)

If the weather is bad or we run out of lichens to look at, we will bring the Saturday and Sunday workshops forward and hold them before dinner instead.

If you are interested in attending this field meeting, and would like further details of what the meeting will include and all accommodation in the area, please contact either Simon Davey, 10 Cottage Homes, Common Lane, Ditchling, Hassocks, Sussex (01273 844436), e-mail srdavey@globalnet.co.uk or Janet Simkin (01661 823233), e-mail janetsimkin@btinternet.com. To **book**, please send **full contact details** (name, address, telephone number, email address if applicable) by post or email to **Simon Davey** at the above address.

Annual General Meeting 2009

The 2009 AGM will take place on 9-11 January 2009 in Edinburgh (details to be confirmed), in conjunction with celebrations to mark the retirement (from the day job only, please!) of Brian Coppins from the Royal Botanic Garden Edinburgh. Highlights should include the Swinscow Lecture to be given by Gintaras Kantvilas, and special lectures by Jola Miadlikowska on *Advances in our Understanding of Lichen Evolution and Symbiosis* and John Birks on *The Ecological Status of Hazel in Native British Woodlands*. Weather permitting, a field excursion will be organized on the Sunday. Further details of this exciting (and historic!) meeting will be given in the BLS 2008 Winter Bulletin.

Proposed Lichenology Weekend course at Bristol

Course Tutors: Dr Brian Coppins and Dr David Hill
7.30pm Friday 14 February – 4.30pm Sunday 16 February 2009 at the Linnaeus Study Room, University of Bristol Botanic Garden, Stoke Park Road, Stoke Bishop, Bristol BS9 1JB

This course will be based mainly indoors with a limit of 15 participants. The topic and scope are still to be arranged. This course is intended for those who have a knowledge of lichens in the field but wish to identify or study material they collect in the laboratory. It will include developing some of the technical and observational

skills needed to identify or study the material in more detail than with a 10x lens. There will be binocular dissecting and monocular compound microscopes available.

The cost will be not less than £20 to cover the basic costs such as room hire. It may be possible to accommodate participants with B&B at Burwalls Continuing Education Centre (at cost of just less than £50 per night). Other options include local B&Bs or hotels.

If you are interested in attending please email d.j.hill@bris.ac.uk as people will booked onto it on a first come first served basis. More details will be announced in the Winter Bulletin.

50th Anniversary Annual General Meeting

Nettlecombe Court, Somerset, January 2008

For the first time in its fiftieth year history, the AGM and its associated meetings were not held in one of the National Museums but in the depths of the Somerset countryside within Exmoor National Park. Nettlecombe Court was originally home of the Trevelyans and is now a Field Centre run by the Field Studies Council. The Elizabethan house is set in a valley and surrounded by ancient wood pasture and a park landscaped by Veitch in the 18th century. Features of the wood pasture remain in the giant oak trees and pollards that make this such a good site for lichens and invertebrates, for which it is designated as an SSSI. The building itself, with its maze of rooms, labs and dormitories, seemed to accommodate the large proportion of members who came for the weekend with ease. The small intimate bar helped to create a really friendly atmosphere, with members able to talk late into the evenings. Somehow you felt that it captured the pioneering spirit of the early meetings of fifty years ago of which Dougal Swinscow and his co-founding members would have approved. In this context it was particularly pleasing to have Peter James present, a founder and still such an active member of the Society.

A number of meetings took place prior to the main meeting with some members arriving on Thursday afternoon for the Education and Promotions Committee, followed by a Data meeting later in the afternoon and a BAP technical meeting in the evening. Heavy rain that day causing flooding in many parts of the West Country disrupted travel plans, but thanks to centre staff who collected people from Taunton at all hours everyone got there. On Friday the Conservation Committee met in the morning followed by full Council in the afternoon. Quite a marathon for those who attended all of them!

Meanwhile the great hall was seething with activity as John Douglass aided by Peder Aspen and others hung the banners for the Secret Life of Lichens Exhibition around the walls of the hall and in various other rooms. This gave a colourful backdrop to the whole proceedings. For those of us who had not seen it before this exhibition was a real eye-opener. A thoroughly professional exhibition put together by John Douglass while he was working at Chatelherault Country Park, it really makes lichens interesting to a wide audience. It deserves to have a wide circulation around the country. Other displays were put up in the Geography Laboratory including an exciting account of the refinding of *Teloschistes chrysopthalmus* in a Herefordshire orchard by Cliff Smith and Joy Ricketts and an exhibition of lichens in textiles and embroidery by Helen Bamber. Ray Woods brought pictures of field meetings of the Welsh group and Peder Aspen of members' activities in Scotland.

In the evening members gathered in the great hall for a glass of wine and the evening meal surrounded by the lichen banners. There was a real buzz of friendly conversation as people caught up with one another. Then came an event extraordinaire when members dressed up as other lichenologists or as a lichen and we had to guess who each one was. The Rev Lightfoot was there together with Annie Lorraine-Smith, Ursula Duncan, Hildur Krog and of course a Brian Coppins look-

alike together with a great diversity of rare and strange lichens! It was a wonderful display of ingenuity by all of the participants. This was followed by two talks on a new-world theme, by Simon Davey on the Tuckerman field visit to Newfoundland and by David Richardson on Sable Island off the east coast of Canada. Both were very entertaining and well illustrated. Those who had not gone to Newfoundland were left wishing they had been able to go. Mark then performed, with his usual good humour laced with a bit of hectoring, announcing the now traditional book auction with proceeds being shared between the sellers and the Society. Many members then retired to the bar to conclude proceedings.

On the Saturday the AGM took place in the morning (see full account elsewhere) presided over by the out going President, Pat Wolseley. It was particularly pleasing that she was made an Honorary Member for her many services to lichenology. Per Magnus Jörgensen was also made an Honorary Member for his work on lichens and the help he had given the Society over many years. Barbara Hilton and Janet Simkin were deserving recipients of the Ursula Duncan awards for their work in relation to Education & Promotions and Data respectively.

The afternoon session included four talks on themes past, present and future by: Mark Seaward on 'The British Lichen Society: historical reflection', Christopher Ellis on 'The Only Constant is Change: climate as an emerging feature in a lichenologist's worries', Christoph Scheidegger on 'Changing lichenology in a changing world' and Janet Simkin on 'Much Ado about Data: recent advances in biological records'. At tea time the magnificent celebration cake, commissioned by Sandy Coppins and decorated with lichens including *Cladonia* spp., *Xanthoria parietina* and *Solorina crocea* was cut by Sandy, and members discovered how delicious it was!

The evening began with a reception with canapés served by the Centre staff. This was followed by the celebratory dinner in the splendid great hall surrounded by the lichen banners like medieval tapestries. The Centre Field staff had conjured up a magnificent meal to fit the occasion and helped to create a wonderful atmosphere. Toasts were made to Centre Staff, founding members and the future of the Society. Then after a short break we moved into another room to listen to a talk by Professor David Hawksworth, one of the éminences grises of the Society. He gave a thought provoking talk about the past and challenges for the future of the Society, which resulted in another late night in the bar!

The following day dawned rather wet and stormy but everyone needed some fresh air. After breakfast, members set out in a break in the weather, led by Pat, to explore the lichen flora of this ancient park. For the first time on a January meeting we were seeing some of the best that the British lichen flora can offer including *Lobaria pulmonaria* and *L. amplissima*, together with other species of the Lobarion. Dry sides of huge old oaks offered other discoveries including *Lecanographa lyncea, Arthonia pruinata* and abundant *Lecanactis premnea*. Among this dry bark community Neil Sanderson found two large patches of a greyish sorediate crust with Pd+ orange/red reactions in medulla & soredia, and we all queued to look at the rare BAP species *Enterographa sorediata* on a huge oak, with *Lobaria amplissima* on its west-facing side. But Neil was also making other finds in this site where ancient fallen trees and lignin were not removed, such as *Chaenotheca trichialis, Chaenothecopsis nigra* and *Lecidea*

doliformis. The last two were new records added to the 219 species recorded here, and another addition was *Parmelia quercina* in the abundant twig flora. All this shows that even when a site is rather well known by lichenologists there are still new finds to be made! We made our way back to the centre where there was hot soup with bread and cheese to set members up before they found there way back to civilisation from this remote valley.

There seemed to be a general consensus that the break with tradition had been a great success and members left feeling that the Society was still full of vigour despite its fifty years. Thanks are due to the Centre Staff led by Mark Bolland who put in a huge amount of effort to make the meeting such a success and to Pat for doing so much as the local organiser.

Peter Lambley and *Pat Wolseley*

A letter from your President

I was honoured and delighted to be asked to be President of this Society especially in this, its fiftieth anniversary year. I do not need to dwell on the founding of the Society fifty years ago by Dougal Swinscow and others, as this is covered by several articles in this *Bulletin*, except to add that we are all grateful for their vision and sense which laid the foundations for the successful Society we have today. I am only too aware of the stature of those who have held the post of President previously and inevitably a little daunted at the prospect of following them. Our immediate past-president, Pat, for example is a very hard act to follow. However, I have been a member since the early 1970s and during this time I have served on Council and was Assistant Treasurer. More recently I have edited the *Bulletin* for about the last 10 years so at least I feel that I have some understanding of the way the Society functions. However it is only since becoming President in the last few months that I have quite appreciated how much very hard work takes place behind the scenes. Much of this work goes unseen, but the new edition of the Flora due out later this year is one very evident major achievement. On a much more regular basis the *Lichenologist* edited by Peter Crittenden with assistance from others remains the leading journal specialising in lichens. Lichens may be 'lower plants' but thanks to the Society over the years their profile is high. For instance I recently talked to a big landowner who was selling eco-friendly timeshare on his estate and used the abundant lichens to demonstrate to potential buyers that the air was clean.

One of the great strengths of the Society right from its inception has been the relationship between professional lichenologists and the amateurs ie those who do not get paid for doing lichenology. This seems to be a particular feature of the way the study of natural history takes place in the British Isles. The role of field meetings has been particularly important in this respect. They encourage an exchange of knowledge in the field and have helped to ensure that lichenology in Britain is not restricted to herbaria and other institutions. If you have never been on a field meeting, do try to come on one, if only for a few days. Alternatively there are an

A luxuriant growth of *Lobaria pulmonaria* on bark of *Quercus ilex* near L'Ecluse, Sark: see article on p. 11. © *Ann Allen*

Fluvial zonation with *Dermatocarpon luridum* and *Verrucaria* *Leptogium plicatile*, South Woodburn River, Co. Antrim. Both spp., Owngar River, Co. Cork: see article on p. 4. Images © Michael Simms

Images from www.uklichens.co.uk: see article on p. 2

Lichens on coastal boulder at Loch Torridon, NW Scotland © Dave Genney

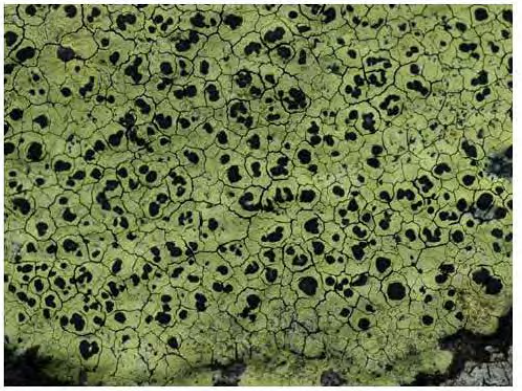
Protoblastenia rupestris on mortar, Northumberland © M. Sutcliffe

Roccella fuciformis on coastal cliff, Devon © M. Sutcliffe

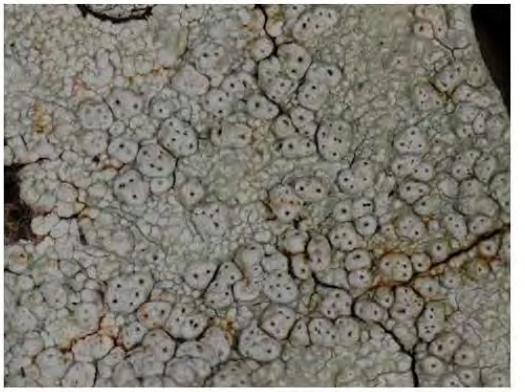
Lichenomphalia umbellifera on peaty bank, Brecknock, Wales © *Ray Woods*

Gyalecta jenensis on limestone cliff, Lismore Island, Scotland © *M.Sutcliffe*

Cyphelium tigillare on decorticated pine branch, Braemar, Scotland © *M. Sutcliffe*



Rhizocarpon geographicum on whin sill, Northumberland © *M. Sutcliffe*



Pertusaria pertusa on oak bark © *M. Sutcliffe*

Lichen conservation in action.....

Derbyshire Wildlife Trust volunteers clearing birch scrub from the boulder field in DWT's Ladybower Wood Nature Reserve. Photo © *Steve Price.*

This site was first surveyed for lichens by Oliver Gilbert in 1975, who considered it "one of the richest sites on the Derbyshire Millstone Grit, if not the richest." The topography of the site acted as a 'sanctuary' offering protection from the industrial pollution that removed the lichen interest from most of the surrounding area. 96 species are known from the reserve to date, with species of particular interest including *Cetraria muricata*, *Racodium rupestre*, *Rimularia furvella*, *Umbilicaria polytyla* and *U. polyrrhiza*. Unfortunately the small thallus of *Usnea filipendula* found by Oliver in the 1970s has now disappeared. Positive management for lichens is one of the conservation objectives of the nature reserve.

Dimelaena sp. in the Jigme Dorji National Park, Bhutan, a lichenological distraction from project work on conservation of caterpillar fungi by your *Bulletin* editor. © Paul Cannon

increasing number of local groups springing up which are worth joining if they are near you (check out the website for details). One of the features about lichens is that they can be studied almost anywhere from maritime rocks to mountain tops and rich lichen floras can now be found right into our inner cities. The Society has an Ecological Small Projects fund and it is worth considering taking on a project, perhaps even one in your own back garden or roof.

The Society has much to be proud of, often hitting above its weight, as with the Biosciences Federation through the efforts of Tony Fletcher and Peter Crittenden. We are the main source of knowledge on lichens in the British Isles and our expertise is regularly sought by the national conservation agencies. The Conservation Committee under the able leadership of Bryan Edwards has been very influential in inputting into the various initiatives like BAP. The mapping scheme run by Mark Seaward has been a major achievement over the last fifty years, and now we need to respond to demands for ever more specific information. Our data is well organised for supporting conservation work in Scotland as a result of the recent BLS-SNH project and now we need to turn our attention to England and Wales. David Hill as chair of the Data Committee and Janet Simkin are doing sterling work in this regard.

Elsewhere in this *Bulletin,* David Hawksworth has set out the way that the scene in which the Society operates now differs markedly from the period when it was founded in 1957. Until the mid-1980s, there were a significant number of British based members employed in museums and universities. But their number has now declined to 7 and several of whom will retire within a year. At the same time when the world's biota is under greater threat than ever before from a variety of man-made threats of which the most serious is climate change. The need for taxonomists and others who study the whole organism has paradoxically never been greater. We must adapt to these changing circumstances, but at the same time we must continue to lobby to reverse this loss of taxonomic and whole organism expertise by working with others through the Biosciences Federation and by continuing to build links with other Botanical Societies and the specialist biological societies more generally.

Whilst we are a British based Society about half our membership lives overseas and we need to be sensitive to their interests and perspectives. Our support for members attending IAL6 this year and our function for BLS members at this symposium are small examples of what we can do in this respect. In the past many members have encouraged lichenology in countries where there are few or no lichenologists. For example, the work by Dougal Swinscow with Hildur Krog in East Africa and that of Pat Wolseley in Thailand has shown what is possible.

As for the future, I am concerned that so much falls on so few people in the Society and I think we need to look carefully at our priorities and how we can achieve more by working with others. For example, John Douglass has already demonstrated what can be achieved by working with a local authority to create the exhibition 'The Secret Life of Lichens'. However we do have some major projects on the horizon like OPAL, involving the Education and Promotions Committee chaired by Barbara Hilton, of which there is more in this *Bulletin*. Paul Cannon, who has taken over from me as Editor of the *Bulletin,* has exciting plans for improving the format as you will see in this *Bulletin*. The website also continues to be added to and increasingly become attractive and our thanks go to Jacqui Middleton for her work

on this. I would urge members to check it regularly. The Data Committee are also looking at a major project for England and Wales to make our data reflect changes over time and be more site specific. The Flora led initially by the late Oliver Gilbert and now by Anthony Fletcher, assisted by Clifford Smith and others will be out this year and will be a massive achievement. I hope that will encourage the recommencement of our production of map fascicles.

There is a lot to do but I am sure that the Society will continue to grow from strength to strength. Perhaps it is an omen but I accidentally logged onto a wrong website recently and discovered that www.thebls.org was the British Longevity Society! I am hopeful that in 2058 that we will be celebrating our centenary and that some of you reading this will still be around. In the mean time I look forward to meeting as many of you as I can in the next two years and happy lichen hunting!

Peter Lambley
President, British Lichen Society

Fifty Years Ago

Once upon a time in the mid-1950s a revival of interest in British lichens occurred. At the time, the only lichen experts in the UK were Fred Sowter in England, Arthur Wade in Wales, and Ursula Duncan in Scotland. The revival was stimulated partly by Charles Sinker, a charismatic botanist and ecologist working at Malham Tarn Field Centre, who started to run lichen courses. Arthur Wade ran the first course on lichens at Malham Tarn in 1955 and he began discussions with both the British Bryological Society and with the British Mycological Society with the aim of establishing a lichen section in one of them. The Natural History Museum in London had a tradition of appointing scientists to work on lichens, reaching back to Crombie's time in the 19th century, and in 1955 the trustees had the good sense to appoint Peter James as head of a lichen section. Peter was a quick learner of lichen taxonomy and he soon became an expert in identification.

On 10 October 1957 Douglas Swinscow, known to his friends as Dougal, was walking in Borrowdale in the Lake District when he was struck by the abundance of lichens and thought that it might be a good idea to have a society devoted to these strange and unknown organisms. Previously he had worked on ferns and mosses and he was professionally involved with the British Medical Journal. Three weeks later, back home in Knebworth, he sent a duplicated letter to about 60 persons proposing that a British Lichen Society should be formed. Next month he sent out a second letter to about 50 people inviting them to attend a meeting at the Natural History Museum in London on Saturday 1 February 1958 in order to draw up a constitution for the formation of a lichen society.

Around the long table down the centre of the Board Room at the museum a group of 25 persons assembled at 2.15 pm on the 1st February as arranged. Only two of the 25 were women: the flamboyant Miss Wilson contrasting with the sober

Brenda Haynes. The remainder were all men, most in smart suits, and an impressive gathering they were. There was David Bellamy of Durham University; he became a much-loved presenter of botanical items on TV, and was a great personality known for his measured voice and bushy beard. Frank Brightman, a burly teacher, who was later appointed Education Officer at the museum. Dr Geoffrey Dobbs, who lived in Bangor and who campaigned tirelessly against the fluoridation of water. Fred Haynes, who later lost all his lichen material in a disastrous fire at his institution in Portsmouth and so devoted himself to music. Clive Jermy, who soon became head of the fern section of the museum. Joseph Peterken, a bryologist who became Treasurer, providing gravitas to this important position. Professor Paul Richards, the famous bryologist of the University College of North Wales at Bangor. Dr David Smith of Oxford University, who went on to study other forms of symbiosis, leading to his election as a Fellow of the Royal Society and also a knighthood. David Streeter, who was awarded an MBE for services to education in January 2007. John Tallis, of the University College of Wales at Aberystwyth, who compiled valuable early keys to *Cladonia* and *Usnea*. Arthur Wade, already a distinguished lichenologist but who after retirement emigrated to New Zealand to live near his adopted daughter. Cyril Castell worked on fossils at the museum and was a leading light in the London Natural History Society who later took early retirement only to suffer a severe stroke. John Gilbert, no relation to the celebrated Oliver, who worked on the spirit collection in the Kew herbarium and was compiling a flora of Huntingdonshire which was regrettably never published. Peter James, a great conversationalist who helped many with lichenology and who discovered that the same lichen fungus could unite with different algae to form lichens of quite differing appearance which he called chimeras. Ted Wallace, a distinguished bryologist with a great knowledge of the distribution of mosses, who worked for W.H. Smith. Also present was Alan Norkett, a bryologist at the Natural History Museum who worked on a monograph of *Fissidens* which was never published; he was the only person at the meeting who decided not to join the Society.

The chairman was Douglas Swinscow. He quickly developed a good knowledge of lichens and produced excellent illustrated accounts of several British groups of pyrenocarps. He subsequently met the Norwegian Hildur Krog, after which they both worked successfully together on East African lichens. Each of the participants was presented with a duplicated set of the proposed rules. By a unanimous vote a society was formed, after which the name was considered. Fred Sowter had sent a letter stating that "British Lichen Society" was bad English and he proposed that "British Lichenological Society" should be the title. However, the proposal was lost by 23 votes to one, Arthur Wade being in dissent. Alterations were then made to the draft rules, after which officers, Council members, and referees were elected. £1 was the agreed subscription. The meeting ended at 5 PM with a vote of thanks to Dougal by Joseph Peterken for setting up the British Lichen Society.

At the inaugural meeting Arthur Wade was elected Secretary, Joseph Peterken Treasurer, Peter James Editor and Recorder, David Smith Librarian, and Douglas Swinscow Curator. These officers formed the Council together with Fred Sowter, Ted Wallace, and Miss S. Wilson. Ursula Duncan, Peter James, Jack Laundon, Fred Sowter, and Arthur Wade were appointed referees. Detailed accounts appeared

subsequently in *British Lichen Society Bulletin* **22:** 1-2 (1968) and **77:** 1-10 (1995). Over half of the founder members have since died and we owe a great debt to all of them for their foresight.

The society quickly grew in strength and proved so successful that other countries eventually established their own lichen societies. The meeting on 1 February 1958 proved to be the most important lichenological event in the whole of the 20th century. Thank you Dougal.

Jack Laundon

The British Lichen Society: Past, Present and Future

Lecture delivered to the British Lichen Society at Nettlecombe on 12 January 2008 on the occasion of its 50th anniversary

As British lichenologists, we are singularly fortunate in having access to a very considerable amount of data, in the form of publications, archival material and herbarium collections, amassed over the past 300 years by a succession of enthusiasts, many of whom worked tirelessly to promote the subject both locally and nationally. Many of them dedicated their time, energy and indeed wealth to establishing nationwide links through voluminous and helpful correspondence, the naming and exchange of specimens, and the publication of invaluable guides to lichen identification. In so doing, they have united kindred spirits and provided the basis for the establishment of national goals achieved in the first instance by a variety of projects. Of particular interest in this respect is the pioneering work, carried out 200 years ago, of James Sowerby and James Smith, who organized fieldworkers throughout Britain to collect fresh material to illustrate their monumental *English Botany*, which duly featured invaluable coloured plates and descriptions of numerous lichens. Similarly, the publication of Turner and Dillwyn's *The Botanist's Guide* relied upon individual county lists supplied by a network of informants. I must mention the contribution made at this time by William Borrer, who generously devoted an inordinate amount of time and, indeed, his personal fortune to helping and supporting many lichenologists; the links he established undoubtedly provided a national platform on which to promote the subject. His *Lichenographa Britannica*, compiled by Dawson Turner, shows Borrer's outstanding insight into lichen systematics. However, it was never completed, so it was not until the publication of William Mudd's *Manual* in 1861 that a reasonably comprehensive and practical British flora, which incidentally recognised the value of the microscopic exmination of spores for lichen identification, became available. What is more remarkable is the fact that Mudd, at that time only employed as a gardener, could, over a very short period of time, find a sufficiently diverse lichen flora within the compass of his restricted travels in north-east England on which to base his *Manual*.

The period 1860-1890 was an extremely active period in the history of British lichenology, which was not to be surpassed until after the mid-1960s; this was due in no small measure to the dedicated work of William Lauder Lindsay, William Allport Leighton and James Morrison Crombie whose published works provided a firm basis for exploring the country's flora irrespective of where one lived – namely a platform for national rather than parochial activities. The second volume to Crombie's *Monograph* was completed by Annie Lorrain Smith, under whose name it was published; subsequently she revised both volumes and these and her *Handbook* were to provide the major reference work and indeed the only practical help in lichen identification for the next half century.

Despite various initatives by individuals to revitalise the subject at a local, and indeed at a national, level, British lichenology fell into decline during the first half of the 20th century. However, the vice-county recording system initiated by Hewett Cottrell Watson in the mid-19th century was instrumental in promoting a greater interest in the British flora at a national level, particularly in respect of distributional studies. This did not have an immediate impact in terms of lichens. Although from 1873 to 1886, the Botanical Record Club, established mainly through the enthusiasm of Frederic Arnold Lees to accumulate and publish county records and exchange specimens included lichens in its terms of reference, they did not figure largely; however, the Record Club's distinctive, well-labelled packets are occasionally encountered in herbaria. In 1907, Arthur Reginald Horwood was responsible for establishing the Lichen Exchange Club of the British Isles, the first society devoted exclusively to lichens. Although its membership never exceeded 29, reports were published annually and specimen packets (bearing a distinctive mauve impression from an oval rubber stamp) were distributed between members. The Club ceased to function in 1914 and it was not until 1953, when Walter Watson published his *Census Catalogue*, that a full distributional analysis of the British lichen flora based on the vice-county system established by H.C. Watson 100 years earlier was accomplished.

The formation of a Lichen Study Group by Frederick Archibald Sowter in 1954 revived British lichenology; this probably provided some impetus for the establishment of a national society, but it was through Dougal Swinscow's initiative in contacting and drawing a favourable response from potential members in 1957 that an inaugural meeting could be held in 1958 at which the British Lichen Society, the first in the world devoted solely to lichenology, was founded. From the outset, the Society aimed at promoting all aspects of lichenology through an active programme of field meetings and the dissemination of knowledge through lectures, workshops and a variety of publications, more particularly *The Lichenologist* and the more informal *Bulletin*. An important element of the Society's success was the family atmosphere generated at meetings and through correspondence. It should be noted that although a significant proportion of its membership were academics employed in universities, colleges and museums, a kindred spirit prevailed which united amateur and professional, particularly evident at Society field meetings. Another feature which cannot be overlooked was the gentlemanly way in which the Society's affairs were conducted by its officers, particularly by its secretary Arthur Wade – anyone receiving his charming and encouraging letters would not hesitate to join the Society!

The Society is fortunate in not only publishing an internationally renowned journal, *The Lichenologist*, but also a *Bulletin*, which mainly under the editorships of Arthur Wade, Jack Laundon, Oliver Gilbert, Peter Crittenden and Peter Lambley, has provided a wide and at times lively platform for all things lichenological. Mainly through the reputation of *The Lichenologist*, upheld by its succession of very capable editors, Peter James, David Hawksworth, Dennis Brown and Peter Crittenden, the Society has also gained an international membership; the proportion of non-British members is increasing yearly, particularly by many of those academics fortunate enough to teach taxonomy and ecology in establishments which have not witnessed the same decline in its teaching in our colleges and universities. Today everybody on a platform, particularly the politicians, talk about biodiversity but very few can determine or measure it accurately!

A major problem facing the Society in its early days was the almost total lack of adequate aids to lichen identification. To meet this deficiency, several members were dragooned into constructing keys to difficult genera, such as *Alectoria, Cladonia*, *Collema* and *Usnea*, which were published in *The Lichenologist* between 1958 and 1961. Reprints of these keys, mimeographed copies of Eilif Dahl's 1952 keys to macrolichens, Ursula Duncan's 1959 *Guide to the Study of Lichens*, Kenneth Alvin and Kenneth Kershaw's 1963 *Observer's Book of Lichens* and lichen keys published in *The Lichenologist* enabled a wide spectrum of interested parties to identify lichens in the field and laboratory. The series of excellent papers on pyrenocarpous lichens by Dougal Swinscow in early volumes of *The Lichenologist* meant that many of us had a greater knowledge of, and ability to identify, these problematic lichens than more commonplace taxonomic groups. As "*Grapevine*" remarked in the *Bulletin* following the Society's Silver Jubilee celebrations, at which time Dougal was made an honorary member of the BLS, "Thank the good Lord that someone has made sense of pyrenocarps for lesser mortals". Regular Society field meetings, as well as courses on lichens held at Field Study Council Centres since the early 1960s, helped towards improving accuracy in identification and making the subject more widely known. The Society's referees played, as they continue to do, a vital role in maintaining standards of lichen identification.

One of the greatest spurs to the resurgence of interest in lichenology was the publication in 1970 of *Introduction to British Lichens* by Ursula Duncan (assisted by Peter James) which enabled the majority of lichens likely to be encountered to be reliably identified. Since then of course, many increasingly comprehensive monographic treatments of particular genera within the British Isles, complemented by vital identification keys, have been published. At the same time, taxonomic, ecological and geographical knowledge has been expanded through the publication of checklists, local floras, studies of selected habitats and substrata, and an increasing interest in lichenicolous fungi. After nearly 30 years, these concerted efforts finally allowed us to arrive at a point when the production of a definitive national Flora became a feasible proposition and in 1986, facilitated by a NERC grant which enabled the appointment of William Purvis as a full-time researcher, work commenced on a new *Lichen Flora of Great Britain and Ireland*. Ably supported by a team of collaborators and a BLS Advisory Group, the task was completed within six years and the eagerly awaited *Flora*, a landmark in the history of British lichenology,

was published in 1992. It is pleasing to note that the second edition of this vital work is now at an advanced stage; sadly, its major champion, Oliver Gilbert, is no longer with us to share in its success.

Detailed reports of Society field meetings were a feature of earlier issues of *The Lichenologist*; these were subsequently taken over in part by the *Bulletin*. Furthermore, in the early days of the Society, attention was paid to holding field meetings in underworked areas, the objective often being to provide essential distributional data for the Society's Mapping Scheme. Field meetings were only one part of a massive programme of field recording, as exemplified by the output of publications. The Mapping Scheme, established in 1963, has undoubtedly been one of the Society's success stories; not only did it contribute to our knowledge of the distribution, ecology and status (and thereby conservation) of lichens in Britain and Ireland, but it also involved a very large proportion of our membership as well as non-members, particularly ecologists and environmentalists, in fieldwork – affectionately known as "square bashing". Natural developments of this on-going nationwide project have been the publication of *Atlas* fascicles and important surveys of selected habitats including the current churchyard survey, initiated by Tom Chester. From such work it has been possible to establish valuable red data lists of species and habitats, which have contributed to the important work of the Society's Conservation Committee.

Recent advances in computer technology have necessitated a rethink on various aspects of the mapping and related programmes; to this end, the Data Committee has accepted the challenge and software and systems are being developed to furnish the Society's needs. However, although such work should be applauded, all too often its complexity exceeds the needs of most members and the elaborate collection of data and their manipulation detracts from good honest fieldwork; furthermore, without continued careful updating, data lose their edge or indeed are lost. It is of paramount importance to conserve certain archival material, including of course herbarium collections. The invaluable Scottish database (SSLD) assembled with the aid of a Scottish Natural Heritage grant in recent years has been achieved in no small measure from its effective use of field data derived from the above sources, and, in so doing, has raised awareness of lichens in both the scientific and wider community, as well as providing training for young lichenologists; such projects are important in strenthening lichenology at a time when the number of institutional based lichenologists is declining. Information technology, mainly via the internet, has also been important in promoting a wide range of the Society's activities, including its educational role, and in facilitating easier communication between members and with the public at large.

The Society should not forget that although it is British by name, it is international by nature. It should continue to involve its foreign membership not only through its publications but also by supporting international meetings at home, and indeed abroad, such as those under the auspices of the International Association of Lichenology (IAL). The earlier meetings held in Britain were also milestone events in the history of our Society, those of particular note being the International Botanical Congress held in Edinburgh in 1964, the First International Mycological Congress held in Exeter in 1971, and the International Symposium "Lichenology: Progress and Problems" held in Bristol in 1974.

A subject is only as good those who study it: not surprisingly, the story of the British Lichen Society is inextricably linked to its members. Long may the Society attract and provide the necessary support for future generations of enthusiasts dedicated to this fascinating subject.

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Much Ado about Data: Recent Advances in Biological Recording

In recent years there have been some exciting advances in the world of biological recording and this is a good time to look at what they offer to lichenologists.

First it is worth considering what we record, and why. Many records are made for a particular purpose, to monitor the condition of a site or a species under threat, or to find out more about the lichens of an interesting habitat. Other records are made for the sheer fun of it. The collecting instinct is strong and some people collect records with no intention of ever using the information themselves, although usually with the hope that will be of use to someone. The result of all this activity is that there is a wealth of lichen records out there, but they are scattered and of variable quality.

The records we are talking about here are not just the 10km square lists compiled for the Mapping Scheme, but records for sites, with a location name, grid reference, recorder, date and species. Sometimes only the species of interest are noted, but increasingly we record everything we see, sometimes also with details of substrate and position. Many of these records stay on cards or in notebooks and it can be years before they see the light of day again.

Since the 1960s computer systems have advanced from mainframes to PCs, with simple text-based systems being replaced by Access databases and then SQL Server. All these databases have one thing in common, the tendency to suck data in like a black hole with only a privileged few getting anything back out of them (the Mapping Scheme has been a notable exception to this, but thanks to the hard work of Mark Seaward rather than the technology). However, over the same period the internet has developed at an astonishing rate and now we also have tools such as the National Biodiversity Network (NBN) Gateway and the Global Biodiversity Information Facility (GBIF) which make it possible for anyone with an internet connection to access the records in these databases. At last the information they contain can be more widely used.

The Society's databases have followed the same path. We started with the Mapping Scheme, a tremendous achievement when it started but even more notable in that is still going 45 years later. Then we had BioBase, our first site-based recording system. This was simple and easy to use, but couldn't handle the volumes of records we were beginning to accumulate. For the Threatened Lichens database we tried Recorder 2002, a more sophisticated system but also with limitations. We had to wait for Recorder 6 before there was a system that could meet our needs and like all new computer systems it had a few teething problems. It wasn't until last year that we could start using it and we are still going through the tricky process of moving our existing data across from BioBase.

Recorder 6 organises the information it holds into hierarchies, so that locations can be grouped together into vice counties, and records into what are called "surveys". We are setting up a survey for each vice county to make it easier to find and manage the records. Within each survey records are grouped together into survey events, each representing a site visit on a particular date. The species records can include details of specimens, determinations, substrate, position, abundance and other notes. Records are entered through screens that correspond to our recording cards, or from spreadsheets. Within the BLS the central database acts as a hub with other Recorder systems surrounding it as satellites. These can email records to the hub, and receive copies of information held centrally. Parts of the database can be managed on these satellite systems, and Brian Coppins is already running the Scottish database in this way.

An important part of our database work is maintaining the species dictionary. This shows the current name for each taxon, together with the BLS number, synonyms, and notes on the conservation status. We issue updates every year for BioBase, Recorder 6 and the NBN Gateway.

Once records are in Recorder 6, and the location details and grid references have been checked (we still get a worrying 6% error rate in grid references!), we can make them available to various internet sites. This is done through the NBN Gateway,

which collates records for all animal and plant groups for Britain and provides easy access to them in distribution maps and site lists. Maps can be produced for the whole country or a particular vice county, and overlain on the OS map if required. The interactive map allows records to be selected and full details displayed or downloaded to your own computer. People set up as validators can flag records as dubious or invalid and add comments to them.

Once records are on the NBN Gateway they can be picked up automatically by websites such as SNHi and GBIF. SNHi is similar to the Gateway in producing site lists and maps, but it can also locate the records on GoogleEarth images which give a lot more information about the habitat and situation. GBIF is similar but international, picking up records from databases all round the world. At present there are a lot of gaps, but by the end of 2008 they hope to have access to 1 billion records. Our Scottish database is already available on the NBN Gateway, and the Threatened Lichens database should be on within the next few weeks. The next big project is to collect together all the site-based records for England and Wales. As with previous projects this will involve computerising records that are still on paper, then the time-consuming work of checking for unlikely records and incorrect location details. This project is expected to cost about £200,000 plus volunteer time, and we hope that as many members as possible will get involved. So far we have traced about 920,000 records for England and Wales, more than half of which have already been computerised but are not yet in our database. 58% of these are from the south of England so there should be more still to be found for Wales, the midlands and the north.

There is no need to wait for this project if you have records to send in. We are already collecting them for England and Wales, and Brian Coppins is adding new information to the Scottish database. It helps if they have been typed in to the BLS spreadsheet, available from the website. Records for common species are as valuable as those for rarities, and we need more repeat observations for sites as these show trends of change.

A lot of hard work is going into collating this information and making it accessible on the internet. You might want to use it for research, local conservation or to plan your next holiday. Take a look and see for yourself!

Websites

National Biodiversity Network Gateway (NBN) www.searchnbn.net
Global Biodiversity Information Facility (GBIF) www.gbif.org
Scottish Natural Heritage WIMBY (SNHi) www.snh.org.uk/snhi

Please note

In submitting records to the BLS you give us permission to use them in our databases, publications and on the internet. You retain ownership, and are responsible for having obtained any necessary permissions.

Janet Simkin

Evolutionary Experiences in Lichenology

The occasion of a Golden Jubilee is one for reflection, and in the case of lichenology and the British Lichen Society (BLS) it provided me with an opportunity to consider evolution at the personal, scientific, and societal levels. These are necessarily personal opinions, and I feel honoured to have been asked to share them during the Golden Jubilee celebrations at Nettlecombe Court and subsequently here.

Personal evolution

My personal evolutionary trajectory into lichenology arose from sixth-form biology and pre-university botany courses at the Flatford Mill Field Centre of the Field Studies Council in 1962-65. The tutors could not name the macrolichens that then were so abundant on parts of Lakenheath Warren, and during the 1964 course I read des Abbayes' *Traité de Lichénologie* (1951) and was hooked. The then warden, Jim Bingley, encouraged me to join the BLS which I did later that year, and I went to my first AGM at Imperial College London in January 1965. I recall travelling by train in an army uniform from Catterick where I had been helping my old school's Combined Cadet Force unit to the Society's spring field meeting in Llandovery in 1965. I was amazed at how much members knew. Wishing to know how to progress, I asked John Sheard who told me "to follow that man" – pointing to Peter James. I then became involved in a student project to survey Bradgate Park in my first year at the University of Leicester, and met "Freddie" Sowter who ran the Lichen Study Group that was a forerunner of the Society. Freddie was a constant at-hand support, and I soon learned to love his library which I was later privileged to have come into my charge. Mark Seaward was then close by in Loughborough, and I also had much help also from Oliver Gilbert, Jack Laundon, and Ursula Duncan with specimens I found tricky. I attended BLS excursions whenever I could, and especially recall meeting Francis Rose at Vinney Ridge in the New Forest where he had schoolboys Brian Coppins and Allan Pentecost climbing trees searching for *Lobaria's*.

A scheme to enable me to work for a PhD on the peat deposits in Shetland with the late Winifred Tutin (*neé* Penington) failed to obtain funding. Informing me about this, a sheepish Tom Tutin suggested we made an "instant" application to the Science Research Council to work on lichens that afternoon. I knew *Alectoria s. lat.* was a problem from struggling to identify specimens from Shetland, and the work was funded from September 1967. Had I known how much of a problem, a different genus might have been chosen. David Moore and later Tom were successively my supervisors in Leicester, with Peter James as specialist co-supervisor, but I was mainly left to my own devices. Fortunately a sagely Arthur Chater was then on hand at Leicester to help with the thorny nomenclatural problems that came to light. During my Leicester days I continued to attend BLS field meetings whenever I could afford them, and also started collaborating with Francis Rose. On our first joint expedition to the Wyre Forest in May 1968, I had to wait almost three hours for Francis to arrive; this was pre-mobile phones and I almost gave up and left for home. Especially memorable was the whirlwind eight-day tour through the north of England made with Francis and Brian Coppins in May-June 1969 when the skeleton

for the infamous "Hawksworth & Rose" 0-10 zone scale for mean sulphur dioxide level estimation was hatched while driving back south.

But what job could one get with a PhD in lichen systematics? The two plum jobs at the then British Museum (Natural History) would surely remain occupied by Peter James and Jack Laundon into the 1990s. Then in the spring of 1969 a vacancy for an Assistant Mycologist was advertised at the then Commonwealth Mycological Institute in Kew. I knew that Gareth Morgan-Jones had been able to do some lichen work while there, and surely lichens were just fungi with a special biology? I hesitated about applying as I was only just completing the second year of my PhD, but did as I knew such an opportunity might not arise for decades. I applied and was shown around and interviewed informally on my own by Martin Ellis and Colin Booth; I gathered they had around 40 applicants, but overheard Martin whispering "he'll do" to Colin, and then heard nothing for months. There was then an interview at India House, where I was unnerved to find another candidate ("Kitty" Brady) – but I did not then know there was also a vacancy in the culture collection. Sir Thomas Scrivenor, in the chair, wanted to know if I thought these computers were "a good thing". I had done some numerical taxonomy with Peter Sneath so reacted positively; with the benefit of hindsight I would have been more cautious in my response. What I now suspect is that there was a hidden agenda devised by Geoffrey Ainsworth, the past-Director, to include lichens in the *Dictionary of the Fungi* and other Institute works. Anyway I was offered the position. This was great in that the mycologists had to undertake their identification and editorial work, but then could do what they wished provided it was vaguely mycological; meetings of the Welsh Nationalist Party, in which Gareth had been a key member (and almost an MP) were definitely now discouraged. It was an amazing opportunity, and also the ideal base to develop my knowledge on lichenicolous fungi with so many microfungal specialists to hand.

And then my personal evolution accelerated . . . . . but that is a story for another place. What is relevant here is the influence of the Society and its members on my early development in science. The nurture and encouragement of awkward precocious aspirants should perhaps be viewed as a key role of specialist societies; be that as it may, this is something for which I will always be indebted to the British Lichen Society.

Scientific evolution

I am fortunate to have lived through exciting and challenging times in the evolution of lichenology and our understanding of lichens. The start of the Society's Mapping Scheme in 1964, with the evolution of its cards from those with only a few species considered reliably recognized and rarely found, to ones heavily annotated with pieces of paper sellotaped to them, and eventually complete ones even with lichenicolous fungi included. We knew little of lichen distribution in the mid-1960s, and it was thrilling to see maps develop and patterns developing, especially on Francis Rose's "unofficial" versions passed around in poorly lit bars for colleagues to add spots to. Peter James' 1965 checklist was like a breath of fresh air introducing order into chaos, and there was the thrill of having the page proofs of Ursula Duncan's *Introduction to British Lichens* to use during the first course I ran for the first

Field Studies Council at the Slapton Ley Field Centre in 1969. Then there was the excitement of lichens making headlines with the three David's 1967 publication in *Nature* proving carbohydrate transfer between the photosynthetic and fungal partners in lichens; and it was great to have two of those Davids in Nettlecombe (Hill and Richardson; the third, Smith, had sent apologies). Changes in distribution due to air pollution and other factors started to be understood, and the concept of lichens as indicators of ecological continuity in forests was introduced by Francis Rose in 1974.

Funding secured from the Science and Engineering Council in 1980 enabled a detailed checklist to be produced of all the ascomycetes of Great Britain and Ireland, including the lichens (*The British Ascomycotina*), to be prepared and published in 1985; Paul Cannon was initially employed on the last phases of project. This checklist paved the way for the Natural Environment Research Council Grant in the years 1986-90 to produce *The Lichen Flora of Great Britain and Ireland* which was finally issued in 1992, and on which William Purvis was employed prior to securing a post at The Natural History Museum. With the first comprehensive coverage of lichens of our islands to appear since Annie Lorraine Smith's monograph of 1918-26 now available, knowledge of British and Irish lichens reached a new peak.

Techniques for studying lichens also evolved, including the scanning electron microscope (the second machine outside Cambridge) which I first used at Leicester in 1967. Developing skills in making microcrystal tests for lichen compounds, then paper and later thin-layer chromatography; I remember struggling to make thin-layer plates from suspensions on glass, and also the visit of Peter James and Jack Laundon to Leicester to determine what they needed to set up a chemical laboratory in the Museum. Then there were the first faltering steps with lichen DNA in the mid-1990s, prior to the modern explosions that have revolutionized our understanding of lichen fungi. Not only are their systematic positions becoming clear within the overall fungal system, some lichenized fungi appear to have been ancestors of many now non-lichenized fungi, and lichenicolous habit even seems to have been a stepping stone in the evolution of some plant pathogens. Lichen genera with no known fruit bodies are now being placed in families along with sexually reproducing species. Generic concepts are being revisited and rationalized in many groups, ending sometimes decades of controversy or uncertainty. Cryptic species are being uncovered within "species" we thought we knew well, and breeding patterns are now starting to be elucidated. The first whole genome of a lichen, *Xanthoria parietina,* is now set to be sequenced, as a consequence of it having found a champion in Peter Crittenden; this will be the first step in trying to determine which genes are involved in the process of lichenization itself.

The whole field of ecophysiology of lichens has been founded and blossomed during the Society's history, with the familiar figure of Ken Kershaw in the van in London before he decamped to Canada in the 1960s. The uncovery of the sophistication of the interplay between lichens and their environment has been remarkable. I had managed to culture what I now know was a *Bryoria* lichen mycobiont in liquid shake culture while at Leicester in 1968, but never published it; yet by the 1980s culturing had become almost commonplace in some laboratories. Growth of the lichen partners in pure culture, led to experiments on their synthesis and a new understanding of how lichen products were made; they proved to be

products of the fungal partner and no alga was necessary for their formation. Indeed, the fungal partners of lichens have proved to be not particularly harder to culture than many non-lichenized fungi, provided they are freshly collected and treated to appropriate media.

The role of computers has progressed from cluster analysis on machines reading only punched cards and occupying the whole floor of a building, to records databases able to produce maps on demand, to *Index Fungorum* with data on over 400,000 fungal (including lichen) names, and electronic journals. Then we also now have Recent Literature on Lichens (with earlier literature lists included) available and freely searchable through the energies of Ted Esslinger, the country checklists put up by Tassilo Feuerer, and numerous other data sets and collections of photographs to access at a whim. Further, who could have speculated even a decade ago that the entire *Lichenologist* from the first issue in 1958 would be available through a screen on a lap-top with no wire connections in 2008?

I have also been thrilled to see the attention now given to lichens in the conservation arena. Biodiversity Action Plans for endangered species are being funded and implemented, lichen surveys of them are commissioned by the conservation agencies, and they lichens are used as indicators in the assessment of the scientific importance of woodlands.

On the broader front, the Society has witnessed lichenology becoming integrated into mainstream mycology, especially after the First International Mycological Congress held at Exeter in 1971, in which many Society members had a role. That, and the inclusion of lichens in the *Dictionary of the Fungi* the same year and also the *Index of Fungi,* initially met with howls and abuse from both mycologists and other lichenologists. But integration is now the norm and any separate classification system is unthinkable. We even now know of some 51 genera that include lichenized as well as non-lichenized or lichenicolous species, and single species which may be lichenized or not depending on the availability of an appropriate alga or the substratum.

Societal evolution

The development of lichenology in the British Isles has already been addressed in *Lichenology in the British Isles 1568-1975,* prepared with Mark Seaward in 1977; I will not go over that ground again. However, what has been most marked is the subsequent role the Society has played in stimulating lichenology internationally. The Society's 10th anniversary meeting at the then British Museum (Natural History) in 1968 had attracted an international audience, and the 1971 Exeter congress stimulated the idea of a separate international symposium *Lichenology: Progress and Problems* organized by the Society with the support of the Systematics Association in 1974; this was the forerunner of a series of International Association for Lichenology congresses using the same title. The Society was later also involved in organizing international meetings at Bristol on lichen physiology in 1983 (led by Dennis Brown), and in London on tropical lichens in 1989 (led by David Galloway) and on lichen molecular systematics in 1998 (led by Mats Wedin), and at Orielton on lichens as biodindicators in 2000 (led by Pat Wolesley). These events have brought great credit

to the Society, produced significant publications, and enhanced the Society's international standing.

Further, *The Lichenologist* has evolved to become the subject's leading international journal, growing from eagerly awaited annual numbers to six issues a year. What is salutary, however, is a recent analysis of papers published prepared by Tony Fletcher. That shows that in the early years of the journal 90% of authors were British-based, but that this proportion has now fallen to less than 10% of the total, most of the latter being reports of field meetings and other miscellaneous items. This is symptomatic of a major decline in the science of lichenology in the UK that set in in the late 1980s. Also indicative of this situation is the composition of the Society; of the 74 members in the first list published in the journal in 1958, 43 were based in UK museums, universities or other research institutes; in 2008 that same figure will dip to an almost all-time low of seven with the departure of Scott LaGreca. Further, only one of those seven is in a regular full-time university position (Peter Crittenden).

Fortunately the Society has been able to count on many stalwarts continuing to serve long after their retirements. Indeed it is gratifying that eight of the 17 Officers and Council members who were in office in 1975s were present in Nettlecombe, and several of whom still hold significant roles in the Society. What has been spectacular is the growth of "amateur" expertise. However, I cannot stress too highly that this has only been possible because there have been professional lichenologists to produce essential reference works, run field courses and workshops, and check critical identifications. This mismatch is becoming increasingly acute as retirements progress and age takes its toll.

The issue of decline in the teaching and knowledge of whole organism biology is not by any means unique to lichenology, but is a direct result of the UK having a reductionist rather than an holistic approach to science. This is something that some other countries have been able to avoid, as in Spain where the same university will often be found to have groups working on cutting-edge genomics as well as systematics. The House of Lords Science and Technology Committee is currently investigating the state of taxonomy and systematics in the UK, and Tony Fletcher has made a strong submission on behalf of the Society. I am sure it will make strong recommendations, but I am pessimistic as to whether any will be vigorously acted on by Government bearing in mind the responses to similar previous enquiries that have been taking place since at least 1963. I hope my assessment is proved wrong.

In the light of the changing composition of the Society, the current attitude of UK science, and declining numbers of professional lichenologists, I believe that the Society needs to develop a vision of its future evolution for the next half of its first century. In the late 1980s the British Mycological Society established a one-off "Forward Thinking Committee" to develop a long-term vision for endorsement by its Council; parts of its report are still being implemented today. I suggest that the British Lichen Society also considers forming a similarly charged committee to make proposals to Council of where the Society should be in 10 or 15 years, and also recommend how that goal can be achieved. This will not be an easy task, and would involve one or two special meetings, but if everybody leaves this task to somebody, nobody will do anything, and we can be sure nothing will be done.

The Society is in good heart, as evidenced by the attendance and age-profile at Nettlecombe, and I am confident it has a bright future. However, we the members must never forget that we are the somebodies who must make that prospect a reality. May the Society prosper and evolve to meet the needs of a changing world.

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The Only Constant is Change

Climate as an emerging feature in a lichenologist's worries

Climate change is a natural feature of our planet. At various times during its history the Earth has on average been both far colder and much warmer than it is currently. Major climatic changes have been driven by a variety of mechanisms – orbital changes in Earth's motion, changes in solar activity, the pattern of land-masses and ocean currents, atmospheric gas content and volcanoes have each contributed to the complex history of Earth's climate. Two questions emerge. First, given the complexity of processes causing this recurrent change in climate, how can we be confident recent climate change (if it's happening) is a result of human actions? Second, why should we worry?

Despite the apparent complexity of Earth's climate many of the primary mechanisms causing change are well understood. Understanding of orbital changes resulting in major climatic events (e.g. ice ages) was established by the first half of the 20th Century, distinct periodicity in solar activity and the pattern and process of ocean currents are well studied, and the effect of volcanoes on climate has been documented following major eruptions. Likewise, the greenhouse effect has a sound physical basis – gases such as carbon dioxide and methane (CO_2 and CH_4) absorb longer-wave radiation emitted from the warmed surface of the Earth, and cause further warming of the atmosphere. Without this greenhouse effect the planet would be on average *ca* 30^{o} C cooler than it is currently. The importance of recent well-publicised assessments by the IPCC (Intergovernmental Panel on Climate Change) is their synthesis of the various possible mechanisms that are known to cause climate change, which they compared to the recent observed warming of the planet (e.g. *ca* 0.13^{o} C per decade during the past 50 yr). Their conclusion, based on the best available scientific evidence, is that recent warming cannot be explained without invoking an enhanced greenhouse effect caused by emissions of CO_2. Of course the IPCC scientific evidence is not comprehensive (it is in the nature of science to strive for greater proof), but it is appropriate to act according to the best available evidence. It is also worth noting that the accumulation of evidence since the first IPCC assessment report in 1990 has served to strengthen the case for human-induced climate warming, not weaken it. On this basis, observed rises in atmospheric CO_2

concentrations are well documented, and they explain recent planetary warming sufficiently well to cause major concern. We should therefore be worried about climate change because of the rate at which we're adding CO_2 to the atmosphere (the atmospheric concentration of CO_2 is now ca 385 ppm, compared to a pre-industrial level of 270 ppm) and because of significant unknowns that warrant caution rather than complacency (e.g. the potentially massive feedback effects from melting permafrost and the consequent release of additional greenhouse gases to the atmosphere).

As humans we should worry because the rate and magnitude of future climate change are expected to exceed anything experienced during a recent and brief period of relatively stable climate, during which time we have developed civilisations, drawn national boundaries, established a tight dependency on a small number of food species, and become increasingly profligate with energy and water resources. As lichenologists we should worry because of a concern for biodiversity. Nevertheless, there remains a dissenting school of thought advocating a *laissez faire* attitude. This is based on the fact that climate change has occurred in the past, and life has survived, and consequently will survive in the future in some state. In fact, life hasn't just survived past climate change, but it can be persuasively argued that past climate change is one of the main drivers of macro-evolutionary change. The concern for biodiversity at the opening of the 21st Century is that we're reducing opportunities for the ecological or evolutionary response of species to climate (e.g. there are reduced opportunities for migration and gene flow in fragmented habitats), while creating the prerequisite conditions for rapid global warming. It has been estimated that our actions (habitat destruction and fragmentation, pollution etc) have elevated extinction rates to 1000 times the 'natural' background level. Large-scale global warming would act as an additional significant stress on biodiversity, weakening existing conservation efforts. I will argue here that there are two levels at which a climate change threat to lichens can be quantified and understood. First, there may be a direct threat of climate change to species; second, there may be an indirect threat catalysed by additional factors (e.g. habitat loss, pollution effects, changed species interactions etc). These threats are poorly understood for lichens, and a greater understanding of climate change threat is urgently needed to identify opportunities for effective conservation.

A Direct Climate Change Threat

Lichens evolved at least 400 million years ago (the age of the oldest fossil lichen) – they're over twice as ancient as birds, and eight times older than the horse. Lichens have already survived one major period of planetary cooling (the 'Karoo Ice Age' of the Carboniferous and Early Permian Periods) and subsequent warming, and have lived generation after generation through the vicissitudes of geological time. Despite the tenacity of life amply evidenced by lichens, there are various species for which global warming would signal the end of existence. These include species that have evolved a specialised 'adaptedness' for conditions on our relatively cool planet. These conditions include the development of ice sheets on Antarctica (*ca* 34 million years ago), and the more recent development of permanent ice sheets in the Northern Hemisphere (by *ca* 2.5 million years ago) which expanded and contracted during the

ice ages of the Quaternary. The polar bear is a popular example of a threatened species. The oldest fossil polar bear is ca 100,000 years old, while molecular clock evidence suggests the polar bear may have diverged from the brown bear as recently as 200,000 years ago and certainly within the Quaternary. The polar bear is characterised by traits which distinguish it from the brown bear and highlight its adaptedness to our cool planet. It has a different (more northerly) distribution compared to the brown bear, it hunts seals on the pack ice, it swims long distances, it is camouflaged against the snow… Accordingly, an observed rapid reduction in sea ice has been identified as a major threat to the polar bear. If the reduction in sea ice continues (some scientists suggest sea ice will be absent from the North Pole by 2050) extinction for the polar bear seems almost inevitable.

Do lichens exist that are equivalent in threat status to the polar bear? The answer to the question is perhaps more subtle than may be expected, because many lichen species occurring in the world's coldest places appear to be 'global wanderers', as equally at home in a sunny grave-yard in Dorset as they are on an ice-blasted South Georgian crag: *Buellia aethalea*, *Lecanora polytropa*, *Rhizocarpon geographicum* etc. The question though is an important one. Similar to the well-loved polar bear, beluga whales or penguins, lichens are equally iconic inhabitants of the polar regions (and alpine mountain tops), where they are often dominant and functionally important components of the vegetation. Additionally, there is emerging evidence for traits signifying the adaptedness of certain species for cool planetary conditions. These traits may be relatively obvious morphological adaptations, e.g. the blackened cortex in the '*Neuropogon* type' *Usnea* species, thought to provide protection against abrasion and ice-scouring, or to enhance heat absorption. The *Neuropogon* traits are known to have evolved several times independently in the genus *Usnea*, occurring in species which live in the arctic, Antarctica or on alpine summits. Other traits may be less obvious, though no less important. The lichen research group at Nottingham headed by Peter Crittenden has identified 'cryptic variation' in the cosmopolitan species *Xanthoria elegans*, demonstrating genetic and physiological differences between thalli collected from contrasting locations, including a propensity for more rapid growth in thalli from colder climates. The corollary is that *X. elegans* from cooler locations (e.g. Antarctica) may have evolved unique physiological traits for growth under extremely cold conditions. The Nottingham team have identified cryptic genetic variation in another cosmopolitan genus, *Ochrolechia frigida*, and have used a preliminary molecular clock to date the divergence of an 'Antarctic clade' to ca 35 million years ago, a date which matches with the origin of Antarctic glaciation in the late Eocene and early Oligocene. Undoubtedly, the stage is set and the tools available for the identification of threatened 'polar bear lichens', though much more research is needed before a consensus may emerge. Nevertheless, there does appear to be the potential among lichens for an evolved adaptedness to cool conditions (both morphological and physiological) and emerging evidence for the timing of genetic divergence consistent with an evolutionary response to a cooler plant. A more complete description of cryptic diversity is likely to play an important part in quantifying this threat. That lichen species and their genetic clades have the propensity to be directly threatened by global warming seems in little doubt; however, their number, diversity and threat status remain entirely unknown.

An Indirect Climate Change Threat

The indirect threat of climate change concerns us with lichen species in Britain and elsewhere in Europe. It recognises that climate change is likely to have wider consequences because it will not act in isolation. Thus, species that are dispersal-limited and which occur in fragmented habitats (e.g. isolated patches of old growth woodland) may be unable to 'track' climate change by migrating long distances between isolated patches of suitable habitat. At landscape scale many such populations may find themselves trapped in a scenario of deteriorating climatic suitability, causing a decline in regional abundance and possible extinction.

A useful starting point for examining the climate change response of British lichens is to begin by identifying groups of species with well-defined distributions, and to project the species response to standard climate change scenarios. This is equivalent to asking where the species occur today, what the climate is like where the species occur, and where that 'climatic space' will be in the future. It depends on accurate mapping (impossible without the BLS mapping scheme) and the cautious selection of species. This same procedure has been widely applied across animals and vascular plants, but (in a typical example of taxonomic bias in mainstream science) lichens and other fungi have been neglected. In response to this knowledge gap, RBGE has used novel analytical methods developed by the North American lichenologist Bruce McCune to generate a range of projections describing the response of twenty-six lichens to climate change scenarios for the 2050s (using the UKCIP02 dataset: www.ukcip.org.uk). The analysis demonstrated the potential for a reorganisation of the British lichen flora, consistent with the response generally predicted and observed across other biological groups. This includes a threat to northern-montane and northern-boreal species, and an expansion of southern species northwards. However, within this framework of projected change it is possible to identify a number of uncertainties that are of particular interest. First, in our analysis we did not project species' range under 2050s climate into areas outside the scope of climatic data used to develop our models. Thus, while southern species might be expected to move northwards, it was impossible to project their distribution in south-east England during the 2050s (where the climate is expected to be drier and warmer than anything experienced in present-day Britain). This gap in our knowledge of climatic response falls in an area where the lichen flora has experienced the most severe effects of pollution. Thus, as we drive pollution levels down and lichens return, we are unable to predict whether the south-east will be recolonised by what we might consider to be our 'native' southern British flora, or whether we'll experience in the coming decades the arrival of species from warmer and drier regions of Europe. How will we assess these possible new colonists in terms of conservation status? How would we assess the changing status of protected sites as new species arrive – would such species be treated as welcome additions to our flora, or alien invaders?

Concern over the potential loss of climate space for montane and boreal species is sometimes equivocal. Many of the species that may be threatened by climate warming (e.g. *Flavocetraria nivalis*, *Solorina crocea*, *Vulpicida pinastri*) are far more abundant in Scandinavia than in Britain, and our action over the loss of British

populations depends perhaps on their genetic identity. Do our populations of *Flavocetraria nivalis* represent a genetically distinct island race, or are they simply at the edge of a European population that is genetically mixed? We haven't as yet begun to answer these important questions, though the consequences for conservation are severe. Further problems arise in gauging the actual levels of threat. A projected decline in our montane lichen species is superficially consistent with an observed decline in tundra lichens under experimental warming. Such simulated climate change causes increased nutrient cycling in the tundra soil, and the more vigorous growth of vascular plants, which shade-out the smaller lichens. This interaction between the vascular plants and lichens matches with work by Becky Yahr on our BAP montane species *Alectoria ochroleuca*, demonstrating peak occurrences of the lichen where the *Calluna* is *ca* 5 cm high, and a rapid decline in abundance until *A. ochroleuca* disappears altogether when the *Calluna* canopy is greater than 10 cm in height. There appears to be a delicate balance between facilitation (the establishment and growth of the mat-forming *A. ochroleuca* within the physical structure of the dwarfed *Calluna* canopy) and competition (the absence of *A. ochroleuca* where the *Calluna* is higher than 10 cm). However, in the Cairngorms (where the study was carried out) this balance may be driven not by temperature but by wind speed. *Alectoria ochroleuca* occurs in wind-clipped *Calluna* heath on exposed cols, perhaps most commonly associated with the NVC community H13 (*Calluna vulgaris-Cladonia arbuscula* heath). The example of *A. ochroleuca* alerts us to two problems. 1. The possibility of impacts driven by climatic variables that are poorly understood. It is notoriously difficult to project future changes in wind pattern and speed under a warming climate, such that for some species or plant communities the impact of climate change will remain extremely uncertain. 2. The modifying influence of species interactions may be critical in understanding climate change impacts, though is an area about which we know very little. These inter-specific interactions are multifarious and may include, for example, canopy cover (as for *A. ochroleuca*), grazing (e.g. how might slug grazers respond to changing climate?), and changed competition or facilitation between co-occurring lichens.

Despite these important uncertainties, a pragmatic appraisal of the evidence points to a sensitivity of lichens to climate warming. A robust estimate of climatic sensitivity should be based on three complimentary lines of evidence: observation (monitoring), prediction (modelling) and experimentation. Thus, detailed monitoring projects in the Netherlands have described a net decrease in montane/boreal species, and a net increase in (sub)tropical lichens, placing lichens amongst a range of sensitive biological groups for which the tell-tale signature of climate warming has now been observed. Predictive models developed at RBGE point to the *potential* for fairly large range shifts. Recent projections targeted towards lichen epiphytes have built upon the direct climatic response by examining the interaction between climate and woodland ecological continuity, seeking to describe the extent to which woodland may be extended around old-growth stands, to off-set negative impacts of climate warming. These predicted and observed changes complement experimental research to examine the response of lichen-rich alpine and tundra plots to climate warming, demonstrating a strong negative effect on lichen-rich heath. Emerging

evidence suggests certain lichen species and communities may indeed be sensitive to the effects of climate change.

Human Adaptation

Additional threats which conservation practitioners might find increasingly pressing involve the direct impact on habitats through human adaptation to climate change. There are of course efforts to off-set our impact on the climate through renewable energy schemes (e.g. wind or hydro-power, and land-hungry biofuels). Such schemes should balance the need for clean energy against the local, national and international importance of the habitats which may be sacrificed. As far as I am aware there is no audited mechanism for balancing interests across such diverse scales: i.e. wind turbines may seem a drop in the ocean but aim nevertheless to maintain the planet's atmosphere, compared against a local nature reserve, which may seem critically important, but is nevertheless local compared to the future of the planet's climate. How these different interests (both with good intent) can be reconciled is a key issue. Both government and private enterprise will seek to capitalise on opportunities presented by a warming climate, e.g. through renewed forestry activity or farming in areas that were previously of marginal interest and had escaped intensive land-use. Economic motivation to make use of new land opportunities may be a powerful force, while the co-ordinated landscape-scale conservation strategy required to meet the challenge of climate change seems distant.

Summary

Certain lichen species or distinct genetic clades may be directly threatened by climate change. I have presented some evidence that these species or clades exist, and suggest we have the tools available to identify such groups and quantify levels of threat. However, there remains much to be done before a consensus might establish the direct threat of climate change to lichen diversity. The indirect threat of climate change is intuitively more relevant to British conservation – dispersal limited species trapped in patchy habitats may be unable to migrate in response to climate warming. But again there is much more science needs to do – questions remain on species that are rare in Britain but common elsewhere, are they genetically distinct and worth saving? How might species interactions alter the threat of climate change? How important is long-distance dispersal? Might lichens acclimate to changing climate, physiologically, or by switching photobionts? Might lichens adapt to climate change? Given limits to research funding, the consequences of climate change may be felt before we have opportunity to answer these questions. It is critical therefore that effort to monitor species for conservation reflects more properly the scale of the potential problem. The fate of species should be assessed not on one or few populations with an exclusive site-by-site approach. Where species are felt to be vulnerable or key indicators, multiple populations from single sites should be monitored, with opportunities to balance new population establishment against natural population extinction. These site-scale data should be co-ordinated into a landscape-scale scheme, enabling the assessment of meta-population processes at a scale which is appropriate to a changing climate.

I have aimed in this essay to summarise my own inchoate thoughts on climate change and lichens, as presented to the BLS at their 50th Anniversary AGM. Ultimately, the BLS is the powerful forum for debate on these climate change issues; the Society has an immense wealth in taxonomic expertise, field recording, data editing and archiving, analysis and survey, and conservation strategy, providing a 50-year legacy which is appropriate to discussing and acting upon this challenge.

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Changing Lichenology in a Changing World

Five seminal papers published in 1958 (Poelt, 1958; Culberson, 1958; Barkman, 1958; Skye, 1958; Frey, 1958) illustrate that many of today's scientific questions on lichen evolution, systematics, ecology, air pollution monitoring and conservation biology were already being addressed 50 years ago, but they also show how much the methods and scientific approaches have changed since then. During the past 50 years a series of technological developments has influenced lichenological research and improved our understanding of lichen ultrastructure, physiology, ecology and systematics.

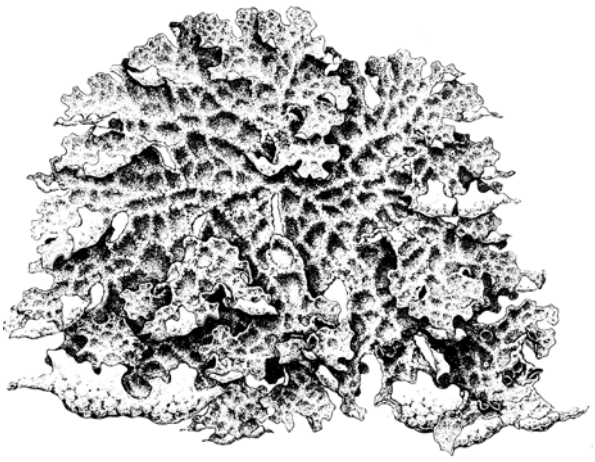
- Electron microscopy underpins our present understanding of biological structures and their functions
- Analytical chemistry influenced the circumscription of lichen taxa
- Phylogenetic methods are improving our understanding of the evolution of the lichen symbionts and the mutualistic symbioses they form
- Numerical ecological methods allow the analysis of complex biodiversity data
- Molecular tools revolutionized our views of almost every field of lichen research

Complex anthropogenic problems such as environmental pollution, the global biodiversity crisis and climate change have stimulated conceptual development in order to achieve scientific progress. Three areas have been of particular importance in lichen research; interdisciplinarity, transdisciplinarity (Hirsch Hadorn *et al.*, 2008) and integrative biology (Wake, 2008). The transdisciplinarian approach using participatory methods in bioindication studies on lichens as indicators of air pollution has been particularly successful. Community-based activities have contributed to environmental improvement by documenting impaired air quality and through pressure on private and public sectors to reduce the output of air pollutants.

Lichenological research also provides several early examples of integrative biology (Wake, 2008) where outreach and educational frameworks are an inherent part of the approach, allowing hierarchical exploration of a problem. An example is the effects of air pollution on chlorophyll content and chlorophyll degradation in (i) a single lichen individual, (ii) many lichen individuals growing on one tree, (iii) lichen individuals growing on different trees within a short distance e.g. along a road, (iv) lichen individuals growing on different trees in different localities and (v) lichen

individuals growing on different trees in different localities in a complex mosaic of land-use types in a heterogeneous landscape. Although researchers in biomonitoring programmes try to minimise the variance originating from different land-use types and landscape structures, this level of complexity has to be accepted and controlled if possible, rather than excluded in lichen monitoring studies that survey large study areas.

Where lichen conservation projects are concerned, complexity at the landscape level is often of the utmost importance, especially when the lichens are growing in highly dynamic habitats e.g. a complex forest landscape with a range of different natural and anthropogenic disturbance factors operating over a long period of time. In a recent project we studied the effects of landscape dynamics on population size and genetic population structure of a fragmented population of *Lobaria pulmonaria* in a traditionally managed pasture woodland landscape in the Jura Mountains in Switzerland.



An earlier study showed that *L. pulmonaria* is a self-incompatible and heterothallic species, so that demes (populations that grow in a narrowly defined locality) with a low number of genotypes are likely to reproduce only by asexual, symbiotic propagules (Zoller *et al.*, 1999). In the case of single, isolated populations, those with sexually reproducing individuals were therefore given a higher rank in terms of conservation priority than strictly asexual populations. At the landscape level, vegetative and sexual demes may have different dispersal characteristics, such as of dispersal range and number of diaspores released. In addition gene flow between demes may facilitate a hitherto asexual deme to become sexually reproducing. Large populations produce abundant diaspores and thus maintain a high recolonisation potential within range of the propagules. In the case of *L. pulmonaria,* with relatively large vegetative, symbiotic propagules, it is likely that purely vegetative populations have a more limited dispersal range than populations that produce both types of diaspores. However, Zoller *et al.* (1999) found no correlation between population size and genetic diversity, and showed that large populations may have low genetic diversity. Maintaining high levels of local genetic diversity within demes is therefore essential for sexual reproduction with microscopically small diaspores as well as the potential for long-range dispersal.

The high biodiversity and conservation value of this traditionally managed pasture woodland landscape in the Jura Mountains is largely the result of a variety of different types of disturbance, and the intensity and spatial extent, from the tree to the forest stand level. These include grazing, different intensities of forest management and stand replacing disturbance, events caused by blow-downs and

severe forest fires, one being well documented from 1871. An analysis of variance of the *L. pulmonaria* population density showed that neither historical stand-level disturbances nor current grazing reduced the proportion of colonized trees (Kalwij *et al.*, 2005). Spatial analysis at the tree level revealed a patchy distribution of colonized trees, suggesting *L. pulmonaria* colonization from nearby sources. Spatial analysis at the 1 ha plot level even showed a positive spatial association of *L. pulmonaria* with historic disturbances, probably because the host tree *Acer pseudoplatanus* reached a higher density following disturbance such as intensive forest management for charcoal production (Kalwij *et al.*, 2005).

Based on molecular analyses Werth *et al.* (2006a) found evidence for multiple independent immigrations into demes located in burnt and logged areas. Population genetic data suggested that after stand-replacing disturbance, each plot was colonized by only one or few genotypes, which subsequently spread clonally within a local neighbourhood. Spatial autocorrelation of genotype diversity was strong at short distances up to 50 m in logged demes, up to 100 m in uneven-aged demes, with the strongest autocorrelation up to 150 m for burnt demes (Werth *et al.*, 2006b). This clearly shows that the type of forest stand can influence typical dispersal distances of a wind-dispersed lichen species, where more open stands tend to show larger dispersal distances than stands with a high density of trees. The spatial autocorrelation was predominantly attributed to clonal dispersal of vegetative propagules. After accounting for the clonal component, Werth *et al.* (2006a) did not find significant spatial autocorrelation in gene diversity. This pattern may indicate low dispersal ranges of clonal propagules, but random dispersal of sexual ascospores (Werth et al., 2006b).

Genetic diversity was highest in logged demes, and lowest in burnt demes. These results suggest that genetic diversity of epiphytic lichen demes may not necessarily be impacted upon by stand-level disturbances for extended time periods (Werth *et al.*, 2006b). However stand-replacing events that interrupt the overlap of tree generations and thus lead to temporal local extinction of *L. pulmonaria* may have a strong and long-lasting negative effect on genetic diversity of a regenerating *L. pulmonaria* population, and that population density may increase while genetic diversity remains low.

Within the study region Werth *et al.* (2007) found significant isolation by distance for *L. pulmonaria* demes, and significant genetic differentiation between sampling plots and between trees. However where a large meadow, presumably of medieval origin, separated two forested regions, there was no traceable pattern in genetic structure of the population of *L. pulmonaria.* Gene pools were spatially intermingled in the pasture–woodland landscape, as determined by Bayesian analysis of population structure (Werth *et al.*, 2007). Evidence for local gene flow was found in a disturbed area that was mainly colonized from nearby sources. These analyses indicated high rates of gene flow of *L. pulmonaria* among forest patches, which may reflect the historical connectedness of the landscape through gene movement. These results support the conclusion that dispersal in *L. pulmonaria* is rather effective, but not spatially unrestricted (Werth *et al.*, 2007). Because this historical connectedness of the landscape has been changed by anthropogenic influences such as the opening

of large meadows, only the study of current gene flow and dispersal range can reveal whether the studied demes of *L. pulmonaria* are still functionally connected in today's landscape.

In order to determine characteristic dispersal distances of *L. pulmonaria* thalli Werth *et al*. (2006a) analyzed 240 DNA extracts derived from snow samples by a *L. pulmonaria*-specific real-time PCR (polymerase chain reaction) assay of the ITS (internal transcribed spacer) region. This allowed the discrimination of propagules originating from a single, isolated source tree from those originating in other locations. Samples that were detected as positives by real-time PCR were additionally genotyped for *L. pulmonaria* microsatellite loci. Both molecular approaches demonstrated substantial dispersal from outside local sources and revealed a mean dispersal distance of 38.4 meters (Werth *et al*., 2006a). In a landscape approach, Werth *et al*. (2006a) additionally analyzed 240 snow samples with real-time PCR of ITS and detected propagules not only in forests where *L. pulmonaria* was present, but also in large unforested pasture areas and in forest patches where *L. pulmonaria* was not found. Monitoring of soredia of *L. pulmonaria* after two vegetation periods after transplantion to maple bark showed high variance in growth among forest stands, but no significant differences among different transplantation treatments. Hence, in what is probably the largest *L. pulmonaria* population in Switzerland, it appears to be ecological constraints at the stand level rather than dispersal that limits colonisation (Werth *et al*., 2006a).

Wagner *et al*. (2006) developed a model to compare the spatial distribution and spatial genetic structure of *L. pulmonaria* within an area of two reconstructed 19th century disturbances and a nearby reference area without stand-level disturbance. Although model calibration suggested a predominance of dispersal from local clonal propagules, a substantial contribution of immigration of non-local genotypes by long-distance dispersal was needed to reach the observed levels of genotype diversity (Wagner *et al*., 2006).

The conservation of *L. pulmonaria* in our study area therefore depends on complex interactions between the spatial distribution, abundance and genetic diversity of demes, and the type, spatial extent, frequency and severity of disturbance of the lichen habitat. Large and luxuriant populations are likely to have considerably higher levels of resilience, especially to stand-level disturbance events than small and suppressed populations. Furthermore, it is likely that small, sexual propagules play an important role in the colonization process after stand-level disturbance events, emphasising the importance of maintaining high levels of genetic diversity within demes.

In the past major efforts in lichen conservation have focused either on habitat conservation or species protection, that is either "freezing" the habitat in the present state, or prolonging the life of a few survivors of a population. Our studies demonstrate the importance of the "three guiding principles of conservation biology" in their application to lichen conservation, i.e. evolutionary change, dynamic ecology and human presence (Groom *et al*., 2006). The hierarchical complexity of organisms, i.e. from genes to populations that is further increased by the symbiotic nature of lichens, also demonstrated the necessity to root future lichen conservation biology within the conceptual framework of integrative biology (Wake, 2008).

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Swiss Federal Institute for Forest, Snow and Landscape Research

Lobaria pulmonaria illustration by S. Flachsmann, WSL

British Lichen Society

Minutes of the Annual General Meeting – 12th January 2008

The Annual General meeting for 2008 was held at the Nettlecombe Field Studies Centre, Somerset at 10.30 am. Present: Pat Wolseley (President in the chair) and 47 members of the Society.

1. Apologies for Absence: Albert Henderson, Richard Brinklow, Bryan Edwards, Joy Files, Tony Fletcher, Brenda Haynes, Chris Hitch, Jack Laundon, Sir David Smith.

2. Minutes of the Extraordinary Annual General meeting 2007. Proposed as correct by Barbara Hilton; seconded by David Hill and was carried.

3. Matters Arising: None.

4. Officers and Committee Chair Reports.
[NB: Officers and Committee Chairs' printed reports for 2007 can be found in their entirety in the Winter 2007 issue of the *BLS Bulletin*. Additional statements made at the AGM are recorded here]:

President: Pat Wolseley reviewed the activities of the last two years and expressed her warm thanks to all the Officers and Committee Chairs for their hard work. She also thanked the following members for travelling a great distance to come to this special AGM: Ian Davidson (Sydney, Australia), David Richardson (Halifax, Canada) and Christoph Scheidegger (Biremsdorf, Switzerland). She then announced the sad news of the deaths of the following members: Bridget Ozanne, Douglas Henderson and J.C. Klug.

Secretary: Following his report in the winter *Bulletin*, departing Secretary Scott LaGreca had nothing new to add, except a heart-felt farewell as he will be soon be returning to the US after four years in the UK including three years on Council (two as Secretary).

Treasurer: John Skinner referred the Society to the Trustees' Report, distributed with the winter *Bulletin*, but pointed out that the Report is from the end of July; since that time, the accounts have been prepared by Keene & Co. (Yelton, Devon) as agreed by Council earlier this year. He further added that we have no new Independent Examiner as of yet, but he is looking for a new one. John also pointed out that as soon as the Report was finalised and sent (along with the winter *Bulletin*), Cambridge University Press contacted him and told him that the total assets from sales of *The Lichenologist* were c £26,000, not c £34,000 as they previously communicated. A revised Report was therefore circulated to all Society members present. John touched upon the highlights of the 2007 financial year, which include a high income from *The Lichenologist*. Unfortunately, income from BLS publications was poor, but hopefully a

new Marketing Strategy from the Education & Promotions Committee in 2008 will remedy this. Finally, he thanked Don Chapman, Frank Dobson, Brian Green and Don Palmer for their assistance this year. Acceptance of the revised accounts was proposed by Ivan Pedley, seconded by David Richardson and carried.

Education and Promotions Committee Chair: Barbara Hilton referred us to her report in the winter *Bulletin* but added some updates: lichen biomonitoring has now been included in GCSEs, and a university study (at Nottingham with Peter Crittenden) has been funded exploring species delimitation in *Ochrolechia*. She also added that the E&PC looks forward to working with Pat Wolseley and the OPAL project in 2008 (see a feature article in an upcoming issue of the *Bulletin*). She thanked the many members who contributed to the 50th anniversary calendar (especially Jeremy Gray), and all the members of the E&P Committee. Ivan Pedley thanked John Douglass for raising awareness of lichenology with his outstanding *The Secret Life of Lichens* exhibition.

Data Committee Chair: David Hill apologised for the absence of a Data Committee Report in the winter *Bulletin*, and promised it will be included in the next issue. He pointed out that all of the Scottish data are now searchable on the National Biodiversity Network website, and that proposals for the English and Welsh data are being put together by Peter Lambley and Ray Woods, respectively. Meanwhile he urged everyone to carry on submitting their data to Janet Simkin using her Excel spreadsheet form. David pointed out that while most people were working efficiently, a few members had not yet provided Fascicles for publication, and he implored them to do so. He thanked Jacqui Middleton and Janet Simkin for their great work. He went on to suggest that the Society hire a "data manager", ie someone like Julian Simpson, who is a professional web designer. Mark Seaward strongly recommended that the Mapping Scheme should continue until the NBN database is more advanced. David Hill agreed.

Conservation Committee Chair: Members were referred to Bryan Edwards' report in the winter *Bulletin*. The Conservation Committee Secretary Stephen Ward reviewed recent developments arising from their committee meetings. He first apologized for the lack of a page on the BLS website for the Conservation Committee. He explained to the Society that a government plan to introduce the European beaver back into Scotland is currently being opposed only by entomologists and lichenologists. David Richardson and Sandy Coppins both support the Conservation's stand against this introduction. Pat, Bryan and Peter Lambley would draft a letter to the Scottish authorities to warn against the introduction. The Conservation Committee is also concerned about the impact of climbing and bouldering on UK lichens. Bryan and Mike Sutcliffe will discuss the best way forward with the British Mountaineering Council. A recent article entitled "A Liking for Lichen", from a stone conservator's point of view, may be added to the BLS website after the Conservation Committee reviews it. With regards to Conservation Strategies, Ray Woods and Plant Life Cymru are drafting a strategy ("*Strategy & Action Plan for Conservation of Lower Plants & Fungi*") to be used as a basis for funding requests, and Bryan and Stephen Ward will finalise the text of a

document outlining the BLS's view of conservation. These will be submitted to Council for discussion at the next Council meeting. Concerning the Threatened Lichen Database, Bryan has c 8,000 records for 440 taxa of lichens already, and is preparing those data. Bryan is also drafting a document "Selecting Important Plant Areas for Lichens" featuring over 90 sites, to be published by Plant Life. David Genney thanked the Data Committee for their input on the actions required etc. in respect of the 144 species on the target list of his BAP priority species review, in a meeting on the evening of Thursday January 10.

Flora Committee Chair: Tony Fletcher was not present, and Clifford Smith referred everyone to his report in the winter *Bulletin*. Cliff added that the new edition is mostly complete, with over 1,000 pages; draft accounts of certain genera were available to take-away at this meeting of the Society. He said that the two factors which have caused the most delays are incompatible terminology between treatments, and late reviews of treatments. Cliff said that the Committee was concerned with finding a publisher or printer that would make the Flora available to members and more widely at a reasonable price. He predicted that we could probably bring it to the printers as early as late February or early March, and release it in July 2008 at the IAL6 meeting in California. Ivan Pedley led the Society in thanking the Flora Committee for all their hard work.

Senior Editor: Peter Crittenden reported a good level of submissions to the journal.

Bulletin Editor: After ten years as editor, Peter Lambley will not be able to continue when he takes over the Presidency, and he asked for help in finding a replacement.

Librarian: Tony Fletcher will be retiring within the next 18 months, so the BLS Library will need to be moved. Various options were discussed in yesterday's Council Meeting, including moving the Library to Kew.

Herbarium: Richard Brinklow was not present but had sent a brief report.

5. Ursula Duncan Awards. Peter James began his presentation about Barbara Hilton's Ursula Duncan award by commending her involvement as E &PC chair in the fight against the waning interest in taxonomy in schools. He pointed out that her many contacts from her work as a school inspector helped her greatly with this. He concluded by stating that she has done enormous work "raising awareness of, and interest in, lichens". The Society lauded Barbara with loud applause. As Frank Dobson presented the second Ursula Duncan Award of the day, the light slowly dawned on Janet Simkin that he was talking about her! Frank praised Janet for "seeing the database" through many changes, to its present incarnation of 920,000 records on the NBN Gateway. He also commended her for turning out many professional reports for the Society. The Society thanked Janet with a round of applause for her years of tireless, dedicated service.

6. Honorary Membership Awards. Barbara Hilton was pleased to propose long-time BLS member Per Magnus Jörgensen (Bergen, Norway). Per Magnus has served the Society in many capacities, including many useful contributions to the *Bulletin*, and extensive work on the first edition of the *Lichen Flora of Great Britain and Ireland.* Mary

Hickmott commented that he was full of patience, and endlessly helpful to the "perpetual beginner" in lichenology. Peter James praised him for his critical help with the typification of the Linnean lichen specimens. Unfortunately Per Magnus could not be present today, but his award will be delivered to him. Pat Wolseley was also proposed as as an Honorary member for her many dedicated years of service to the Society as Secretary, Vice President and President. Peter James spoke of her many credentials and projects over the years, including her innovative work on lichens on twigs, the Asian tropics, and lichens in changing environments. He called her a "gifted teacher" and "a rare and successful example of an ongoing professional". Both nominees for Honorary Membership were elected unanimously by all members present.

7. Field Meetings Secretary Report. Simon Davey referred everyone to his report in the winter *Bulletin*, and thanked the leaders of the field meetings this year: Brian and Sandy Coppins (*Bacidia/Micarea* Workshop in Oban), Ivan Pedley (the Leicestershire meeting) and the Tuckerman Workshop organisers (the Newfoundland, Canada 'away' meeting). For 2008, a Cornish Field meeting has been planned by Peter Lambley, an Orkneys meeting by Chris Ellis, and a Northumberland meeting by Janet Simkin. Suggestions for 2009 field meetings include lichens of limestone pavements; a meeting at Flatford Mill in order to compare with the field meeting in the Netherlands); a meeting in Derbyshire, to be led by Steve Price; and another foreign meeting, perhaps in Italy or Poland. Simon also wanted to remind the Society that he would like somebody to take over from him in the role of Field Meeting Secretary - ideally, to work with him for the next 6 months (or a year) before Simon steps down - if anyone is interested, please contact him.

8. Election of Officers and Members of Council.
Pat Wolseley proposed Peter Lambley as President, Scott LaGreca seconded and everyone approved. Peter was thanked for all his years of editorship of the bulletin and got a big round of applause. Don Chapman was proposed as Assistant Treasurer by John Skinner and seconded by Pat Wolseley, all in favour. Stephen Ward was proposed as Vice-President by Sandy Coppins and seconded by Peter James, all in favour. Jack Laundon (*in absentia*) proposed Ivan Pedley (seconded by Barbara Hilton), and Steve Price proposed Ivan Pedley (seconded by Simon Davey), all in favour. It was announced that the positions of Secretary, Librarian, Bulletin Editor and Field Meetings Secretary still need to be filled - if any member is interested please approach a Council member. Officers were proposed to continue *en bloc*, by Ivan Pedley and seconded by Scott LaGreca. All in favour

9. Any Other Business. No other items were raised for discussion.

10. Date and place of the next AGM. The 2009 AGM will coincide with Brian Coppins' retirement from RBG Edinburgh. Pat Wolseley had received a letter from Jack Laundon asking that the BLS should consider the NHM in London. Members voted overwhelmingly in favour of RBG Edinburgh. The next AGM will therefore be held at the Royal Botanic Garden, Edinburgh on Saturday 10th January 2009.

Profiles of Honorary Members:

invested at the 2007 Annual General Meeting

Per Magnus Jørgensen

Per Magnus Jørgensen was born in Stavanger, Norway in 1944 and awarded Cand real. at the University of Bergen in 1969 on a thesis about flora and vegetation on ultrabasic rocks in Rogaland. Then (until 1973) he specialisd in lichenology at Uppsala, under Rolf Santesson. He presented his Dr. philos. thesis at UiB in 1978 on 'The lichen family *Pannariaceae* in Europe'; Peter James was his external examiner. He has continued to add to the knowledge of that family all over the world, including treatments in floras such as *Flora of Australia* vol. 54 (1992). He has expanded his lichenological interest to cover most families containing cyanobacteria, particularly the *Collemataceae*, within which Gunnar Degelius strongly encouraged him to study *Leptogium.* He has revised *Leptogium* subgenus *Mallotium* worldwide and made a special study of the small species in Scandinavia. He has just published a separate volume of the cyanophilic lichens in Scandinavia (12 genera with 214 species in all), including the *Lichinaceae*, which has not been revised in that region for 100 years.

His interests in the flora of oceanic regions of Scandinavia (and western Europe) are wide. He has published on interesting discoveries with taxonomic revisions of groups such as *Bryoria, Ionaspis* and *Thelotrema.* This activity also has a phytogeographic aspect that includes the question of worldwide distribution of species, a theme he lectured on (and later published) at the International Botanical Congress in Tokyo. He followed up this work by studying the lichen flora of similar oceanic regions (Pacific North America, Chile, New Zealand and Tristan da Cunha).

While revising genera he has come across many difficult issues of nomenclature, which led to membership for three periods of the Mycological Subcommittee of the *International Code of Botanical Nomenclature*. At the Congress in Tokyo he was elected as member of the Editorial Committee for the *Code*, providing relevant examples to clarify the sometimes rather cryptic text. He has been particularly interested in stabilizing nomenclature and has continuously made proposals to conserve or reject names to achieve this. A particularly important step was his study of the Linnean lichen herbarium during his sabbatical in London in 1990 when he also served as Vice-president of the Linnean Society. His interest in nomenclature also led to his study of several historically important herbaria worldwide. The history of botany is another of his interests. He has just published a standard work on the history of Norwegian botany.

Before he suffered a stroke in 1996, he enjoyed travelling to collect world-wide: in most European countries; all over Scandinavia; in 40 states in the USA; and several countries in Central and South America and the West Indies. In addition he has collected in Australia, Japan and New Zealand. These travels as well as material sent to him have resulted in description of about 300 taxa in about 200 scientific papers. Among the genera treated are: *Acantholichen* (South America), *Bartlettiella* (New Zealand), *Degeliella* and *Fuscoderma* (subantarctic region), *Kroswia*

(paleotropics), *Pseudohepatica* (South America) and *Topelia* (mediterranean Europe and USA). Recently, as a result of molecular studies, he has participated in decribing a new family, the *Massalongiaceae*. He has thus worked on most taxonomic levels, although most of the new taxa are within the *Pannariaceae*, for which he has established a conspectus which is updated yearly.

Between 1973 and 1982 he worked as curator in the Botanic Gardens, University of Bergen, enabling him to expand his interest in garden plants, particularly the conservation of traditional garden plants. He also developed an interest in the genus *Rhododendron*, and has written a book on the Bergen *Rhododendron* collection, which has recently been reissued. His interest in *Rhododendron* proved useful when, soon after he had become a full professor, he had to step in as leader of activities at the Arboretum at Milde, upon the sudden death of Per Wendelbo in 1981. Here, he is also chairman of the building committee of an associated new botanic garden.

He has always wished to foster public interest in natural history and has given numerous lectures and guided tours, as well writing numerous popular articles on botanical themes. Between 1990 and 1997 he was editor of the popular scientific journal *Naturen*. He received in 1996 the Tønnes Andenæs Prize for popularizing natural science. He is member of several botanical societies and participated in the formation of IAL, the Nordic Lichen Society and the Nordic Bryological Society. He is a Foreign Member of the Linnean Society and member of The Norwegian Academy of Letters and Science as well as The Royal Norwegian Society.

Contributed by T. Tønsberg

Pat Wolseley

Prior to developing her interest in lichens Pat was a flowering plant botanist, undertaking Floras of the Maltese Islands and of Iceland, and a long term study of freshwater macrophytes in Britain and Europe. Her introduction to lichenology began at Nettlecombe in 1965, where she attended a beginner's course in lichens and their identification led by Peter James. She was at that time heavily gravid before the birth of her first son – so much that Peter thought that he would have to temporarily give up botany to become an emergency midwife. But all went well with this mother who subsequently blossomed into an important and distinguished lichenologist – especially in field work and tropical studies.

Her collaboration with Francis Rose, Rob Jarman, Sandy Coppins (then O'Dare) and Peter James, and later also Brian Coppins, led to her developing a fundamental understanding of the relationship between landscape history and the lichen floras of coasts and woodlands in Britain. For instance, her detailed collaborative surveys with Peter on Pembrokeshire and on Exmoor with Sandy, bear ample testimony to her enthusiasm, energy, and above all tenacity of purpose which we recognise, as the key features of her success in her longstanding and valuable fieldwork in the UK.

Her particular interest in lichens and air pollution derives from her valuable help in the acid rain project between 1986-9, which was based in the Botany Department of the Natural History Museum (NHM), where Pat had formerly been employed. This was completed by John Looney and Peter James in 1989, with a follow up by Pat and Peter in 1990. The work in this important area of lichenology continues today, more particularly in her development of the research with CEH Edinburgh on lichens and atmospheric ammonia, demonstrating the loss of sensitive species and the increase in nitrophytes in urban and rural areas of the UK.

By the early 1990's she began her most important contribution to lichenological studies, that of positively expanding our knowledge in the poorly studied areas of tropical lichens and their environment, especially in the Far East. Following a six month study visit in the Far East in 1989 a Leverhulme fellowship at the NHM from 1990-94 allowed her to start her research on lichens as indicators of environmental change in tropical forests of Thailand. Her work in Thailand demonstrated her ability, through sustained energy, friendliness, and above all cooperativeness in her contact with local people. It also demonstrated that she was a most gifted teacher. She has since expanded this work to Malaysia, Kalimantan, and more recently to Sri Lanka.

In 2001 she became secretary of the BLS operating from the Natural History Museum where she works now as a Scientific Associate, and which has been a home for the BLS since it was formed 50 years ago. In 2004 she became vice president and president from 2006-8. She has been an active member of BLS committees during this period, one of her main commitments being to support the revision of the Flora. This was a pioneer work of the Society in its first edition, and the revision has been a big undertaking which will be published later this year.

Pat is a rare and successful example of an outgoing scientist, in touch with people and with the teaching, research and communication of her passionate interest whether it be to young or old, amateur or professional. She is a valuable and respected spokesperson for lichenology.

Contributed by Peter James

AGM REPORTS

Flora Committee Report for 2007

Steady progress has been maintained and it is expected that parts of the final typescript will be available for inspection by members at the 2008 Exhibition Meeting. The Flora Committee met roughly monthly throughout the year and a close eye was maintained on progress, generally discussing and solving problems as they arose.

Discussions with potential publishers have taken place. After considerable discussion we expect the book to be of the same size as last, but somewhat thicker, on thinner paper, and with a substantial binding. It is envisaged that the forthcoming

flora will have many more illustrations than the 1992 edition so many further plates have been prepared. There will also be character tables for some genera and species groups which are better dealt with that way than by dichotomous keys.

The committee would like to congratulate all authors of accounts for their work so far and promptness in dealing with editorial points. We would also like to thank various members who have read through drafts and offered independent comments. Finally I would personally like to thank the Flora Committee of Peter James, Ms Pat Wolseley, and particularly Prof. Cliff Smith, for their dedication and hard work throughout the year.

Anthony Fletcher

Data Committee Report for 2007

The establishment of a BLS database for lichen records has been a preoccupation of the Data Committee for some years now. The strategy is to have the database for site-based records including as far as possible most of the information that might be collected with the record of a lichen. This is different from the mapping scheme which aims just to list the lichens recorded for each 10x10km square for Britain and Ireland and to produce 10x10km maps of distributions to show the distribution of lichens in Britain and Ireland. We have completed the Scottish project which establishes a database for Scottish lichens thanks to SNH, the Coppinses and Janet Simkin in particular. This data has now been linked to the NBN and can be accessed through the NBN Gateway and I would recommend anyone who has not yet done so to log onto the website (http://www.searchnbn.net/) and explore the distribution of lichens records. To do this put in a name, e.g. *Lobaria pulmonaria,* and press <search> then a new screen will appear with a list of synonyms and four different types of information (1. Grid map of the distribution of *Lobaria pulmonaria*. 2. Distribution of *L. pulmonaria* on protected sites. 3. Interactive distribution map of *L. pulmonaria*. 4. Taxonomic information for *L. pulmonaria*). Choose, for example 1. Grid map and you will get the distribution map of *L. pulmonaria* in Scotland. Now try 3. Interactive Distribution Map and you see something that looks a bit similar but when you click on the map the scale increases. Now click on <select records>, draw a box round some dots in Scotland with your mouse, and then click <query records> and you will get to see the information on which the dots are based. If you try to query the record for *L. pulmonaria* in Snowdonia you will see that you are denied access. This is because this is from an old CCW database that is soon to be replaced by our own Threatened Lichens database, and we don't have access to it. Try *Teloschistes flavicans* and yes there is a dot for Scotland – see who made that one? You will also see at bottom of the page the datasets included and who owns them. Now you have started, explore the other features of the various screens and other species etc. In addition to using the NBN Gateway as a general member of the public you can also register and then request data that you have not been able to access within the public component of the website. Those of you who have attended the BLS AGM will have heard Janet talk about all this and more.

Going back to the Data Committee, we have trying hard to get the next project up and running which is getting data we have for England and Wales in to a database so that it too can be linked to NBN. This is rather larger and in some ways more complicated that the Scottish project because there are many more records to deal with and some of these are already in local record centres. Obtaining the records from the local record centres with the objective of putting them on the NBN Gateway is a contentious issue because the LRCs use them to raise revenue and negotiations will have to be carefully conducted. We also need funding and this will have to come from more than one source. Neither CCW or NE are likely to be able to fund the project in the way that SNH did for Scotland. Council has funded Janet to prepare a detailed proposal that we can use to make applications to national bodies for help with the funding. We hope that this will be being considered by such bodies in the first half of 2008.

Getting databases for the whole of Britain is the principle and urgent aim of the Data Committee and is of the highest priority. We realise that it is extremely important for the Society and indeed for environmental monitoring of the environment in Britain for everyone. The importance is due to the unique role lichens have in environmental monitoring for pollution, climate and land use. We have to be very careful how we put records into the database. It is vital that they are carefully validated, which means checking them for accuracy of location, identification, nomenclature and other information such as substrate, habitat, date and collector. Old records are of particular value but there can often be problems with locations and nomenclature. Such validation can be very time consuming, it requires quite specialised knowledge and experience and is a daunting task for the whole of England and Wales. But the goal is so worthwhile and we do ask the support of the Society in achieving it and bear with us. We are asking for records, and Janet has already asked recorders for estimates of the numbers of records they had so she could assess the size of the project. Please keep sending records in to Janet and also to Mark Seaward at Bradford. Mark is till running the Mapping Scheme as he always has and continues to provide an excellent service for those who need distribution maps and lists for 10x10km squares. It will be a while yet before NBN Gateway will be able to offer this information.

The other work of the committee is somewhat reduced. We are still trying to bring out map fascicles for *a*) lirellate species (Bryan Edwards), *b*) *Usnea* and *Ramalina* (Simon Davey), *c*) woodland species (Neil Sanderson), *d*) metalliferous species (Bryan Edwards), *e*) marine (Tony Fletcher), *f*) lignum and worked timber species (Vince Giavarini) and *g*) terricolous species (Peter Lambley). Some of these are nearing completion as of the end of 2007 and should be available for publication in early 2008.

The progress with creating a whole new database for Britain has had some consequences for anyone who makes records now and in the future. One consequence is that we are now using Recorder 6 (R6) as the main computer environment to hold the BLS records. Janet can import datasets from other systems into R6 but it takes time and in some cases presents computational challenges. BioBase can still be used and Janet has made available a special Excel spreadsheet (http://www.thebls.org.uk/content/databases) which you can download from the

BLS website. There you can read more about the databases and lichen recording. If you can, please do use the Excel spreadsheet – it makes it so very much easier for Janet when it comes to adding your records to the database. If you would like to have a go at using Recorder 6 yourself, it is not expensive (£30) but does need a fairly recent computer with Windows XP or Vista, a Pentium 800MHz processor (or better) and at least 512MB RAM (at least 1GB on Vista). Further information is available from Janet.

Another consequence of the having an up-to-date lichen database is that we need to be sure that the records we are now collecting we make with appropriate care and thoroughness. Now, for me and I suspect many of us, the whole business of records is changing and we need to get a bit more up to date. Exactly what information is needed for our records when we make them in the field, how we should check them and how we are to computerise them (Excel spreadsheet or into R6 or something else) needs doing the right way so as to make the whole business run smoothly and efficiently. Therefore the Committee has requested a meeting organised by Janet to help us with this in Autumn 2008 (see field meeting details). I do encourage all BLS members who make records, or could or even might make records, to go to it or at least know someone who is going who can pass on the information.

There is fun to be had for all of us collecting lichen records in the field and we will, when the project is done, be able to see the results in the consequent changing patterns of lichen distribution and occurrence with our computers through the internet.

David Hill

Field Secretary's Report for 2007

Since the publication of the last *Bulletin*, there has been no formal field meeting of the Society. However, those who attended the AGM at Nettlecombe spent a morning together looking around the Park. The weather forecast for the whole of the weekend was dire, however when push came to shove, there was a reasonable, if windy break in the rain that allowed us a good visit to the Park. Most will remember the trees supporting *Lobaria pulmonaria*, and several other interesting species were found.

As usual, there is a busy schedule of field meetings for us ahead. At the time of writing, what promises to be a most interesting meeting in Cornwall led by Peter Lambley is in prospect. By the time this report is read, this meeting will have taken place. Later in the summer, Chris Ellis will be leading a most exciting excursion to Hoy in the Orkneys. Details of both these meetings have featured in past *Bulletins*.

The autumn field meeting will be from the 2nd to 6th of October and will be led by Janet Simkin. It will be based at the Tankerville Arms Hotel, an old coaching inn in Wooler, North Northumberland. Good lichen sites within easy reach include Holy Island, the whin outcrops near Bamburgh, the Cheviot valleys and some spectacular rural churchyards. However, the main theme of the meeting will be recording, and there will be workshops in the evenings on different aspects of recording and the use of computers and internet resources.

Simon Davey

Library Report for 2007

It has been an undemanding year with a small number of requests for loans.

Owing to my impending retirement it will be necessary in 2008/9 for the society to find new premises and a new officer to look after and administer the library. For intending applicants, the library occupies 44 m of shelves; specifically 4 stacks of 6 shelves, 2 m wide. Included in this space are some archive files and the Conservation Committee Site files, of 2 x 2m shelves plus a filing cabinet. As previously reported, there is a computer catalogue of about 2/3 of the items on MS-ACCESS. Completing this catalogue would make the library contents more accessible and probably generate more use.

Members are reminded that the library is very large and diverse, with many scarce and classic works. There are also large numbers of reprints of hard-to-get papers and 'grey 'literature' unpublished reports. Visitors are welcome to visit the library, just north of Leicester. Loans and visits can be arranged at anytime, including weekends; contact afletcher@leics.gov.uk, or 01509-815514.

Anthony Fletcher

Biosciences Federation Report for 2007

The BSF Environment Committee went very quiet following the departure of its chairman early in the year. However, it has just been announced that the IoB and BSF have, from 1st January 2008, merged their environment committees into a single body to present a unified voice.

An interesting members meeting was held in October when the Education Committee outlined its progress with internet-based resources for teachers on practical biology. This, part-financed by the Nuffield Foundation, will be available to schools and universities (and others). Barbara Hilton has been nominated as a member of the BSF Education Committee. The BSF has issued a position statement on Open Access publishing. Further research is taking place on the potential impact of this development on Universities and others before a final report is produced. A large report was published entitled 'In vivo sciences in the UK: sustaining the supply of skills in the 2lst century'. Several requests for consultation responses and task force members were received. A current request concerns 'defining the biological skills that the UK will need in the future'.

It is encouraging to note that the House of Commons Science & Technology Committee Report for 2006-7 mentioned the BSF consultation responses numerous times. On behalf of the BLS, I wrote a large contribution to the BSF consultation response on 'Investigating the Oceans'. A further response *in prep*. will be on 'Systematics and Biodiversity' for the House of Lords Select Committee on Science and Technology. This investigation will look at progress made following its 2002 report 'What on earth ……' in which I gave written evidence (see House of Lords Website for full report). This is encouraging for our society which has played a large role in publicising the issue of the 'decline in taxonomy and Systematics'.

The BSF website www.bsf.ac.uk can be used by our members to publicise meetings and events. It contains all previous reports and consultation responses. There is also a jobs page.

Thanks are extended to Dr Peter Crittenden, Dr Barbara Hilton, Dr David Hill and Ms Pat Wolseley for helping with responses during the year.

Anthony Fletcher

Institute of Biology Report for 2007

This has been a year of change for our involvement with the IoB. Ours is an affiliated society and I serve on the IoB Environment Committee which meets twice annually. In addition, there are two affiliated society forums each year. However, in 2007 the Environment Committee merged with the Agriculture Committee to become the 'Agriculture, Environment and Land Use Committee which the BLS rep attended. Now it has just been announced, that from Jan. 2008 the IoB and BSF will merge their environment committees into single body to present a unified voice, so in future I expect to be attending only one set of environmental meetings.

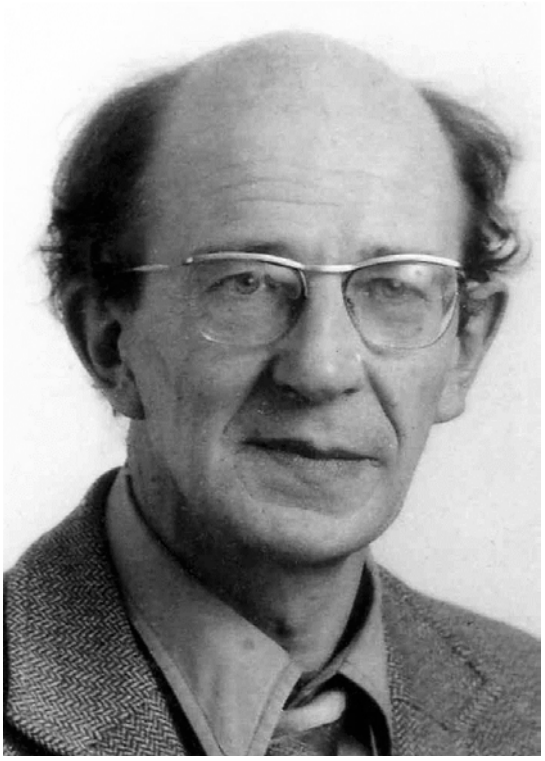
The IoB committee has been active throughout the year. There were the usual number of consultation responses, mainly to government departments. Priority policy areas for 2008 were decided as being research careers and possibly one on food security and one following the CAP policy from 2012 encouraging farmers to become 'stewards of the environment ' instead of mere producers of food. It is likely that these priorities will be revised in view of the committee merger with BSF. Letters of concern were sent to DEFRA about CEH closures. It is proposed to hold a symposium on 'Ecosystem service approach'. The Affiliated Societies Forum had themes entirely on biosecurity which are not very relevant to the BLS so didn't I attend. Of special interest to the BLS however, was correspondence on systematics with DEFRA which has resulted in a DEFRA levy to support MSc students in this area.

Finally, as an affiliated society, BLS members are entitled to attend IoB courses and workshops at IoB member rates – a significant discount. Lists of courses are available on the IoB website (www.iob.org).

Anthony Fletcher

Obituary

Fred Haynes



Born in Lancashire in 1930, Fred was educated at Glossop, where he came under the spell of an enlightened biology teacher, who reinforced the love of the countryside fostered by his parents. After schooling and a compulsory 18-month stint of National Service, he attended Sheffield University, 1950-1953; after graduation he was offered a research post and spent the next 3 years investigating the soils of Derbyshire limestones, which involved the identification of lichens. Subsequently, he was appointed to the staff of Regent Street Polytechnic in 1956. Thanks to Fred, Regent Street Polytechnic was for many years the venue for the Society's AGMs. He and his wife Brenda were founder members of the British Lichen Society – and they and their children were regular attenders of BLS field meetings. Fred was a Council member of the BLS in 1959-1960 and 1962-1964, its Conservation Officer in 1964-1974 and the Chairman of its Conservation Committee in 1975-1976. Internationally, he will mainly be remembered for his brilliant and comprehensive review of lichenology which appeared in *Viewpoints in Biology* in 1964. In 1963 he moved to Portsmouth Polytechnic, but after a disastrous fire there, in which he tragically lost all his notes and research materials, his practical interest in lichens was somewhat diminished. Despite this, he continued to lecture in all aspects of biology, with a particular passion for fieldwork. He was never bored with life, being an avid reader of books over a wide range of subjects, involved in the local music scene, and always concerned about some practical environmental issue. According to Brenda, his wife, "he simply, in the literal sense, did not have time for lichens any more". Those who knew him will remember the happy times and family atmosphere he, Brenda and others like them injected into the early development of our Society.

Mark Seaward
University of Bradford

New Publications

Conserving the Flora of Limestone Dry Stone Walls

By **John Presland.** Wiltshire Natural History Publications Trust, Salisbury, 2007. Price £3.00 + £0.50 p&p, from the *Dry Stone Walling Association of Great Britain,* Westmorland County Showground, Lane Farm, Crooklands, MILNTHORPE, Cumbria, LA7 7NH. Tel: 015395-67953, email: information@dswa.org.uk, website: http://www.dswa.org.uk.

Describing dry limestone walls and their flora, this guide explains how to identify typical species and gives suggestions for their conservation. It is based on a study of walls in Wiltshire and the Cotswolds.

Pioneer crustose species, such as *Caloplaca aurantia* and *Lecanora campestris* cause fragments of rock to break away which, with wind-blown particles, produce a simple soil in which e.g. *Xanthoria parietina* can grow. Eventually, where the stone has deteriorated, species such as *Cladonia pyxidata* may colonise flat surfaces.

The guide equally draws attention to other groups including mosses, fungi, flowering plants and, of course, ferns. It also mentions their importance for a host of invertebrates, mammals and birds.

Stone walls 'collectively ... could be a huge linear nature reserve', but one which requires maintenance. A survey by the Countryside Commission in 1996 found almost half of dry stone walls to be in various stages of dereliction. In 2002, Countryside Stewardship marked the restoration of 1000 miles of wall. The booklet concludes with recommendations on the rebuilding and restoration of walls.

Published in A4 format, this guide fills a valuable niche in the conservation literature and will hopefully stimulate similar studies of stone walls elsewhere.

FOR SALE

THE LICHENOLOGIST

Proceeds from the sale of these will be used for the BLS Mapping Scheme

1971-73 Vol. **5**, pts 1/2, 3/4 & 5/6 (complete); 1974 Vol. **6**, pts 1 & 2 (complete); 1975 Vol. **7**, pts 1 & 2 (complete); 1977 Vol. **9**, pts 1 & 2 (complete); 1978 Vol. **10**, pts 1* & 2* (complete); 1979 Vol. **11**, pts 1*, 2* & 3* (complete); 1980 Vol.**12**, pts 1*, 2* & 3* (complete); 1981 Vol. **13**, pts 1*, 2* & 3* (complete); 1982 Vol. **14**, pts 1*, 2* & 3* (complete); 1983 Vol. **15**, pts 1*, 2* & 3* (complete); 1984 Vol. **16**, pts 1*, 2* & 3* (complete); 1985 Vol. **17**, pts 1*, 2* & 3* (complete); 1986 Vol. **18**, pts 1*, 2*, 3* & 4* (complete); 1987 Vol. **19**, pts 1*, 2, 3 & 4 (complete); 1988 Vol. **20**, pts 1, 2, 3 & 4 (complete); 1989 Vol. **21**, pts 1, 2, 3* & 4* (complete); 1990 Vol. **22**, pts 1*, 2*, 3 & 4 (complete); 1991 Vol. **23**, pts 1, 2, 3 & 4 (complete); 1994 Vol. **26**, pts 1, 2, 3 & 4 (complete); 1996 Vol. **28**, pts 1, 2, 3, 4, 5 & 6 (complete); 1997 Vol. **29**, pts 1, 2, 3, 4, 5 & 6 (complete); 1998 Vol. **30**, pts 1, 2, 3, 4/5 & 6 (complete); 1999 Vol. **31**, pts 1*, 2*, 3*, 4, 5 & 6 (complete); 2000 Vol. **32**, pts 1, 2, 3, 5 & 6

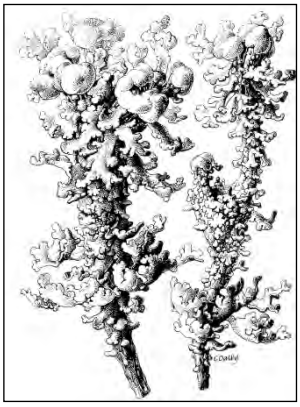
(incomplete); 2001 Vol. **33**, pts 3, 5 & 6 (incomplete); 2002 Vol. **34**, pts 1 & 2 (incomplete); 2003 Vol. **35**, pts 1*, 2*, 4, 5/6* (incomplete); 2004 Vol. **36**, pts 1*, 2*, 3/4*, 5* & 6* (complete); 2005 Vol. **37**, pts 1*, 2*, 3*, 4*, 5* & 6* (complete); 2006 Vol. **38**, pt 1*, 2, 3 & 5 (incomplete)

Unbound (mostly with title-pages); all but a few issues in very good condition; * duplicates available. Note that volumes (indicated as 'complete' above) will not be split unless odd duplicates are available.

Prices by negotiation

Contact: Prof. Mark Seaward, University of Bradford, Bradford BD7 1DP (tel: 01274-234212; e-mail: m.r.d.seaward@bradford.ac.uk)

CLAIRE DALBY, LICHEN GREETINGS CARDS FOR SALE



Beautifully illustrated greetings cards by Claire Dalby. Now for sale through BLS merchandise. Price £3 for a set of 8 different designs (blank inside) including: *Cladonia bellidiflora, C. cervicornis* subsp. *verticillata, Cornicularia normoerica, Physcia aipolia, Ramalina cuspidata, Solenopsora candicans, Sphaerophorus globosus, Stereocaulon dactylophyllum.*

PUBLICATIONS AND OTHER ITEMS FOR SALE

(Subject to availability)

For publications and other items please send orders to:
Brian Green, 3 Tyn y Coed, Carneddi, Bethseda, Gwynedd LL57 3SF, UK (email mrgreen@wdsl.co.uk). Cheques in Sterling should be made payable to **'The British Lichen Society**', and drawn on a UK bank or on a bank with a UK branch or agent. All prices include postage and packing. Purchases in US$ can be made through the Americas Treasurer: US Dollar rates are double the Sterling Rate. Cheques in US$ should be made out to 'British Lichen Society' and sent to J W Hinds, 254 Forest Avenue, Orono, Maine 04473-3202, USA. *Overseas members may also pay by direct transfer into the Society's UK bank account. Please contact Brian Green for details if you wish to pay by this method.*

PUBLICATIONS

Lichen Atlas of the British Isles (ed. M.R.D. Seaward)

Fascicle 2 (*Cladonia* Part 1: 59 species): members £7.50; non-members £10.00.

Fascicle 3: The Foliose Physciaceae (*Anaptychia, Heterodermia, Hyperphyscia, Phaeophyscia, Physcia, Physconia, Tornabea*), *Arctomia, Lobaria, Massalongia, Pseudocyphellaria, Psoroma, Solorina, Sticta, Teloschistes*: members £7.50; non-members £10.00.

Fascicle 4: *Cavernularia, Degelia, Lepraria, Leproloma, Moelleropsis, Pannaria, Parmeliella*: members £7.50; non-members £10.00.

Fascicle 5: *Aquatic lichens and Cladonia* (part 2): members £8.00; non-members £10.00.

Fascicle 6: *Caloplaca*: members £8.00; non-members £10.00.

Identification of Parmelia Ach. [UK species] on CD-Rom - ISBN 0 9523049 4 5. Members £8.00; non-members £13.00; multiple users at one site £24.00.

Microchemical Methods for the identification of Lichens. Members £8.00; non-members £11.00 (Airmail, additional at cost).

Lichens & Air Pollution (James): 28 page Booklet; £1.50.

Key to Lichens and Air Pollution (Dobson): £2.00.

Lichens on Rocky Shores. A1 Dalby 'Wallchart' £6.00; A4 laminated Dalby 'Wallchart' £1.50.

Key to Lichens on Rocky Shores (Dobson): £2.00.

Taxonomy, Evolution and Classification of Lichens and related Fungi Proceedings of the symposium, London 10-11 January 1998 (reprinted from *The Lichenologist* Vol. 30): members £8.00; non-members £13.00.

Bibliographic Guide to the Lichen Floras of the World (Edn 2; Hawksworth & Ahti (reprint from *The Lichenologist* Vol. 22 Part 1): £2.00.

Checklist of British Lichen-forming, Lichenicolous and Allied Fungi (Hawksworth, James & Coppins, 1980): £2.00.

Checklist of Lichens of Great Britain and Ireland (Coppins, 2002): members £7.00; non-members £9.00.

Lichen Habitat Management Handbook: members £10; non-members £15.00.

Surveying and report writing for Lichenologists (Guidelines for surveyors, consultants and commissioning agencies): members £10.00; non-members £15.00.

The Lichen Hunters (Gilbert, 2004): £8.50.

Horizons in Lichenology (Dalby, Hawksworth & Jury, 1988): £3.50.

Aide Mémoire: Usnea (James): members £3.90; non-members £5.90.

A Field Key to Common Churchyard Lichens (Dobson): members £7.00; non-members £8.00.

A Guide to common churchyard Lichens (Dobson): £2.50.

A Conservation Evaluation of British Lichens (Woods & Coppins): members £4.00; non-members £6.00.

Indices of Ecological Continuity for Woodland Epiphytic Lichen Habitats Of the British Isles **(**Coppins & Coppins): members £3.50; non-members £6.00.

Lichen Photography (Dobson, 1977): £1.00 [Photocopies of A4 sheets].

Mapping Cards: General, Churchyard, Woodland, Mines, Coastal, Urban, Chalk and Limestone, Moorland: free.

BLS leaflets: Churchyard lichens - Lichens on man-made surfaces (encouragement and removal): free.

Lichen Society Postcards: Lichens in full colour in assorted packs of 16. £3.00 [Orders for more than five packs are available at a reduced rate.]

British Lichen Society Car Sticker: 5 colour 4" diam. self-adhesive plastic: £1.50

OTHER ITEMS

All the following items have the British Lichen Society logo in three colours - black outline, silver podetia and red apothecia.

Woven ties with below-knot motif of BLS logo: £7.00. Colours available: maroon, navy blue, brown, black and charcoal.

Sweatshirts with breast pocket size embroidered motif of BLS logo: £16.00. Colours available: light grey, navy blue, bottle green, red.

Sweaters, wool with breast pocket size embroidered motif of BLS logo: £14.00. Colours available: maroon, bottle green and navy (various sizes).

T-shirts with screen-printed full chest motif of BLS logo encircled by the words 'British Lichen Society': £10.00. Colours available: light grey, navy blue, bottle green, tangerine (one old stock yellow - small). Please specify size *and* colour options.

Earthenware mugs (white) with coloured logo on both sides and encircled by the words 'British Lichen Society' below: £3.00

Hand lenses

Gowland x10 plastic lens - a useful spare or second lens, andy when taking a friend with you! £3.00.

x10 glass lens in metal body, lens diam 18mm £8.50.

x30 lens, diam 21mm. A new top quality lens £14. This lens is not suitable for general field work, a x10 lens is necessary for this and the x30 for more detailed examination later.

NEW FOR LOAN: For UK members only

A microscope stage-micrometer slide for the calibration of eye-piece graticules in 10µm divisions is available for loan. A deposit of £40 is required.

When ordering items through the post, please allow a month for delivery, as many items have to be ordered specially, or in bulk.

BACK NUMBERS OF *THE LICHENOLOGIST*

Cambridge University are pleased to announce that from 2006 all BLS members will be able to purchase back numbers of the Lichenologist (ISSN 0024-2829) at £10.00 per back issue and back volumes at £40.00. Cambridge holds issues back to and including Volume 33 (2001).
Contact:
Tel. 0044 1 233 326070
Fax 0044 1 223 325150
E-mail: journals@cambridge.org

Back stock is also held at SWETS. For details see:
http://backsets.swets.com/web/show/id=47067/dbid=16908/typeofpage=47001
A complete volume from SWETS costs 200 euros.

Membership Matters

It would be a great help to the Assistant Treasurer if any UK members, who have not already done so, could set up a Standing Order to pay their annual subscription.

The details you must supply to your bank are as follows:

Payment is to be made to CAF Bank (whose address is 25 Kings Hill Avenue, Kings Hill, West Malling, Kent ME19 4JQ)

Account name is "British Lichen Society"
Sort code 40-52-40
Account number 00012363
Payment to be made annually on 1 January

Please specify the amount for your membership type from the table below.

Reference should be your surname followed by your membership number (this is the 4 digit number on the Bulletin mailing label). Contact the Assistant Treasurer if you wish to check your number. Please make sure the bank is provided with this information, otherwise it is difficult to link payments to members!

Membership Type	**Rate**
Ordinary Membership – 2008	£30
Associate Membership – 2008	£22
Senior Associate Membership – 2008	£10
Junior Associate Membership – 2008	£5
Family Membership - 2008	£5

SUBMISSION DEADLINE

Please would intending contributors to the Winter 2008 issue of the *Bulletin* submit their copy to the Editor by 21 September. These can be sent by e-mail to p.cannon@cabi.org as an attachment. This should be in MS Word. Alternatively they can be sent on a CD to the Editor (for address see back inside cover). It is helpful to have hard copies of tables and other diagrams. For the style of references see past *Bulletin*s.

BRITISH LICHEN SOCIETY - 2008 MEMBERSHIP DETAILS

Applications for membership should be made to The Assistant Treasurer and Membership Secretary, The British Lichen Society, c/o The Natural History Museum, Cromwell Road, London SW7 5BD, or through the Society's Web site: http://www.theBLS.org.uk

Queries on membership matters and subscription payments and **Changes of address** should be sent to: The Assistant Treasurer & Membership Secretary, c/o The Natural History Museum, Cromwell Road, London SW7 5BD.

CATEGORIES OF MEMBERSHIP AND SUBSCRIPTION RATES

Ordinary Membership for individuals (not available to institutions) who have signed the Application Form and paid the subscription. Ordinary Members are entitled to all publications and facilities of the Society.
Rate for 2008: **£30 / $60 / €52.50** Three year rate for 2008-2010: **£85 / $170 / €148**

Life Membership is available to persons over 60 years of age at **£300 / $600 / €525**. Life Members have the same entitlement as Ordinary Members.
All three categories of **Associate Member** listed below are entitled to all the facilities of the Society, including the *Bulletin*, but excluding *The Lichenologist*.

Associate Membership. Rate for 2008: **£22 / $44 / €38.50**

Senior Associate Membership, for persons over 60 years of age. Rate for 2008: **£10 / $20 / €17.50**

Junior Associate Membership, for persons under 18 years of age, or full-time students. Rate for 2008: **£5 / $10 / €8.75**

Family Membership is available for persons living in the same household as a Member. They are entitled to all the facilities of the Society, but receive no publications and have no voting rights. Rate for 2008: **£5 / $10 / €8.75**

Bulletin only subscriptions are available to institutions only. Rate for 2008: **£22**

PAYMENT OF SUBSCRIPTIONS *Members may pay their subscriptions, as follows:*

Sterling cheques, drawn on a UK bank, or on a bank with a UK branch or agent, should be made payable to *The British Lichen Society*. Payment by **Standing Order** is especially welcome; the Assistant Treasurer can supply a draft mandate.

Internet payments using PayPal: Please see the Society's website for the full details: http://www.theBLS.org.uk/

US dollar payments should be sent to: **Dr James W. Hinds, 254 Forest Ave., Orono, ME 04473-3202, USA.**

Overseas members may also pay by direct transfer into the Society's UK bank account. However, please contact the Assistant Treasurer if you wish to pay in this way, ***and before you make any payment***. His contact details are given above.

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