

# British Lichen Society *Bulletin*



## BRITISH LICHEN SOCIETY OFFICERS AND CONTACTS 2011

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# British Lichen Society Bulletin no. 109

## Winter 2011

Welcome to the Winter 2011 Bulletin. This issue starts with two request articles – one describing a major new initiative by the BLS to survey Lobarion communities in the British Isles, and the other introducing a research project investigating the phylogeny and chemotaxonomy of *Bryoria*. These and many other valuable studies depend on the good-hearted collaboration of a wide spectrum of BLS members; please support them.

The methodology of assessing the conservation value of sites in Britain from a lichen perspective has been reassessed, leading potentially to a more objective way of designating sites on a national basis. There is an economic and political limit to the number of protected areas that can be designated; we need to ensure that the finite resources available go towards ensuring the survival of as many diverse lichen communities as possible. Neil's article deserves serious consideration by the BLS and non-lichenized conservation practitioners alike.

Looking at news elsewhere in the lichen community, you might be interested to know that lichens may hold the key to control of mad cow disease and other prion-linked maladies. Christopher Johnson and colleagues at the United States Geological Survey National Wildlife Health Center at Madison, Wisconsin have found that serine proteases from *Parmelia sulcata*, *Cladonia rangiferina* and *Lobaria pulmonaria* can degrade prion protein from hamsters, mice and deer infected with transmissible spongiform encephalopathies. Read more at PLoS ONE 6(5): e19836. doi:10.1371/journal.pone.001983.

There are several challengers for the Winter 2011 lichenological curiosity prize. Brendan Hodkinson at Duke University has pioneered the as yet little-known art of lichen rap (see <http://squamuiles.blogspot.com/2011/07/man-it-feels-good-2-b-lichen.html>). Top marks for effort, though as far as I know he hasn't yet been signed up by Simon Cowell. If you're more inclined to the sporting life, you might fancy a flutter on Lichen, a racehorse trained by Vivian Kennedy from County Kildare. He (I think) is not a completely forlorn hope, with lifetime earnings of over £10000 (sounds a lot to me). Check out the odds at [http://www.racingpost.com/horses/horse\\_home.sd?horse\\_id=420996](http://www.racingpost.com/horses/horse_home.sd?horse_id=420996). On the culinary front, Noma, a restaurant in Copenhagen now has deep-fried *Cladonia* on the menu (thereby neatly reducing the risks of contracting something unpleasant from the steaks – see above....) You might imagine that eating *Cladonia* was only for the reindeer, but Noma has been awarded the accolade of Best Restaurant in the World by an English magazine. You can see (but not taste) at <http://epicures.wordpress.com/2011/07/05/noma-2/>. Or try Ningbo-style Yellow Croaker Fried With Lichen, a popular dish in SE China. I'm sure it's nicer than it sounds....

And finally – a seasonal challenge. Who is the mystery Father Christmas on the following page? Email me with your guesses – a small prize will be on offer for one lucky winner....

Paul Cannon, BLS *Bulletin* editor: email [p.cannon@cabi.org](mailto:p.cannon@cabi.org)

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Front cover: A prime Lobarion community in Atlantic hazel woodland, Leitir Fura, Skye





## Searching for the Lobarion - how you can help

*Lobaria* species and species associated with them like *Sticta*, *Degelia*, *Pannaria* and *Nephroma* (The Lobarion community) and the habitats in which they occur, are some of the most attractive and spectacular lichen communities in the world. We are especially fortunate that in the British Isles we have some of the finest stands in Europe, notably in the west of Scotland and we therefore have an international responsibility to ensure their conservation and survival. At one time members of the Lobarion were found throughout the British Isles but as a result of the air pollution of the 19<sup>th</sup> and 20<sup>th</sup> centuries and changing patterns of woodland management the community is now largely restricted, outside of Scotland north of the central valley, to parts of the southern uplands, Wales, southern, western and the far north of England. There, it is mostly found in old parklands, wood pasture and in sheltered gorge woodlands. Occasionally it also occurs on coastal cliffs and among heather in maritime heathland.

Whilst those Lobarion communities in western Scotland appear still to be thriving, the Society's Conservation committee has become increasingly concerned over reports of a decline in England and Wales. In response as a first step to understanding the threat to this iconic lichen community, **the Society is embarking on a two year resurvey of as many of the stands as possible of the Lobarion in England, Wales and Scotland from the central valley southwards, starting in 2012.** Work in a third year will fill in any gaps in coverage, write a report of the findings and provide recommendations for future conservation effort. The survey will involve visiting sites where Lobarion species have been recorded previously, recording the presence and condition of the *Lobaria* species and associated lichens using a simple form. (see below), photographing and noting possible threats or reasons for losses and declines. Reports on absences are just as important as information on where it is still present. If *Lobaria* species are absent but other members listed on the form are present it please still fill it in. Also make the most of the visit and record other species on the site using the BLS recording card.

This will be an opportunity for members to make an important contribution to providing a database with which we can then hope to influence the various local and national conservation bodies to take action and prevent further decline. We intend to undertake this by encouraging members to liaise with their county recorders to survey sites. The Society will be in a position to refund reasonable travel and subsistence costs. We are keen to involve as many members as possible and members should in the first instance contact their county recorder (see Handbook for details) or through me.

*Peter Lambley*

Secretary, BLS Conservation Committee  
email [plambley@aol.com](mailto:plambley@aol.com)





The four British species of *Lobaria* (clockwise from top left): *L. amplissima* (from Kintail), *L. pulmonaria* (from Moine Mhor NNR, Argyll), *L. scrobiculata* (from Kintail), *L. virens* (from Larichmor, Argyll).

## BLS LOBARION SURVEY



SITE NAME :	VICE COUNTY :																				
SITE STATUS :	GRID REF : <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center; width: 100px; height: 20px;"> <tr> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> <td style="width: 10px; height: 10px;"></td> </tr> </table>																				
OWNERSHIP :	MANAGEMENT :																				
SURVEYOR/S :	DATE OF SURVEY/S :																				

BRIEF SITE DESCRIPTION :

KEY SPECIES : tick those species still present (record details over page); X for those not refound

<i>Collema furfuraceum</i>	<i>Nephroma tangeriense</i>	
<i>Collema nigrescens</i>	<i>Pannaria conoplea</i>	
<i>Collema subflaccidum</i>	<i>Pannaria rubiginosa</i>	
<i>Degelia atlantica</i>	<i>Parmeliella parvula</i>	
<i>Degelia plumbea / cyanoloma</i>	<i>Parmeliella triptophylla</i>	
<i>Fuscopannaria mediterranea</i>	<i>Peltigera collina</i>	
<i>Fuscopannaria sampaiana</i>	<i>Pseudocyphellaria crocata</i>	
<i>Fuscopannaria testacea</i>	<i>Pseudocyphellaria intricata</i>	
<i>Leptogium brebissonii</i>	<i>Pseudocyphellaria lacerata</i>	
<i>Leptogium burgessii</i>	<i>Pseudocyphellaria norvegica</i>	
<i>Leptogium cochleatum</i>	<i>Sticta canariensis s.s.</i>	
<i>Leptogium cyanescens</i>	<i>Sticta canariensis (composite thallus)</i>	
<i>Lobaria amplissima</i>	<i>Sticta canariensis f. dufourii</i>	
<i>Lobaria pulmonaria</i>	<i>Sticta fuliginosa</i>	
<i>Lobaria scrobiculata</i>	<i>Sticta limbata</i>	
<i>Lobaria virens</i>	<i>Sticta sylvatica</i>	
<i>Nephroma laevigatum</i>	<i>Vahliella atlantica</i>	
<i>Nephroma parile</i>	<i>Vahliella leucophaea</i>	

Associated crustose *Lobarion* species ; tick if present

<i>Agonimia allobata</i>	<i>Mycobilimbia epixanthoides</i>	
<i>Bacidia biatorina</i>	<i>Mycobilimbia pilularis</i>	
<i>Catinaria atropurpurea</i>	<i>Opegrapha corticola</i>	
<i>Dimerella lutea</i>	<i>Pachyphiale carneola</i>	
<i>Leptogium lichenoides</i>	<i>Peltigera horizontalis</i>	
<i>Leptogium teretiusculum</i>	<i>Thelopsis rubella</i>	











**Members of the Lobarion lichen community:**

(On previous page): **A.** A dry thallus of *Lobaria pulmonaria* (uncharacteristic in Scotland!) from Inverewe, Wester Ross. **B.** *Collema furfuraceum* (from Scotland, image © David Genney). **C.** *Fuscopannaria mediterranea* (from Skye). **D.** *Fuscopannaria sampaiana* (from Morvern, © Mike Sutcliffe). **E.** *Leptogium brebissonii* (from Kintail). **F.** *Leptogium cyanescens* (from Kintail, with *Degelia atlantica* in the lower right corner).

(On this page): **G.** *Nephroma laevigatum* (from Oppland, Norway). **H.** *Pannaria conoplea* (from Kintail). **I.** *Pannaria rubiginosa* (from Jura). **J.** *Sticta limbata* (from Kintail).

## Species concepts in the *Bryoria capillaris/fuscescens/implexa* complex – fresh specimens required to solve some current problems

Molecular systematic studies on lichens are revealing that the emphasis placed on the chemical compounds present in formulating species concepts in the 1960s and 1970s was not justified in all cases. The compounds that give coloured reactions with K, C, and PD, and appear as spots on treated TLC plates, accumulate on the surfaces of the hyphae; they are often referred to as "secondary metabolites", but mycologists increasingly term them "extrolites" as they are produced externally and not inside hyphae.

It has been recognized since the late 1980s that there were problems in the *Bryoria capillaris/implexa /pseudofuscescens* area, but in the last 2-3 years some preliminary studies carried out independently in our laboratories at the Universidad Complutense de Madrid and the University of Helsinki have revealed the problems are much wider and deeper in the European taxa. In Madrid we worked with Gokhan Halici on material he had from Turkey along with some Spanish collections in 2007 and had such confusing results they were not published (Fig. 2 below). In Helsinki, with material from a much wider geographical area, similar problems emerged which are described in *Lichenologist* **43** (6) this December.

As *Bryoria* species are becoming increasingly rare in many parts of Europe (Fig. 1 below), a sound taxonomy is essential as a basis for assessments of conservation status and actions proposed. That is clearly not available in this complex.

We have now been successful in securing a grant from the Ministerio de Ciencia e Innovación of Spain which will run from January 2012 to December 2014 for an international project to investigate the problem in depth, with a focus on the central, southern and western European species to complement the studies already made. Our investigations will involve molecular systematic and chemosystematic approaches, with attention to where extrolites are located in the thalli as they may be localized in some cases. Some in-depth studies of selected populations that appear to be particularly variable are also envisaged. It is anticipated that a PhD studentship will become available to take part in the execution of the work project.

In order to make a success of this study, we are anxious to obtain fresh material of well-developed thalli from as wide a range of sites, especially from central and southern Europe. We would especially appreciate if several specimens from single trees could be collected – both similarly and differently looking or showing different spot test reactions. Specimens collected during the last five years can be expected to yield ample DNA provided that they have allowed to dry out slowly without being subjected to artificial heat. The basal attachment part of the thalli should be retained, and we are especially keen to study specimens with apothecia. Details of the substratum and locality (including GPS co-ordinates and altitude) should be added, along with herbarium collection accession numbers if they are



required back. We would really appreciate the help of all lichenologists in Europe in contributing specimens to the study to make it as comprehensive as possible. These should be sent to Madrid as soon as possible, addressed to Professor V. Rico *and* Dr Ruibal (see below) to facilitate processing if either is away, so they can be incorporated from the earliest days of the project. Information as to the identities of the specimens will be passed back to collectors when they have been resolved.

All assistance received will be recognized in the eventual publications, and we look forward to your co-operation in resolving the species concepts in this evidently taxonomically still most confused complex.

**David L Hawksworth, Ana Crespo, Victor J Rico, and Constantino Ruibal**

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Fig. 1: *Bryoria fuscescens*: A specimen growing on millstone grit rocks at Rowter Rocks (Birchover, Derbyshire) where it was first collected in 1847 and repeatedly seen there from 1967 – but had disappeared by the late 1990s and was not refound by the BLS Autumn Field Meeting in 2009. Photograph: D.L. Hawksworth 1969.



**Preliminary study of congruence of molecular and extrolite data in *Bryoria fuscescens* / *B. Implexa***

(Halici, Hawksworth & Divakar, unpubl.)

UCM, Madrid 2007

Neighbour joining tree  
(combined ITS, IGS and RBP1 genes)

- A = alectorialic acid
- B = barbatolic acid
- F = fumarprotocetraric acid
- N = norstictic acid
- O = no extrolites detected

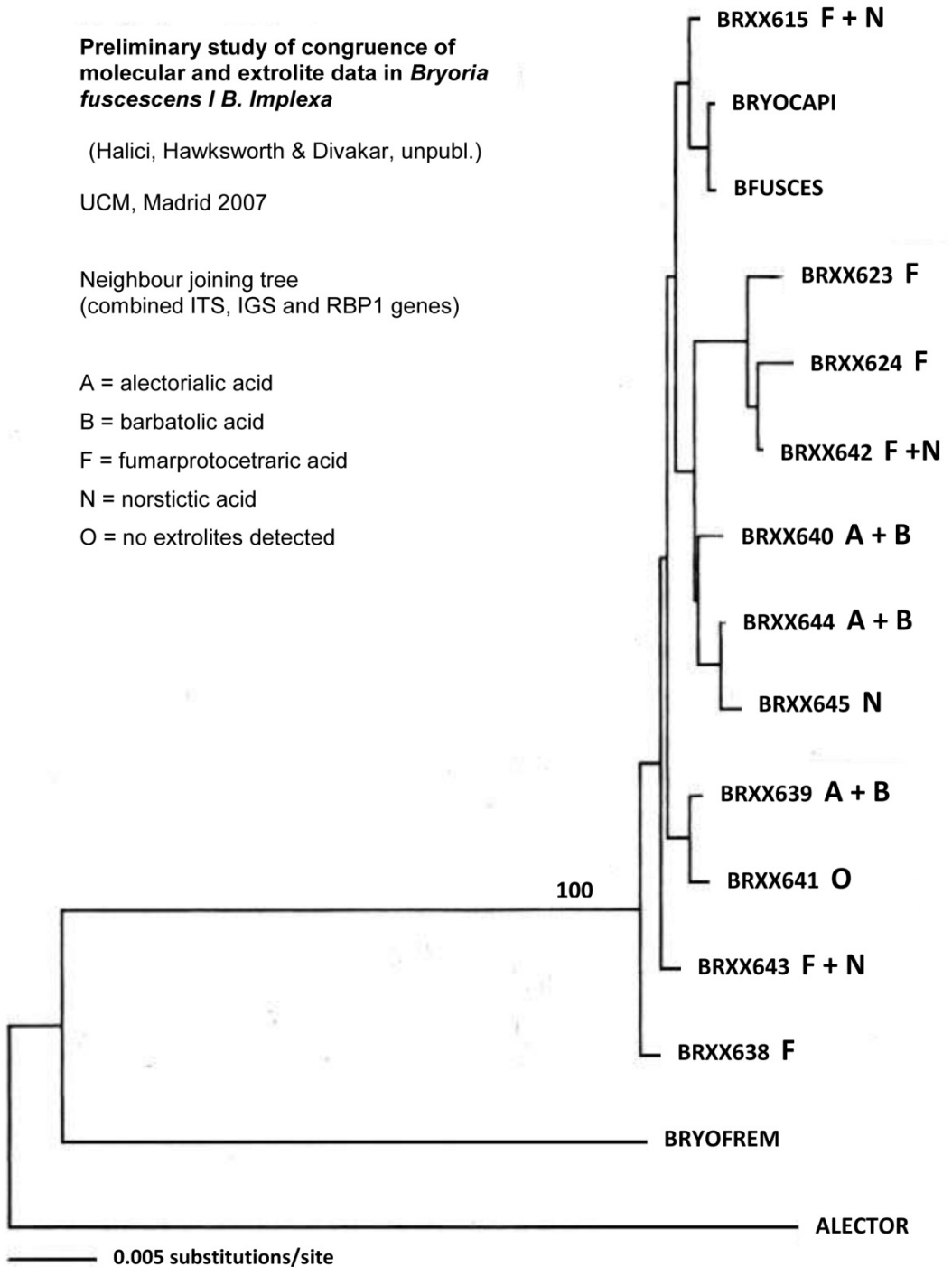


Fig. 2: The three-gene tree produced in Madrid based on specimens from Spain and Turkey suggesting that particular chemotypes do not form monophyletic groups.

# Scoring of threatened, rare & scarce lichens for site assessment

## Introduction

Since the publishing of Guidelines for Selection of Biological SSSIs: Non-Vascular Plants (Hodgetts, 1992) the available tools for assessing if a site is of national importance for lichens have included more than just the scores produced by the various indexes of ecological continuity (IEC). Also included is a method of scoring sites by assigning numbers to various categories of rarity, namely Nationally Scarce, Nationally Rare and Schedule 8 status. The numbers are then added together to produce a total score for a site. Exceeding a set threshold indicates the site is likely to have a nationally important assemblage of rare lichens (see next section for details). This system was widely used for vascular plants and other groups for SSSI selection when I was in NCC in the 1980s, however Hodgetts (1992) largely missed the mass renotification of SSSIs of the 1980s. The system is easy to criticise, Nationally Rare and Scarce lists change with time and a site notified for a score marginally above the qualification threshold in the 1990s might not qualify latter as assessments change. Also, the scoring levels for lichens were also rather low. For example high quality woods typically score totals in the thousands, but only four under-recorded Nationally Scarce species of limited interest were enough to get a site to the qualifying threshold in the lowlands (200 or more).

On the other hand it is very useful to have an official publication giving a guideline to what is regarded as nationally significant in rare lichen assemblages. The advice in Hodgetts (1992) still stands and I have used it in planning work and for site assessment in surveying (but have others used it? It does not seem popular with lichenologists). The current scheme is now out of date and it needs to be either updated or knocked on the head.

I have been experimenting with an alternative and used this in SSSI site dossiers recently (Sanderson, 2009a, b, c & d). The following section summarises the various measures of rarity and threat and the suggested new scoring method.

## Measures of threat and rarity

### Rarity & Threat

The IEC indicator lists assess the quality of whole epiphytic lichen assemblages but the rarity of individual species is also important. The British Lichen Society has reassessed the rarity and level of threat to lichen species (Woods & Coppins, 2003) (by the time this is published a new review should be available) and this replaces previous Red Data Books and lists of Nationally Rare and Scarce species.

The following categories are used:

**Rarity.** This is a simple assessment of geographical rarity:

- Nationally Rare: recorded from 15 or fewer 10x10km national grid squares.
- Nationally Scarce: recorded from 16 to 100 10x10km national grid squares.



The categorisation of species as Nationally Rare (NR) or Nationally Scarce (NS) follows Woods & Coppins (2003).

Hodgetts (1992) gives a site scoring system with 200 points given to a Schedule 8 species, 100 points given to a Nationally Rare species and 50 points (or 30 in North Wales and the Scottish Highlands) to a Nationally Scarce species. A total score of 200 or more in the lowlands indicates a nationally significant rare lichen assemblage. In the uplands of south western England, North Wales, the Lake District and the Scottish Highlands the alternative qualifying score is 300. Hodgetts (2007) stressed that this is intended as a guideline rather than a rule. This system always seem to be fitted more to bryophytes than lichens. It is now even less satisfactory; with the application of the Red Data Book (RDB) threat criteria to the whole lichen list, many Nationally Scarce species are now recognised as being Near Threatened or having even higher threat level. In addition, some Nationally Rare species are under recorded ephemeral species and have not been assessed as threatened at all. As a result, a different scoring system was proposed for the site dossiers.

### ***Threat***

This is based on the International Union for Nature Conservation criteria (IUNC, 2001) that takes factors such as decline and population into account, as well as geographic restriction. A series of complex, but fairly self explanatory, categories are used. Of these, Extinct, Critically Endangered, Endangered, Vulnerable and Near Threatened are collectively referred to here as Red Data Book (RDB) species. The occurrence of any of these species is of national significance. Data Deficient species are those that may be of RDB status but for which insufficient data was available to fully assess their status.

- ***International Responsibility Species.*** This is a new category that recognises that some species are commoner in Britain than elsewhere. They are absent, rare or threatened in the rest of Europe and are thought, on existing data, to have 10% or more of their European or World population in Britain. These could be considered as more important than some Red Data Book species, which are common elsewhere in the world. The significance of these species depends on their actual British and local rarity but special attention needs to be paid to them in management.
- ***Biodiversity Action Plan Species.*** The BAP priority species are species thought to be under particular threat. The BAP list has been revised (Biodiversity Reporting and Information Group, 2007) and, unlike the earlier list, is a reasonably comprehensive list of those lichen species likely to be under particular stress and amenable to conservation action to reverse this. Conservation of these species is regarded as being an important contribution to Britain's obligations under the Rio Convention on Biodiversity. Collectively, however, they are not an objective tool for assessing conservation importance, RDB assessments of and the

Nationally Rare and Scarce assessments of restricted national distribution provide this.

### **Summary & RDB/Notable Scoring System**

The above system, with three separate assessments, is rather complex, so the rarity and threat status of species is summarised in my reports I summarise them as 'Red Data Book species' (RDB) as defined above, with all other Data Deficient (DD), Nationally Scarce (NS) or International Responsibility (IR) species called 'Notable species' (Nb). This summary has, however, also been used as the basis of a more appropriate scoring system than that given in Hodgetts (1992). In this system the following scores are used:

- Red Data Book species with a threat level of Vulnerable or higher = 200
- Red Data Book species with a threat level of Near Threatened = 100
- Notable species (NR, NS, IR or BAP species which are not RDB NT or higher. Includes species listed as Data Deficient in the RDB) = 50.

Trials with this system indicated that a score of 600 was a reasonable guideline threshold suggesting nationally important rare and threatened lichen assemblages across southern English epiphytic sites. Sites scoring over 1000 were indisputable important sites. There is not a noticeable increase in combined RDB and Notable species score in the south west England over south central England (the latter area tends to have fewer RDB and more Notables than south central England) that would justify a differential score for the two regions as given in Hodgetts (1992). This regional differential appears to be a feature of bryophyte floras not epiphytic lichen assemblages.

### **Examples**

The examples are largely from woods alone, I have not tried this system out widely on other habitats. All totals were based on Woods & Coppins (2003), but none include *Punctelia jeckeri* as Nationally Scarce. Red totals indicate those totals that passed the threshold for SSSI quality for the criterion it is listed under, blue were below that threshold.

### **Wiltshire & Hampshire Outside of New Forest**

A selection of sites in an area with significant lichen rich sites but with an often pollution stressed assemblage. The data shows the removal of several false positives by the new RDB/Nb system. It also shows an advantage of both rare species scoring systems, in pick out important sites not highlighted by the New Index of Ecological Continuity (NIEC). Examples are sites rich in veteran trees with many rare species, such as Hurstbourne Park, Waggoners Wells and Highclere Park, which have NIEC scores below the SSSI threshold, but are above the thresholds in the rare species scores. Spye Park is similar; it only passes the NIEC threshold on a cumulative score

but easily passes on either rare species scoring system. Finally, the effect of bringing in International Responsibility species which are not Nationally Scarce can be seen in comparing Savernake Forest and Rushmore, Cranborne. The NR/NS scoring system has a far lower score for Rushmore than Savernake compared to the RDB/Nb system, in spite of the higher NIEC score for the former. This reflects the absence of very old oak from Rushmore in Cranborne Chase but the presence of intact *Lobarion* communities in this cleaner air area. This means Rushmore has fewer threatened, NR and NS species but far more IR species that are not NS. Finally, the scores for the unnotified Hurstbourne Park greatly exceed those of Highclere Park, the only SSSI notified for epiphytic lichens in Hampshire outside of the New Forest SSSI. This supports Dr F. Rose's comments at the time of the notification of Highclere Park (primarily for grassland interest) that Hurstbourne Park was far more important for lichens.

Site	Date	NIEC Score	NR/NS Score	RDB/Notable Score	Source
Langley Wood **	1984-2001	28	1250	2300	Sanderson (2010)
Loosehanger *	2003	19	250	450	Sanderson (2004)
Whiteparish Common *	2003	11	250	300	Sanderson (2003a)
West Walk	1988-2005	19	400	550	HELD (2010)
Ampfield Wood	2003-2006	10	450	450	HELD (2010)
Hurstbourne Park	1985-2005	15	1000	1850	Sanderson (2005a)
Waggoners Wells (*)	1970-2008	18	600	1150	HELD (2010)
Highclere Park **	1969-2008	19	400	700	Sanderson (2008a)
Spye Park **	1972-2008	23	1400	2250	Sanderson (2008b)
Savernake Forest **	1968-2007	32	2000	2950	Sanderson (2007)
Rushmore, Cranborne **	1970s-2003	44	1050	2750	Sanderson (2003b)

- \*\* SSSI, lichens as a notification feature  
 \* SSSI, lichens not a notification feature  
 (\*) Partly SSSI, lichens not a notification feature  
 Blue Below recommended threshold  
 Red Above recommended threshold



## New Forest

There is no surprise that the New Forest exceeds the criteria, but the totals for the meta-site are given and some examples of individual site scores. The first four are the richest single woods. Within these, both rare species scoring systems bring out the difference between two woods within the medieval core of Beech woods (Mark Ash Wood & Busketts Wood) and two outside of this core area (Frame Wood & Bramshaw Wood) but the NIEC scoring does not. The former are richer in very rare and threatened species of senescent Breeches than the latter. Bradshaw Wood now has ancient Beech widespread but Beech was absent in 16<sup>th</sup> century, while Frame Wood was also lacked Beech in the 16<sup>th</sup> century and ancient Beech is still scarce with Oak still dominant in large areas. Coppice of Linwood and Ocknell Inclosure are recovering 18<sup>th</sup> century Oak plantations and Busketts Lawn Inclosure and Amberwood Inclosure are recovering 19<sup>th</sup> century Oak plantations. Finally Brockenhurst Park is the richest area known outside of the SSSI.

Site	Date	NIEC Score	NR/NS Score	RDB/Notable Score	Source
New Forest (**)	1967-2010	61	8500	11800	NFELD (2010)
Mark Ash Wood **	1967-2010	47	4250	5950	NFELD (2010)
Busketts Wood **	1968-2010	48	4450	5950	NFELD (2010)
Bramshaw Wood **	1967-2008	49	2650	4150	NFELD (2010)
Frame Wood **	1970-2009	50	2650	4750	NFELD (2010)
Coppice of Linwood **	1976-2006	35	1300	1950	NFELD (2010)
Ocknell Inclosure **	1967-2004	33	1400	1850	NFELD (2010)
Brockenhurst Park	1995-2003	26	700	1350	NFELD (2010)
Busketts Lawn Inclosure **	1996-2003	17	200	350	NFELD (2010)
Amberwood Inclosure **	1978-2000	16	400	600	NFELD (2010)

\*\* SSSI, lichens as a notification feature

(\*\*) Largely in SSSI, lichens as a notification feature

Blue Below recommended threshold

Red Above recommended threshold



Mark Ash Wood, New Forest. Structural diversity maintained by grazing in old growth woodlands is one of the richest woods in area species in Britain.



Gritnam Wood, New Forest. Rich beech old growth woodland

## Exmoor

Like the New Forest the Exmoor SSSIs are meta-sites that easily qualify on all criteria. There is no major difference in scoring between the richest sites covered above in central southern England and those in the south west. The fewer number of Vulnerable or higher RDBs in the west, is compensated for by the large numbers of International Responsibility species that are not Nationally Scarce. Barle Valley SSSI and North Exmoor SSSI cover sites of international importance for a wide range of woodland communities. Watersmeet SSSI is a much more highly modified site but with significant relic woodland. West Exmoor Coast & Woods SSSI is of interest as it included costal cliff lichen sites of great significance (including the Valley of the Rocks) as well as important coastal slope woodlands with veteran Oaks. Here both systems easily assess the coastal cliff element as being of high importance, but there is much less difference between the two systems. This reflects the fact that there are far fewer International Responsibility species that are not Nationally Scarce on the cliffs than in the woods. From the same habitat complex the modern survey data from Doctors Wood, Exmoor Coastal Heaths SSSI is give. This is another example of a site with a low NIEC score but high rare species scores. This is an important site with abundant veteran Oak with rich dry bark and lignum communities including the largest known population of *Enterographa soreliata* in the world along with a recent record for the very rare endemic *Bacidia subturgidula*. However, other communities are not well developed.

For the Barle Valley SSSI, data for individual sites is given below as well. The treatment of older surveys can be seen from the data for the SSSI Woodland Unit 3 covering Lea Wood, Great Wood and Westwater Copse. The data from the initial 1980 Exmoor baseline survey, did not record a lot of rare species, many of which were poorly known or not even described at the time. The NIEC score of 28 easily passed the SSSI quality threshold but the NR/NS scoring system did not at a score of 250 (300 being the threshold in the SW). For the RDB/Nb system, however, the old data did pass the threshold (provisionally 600) at 1100. This is because the numerous International Responsibility species that are not Nationally Scarce, which were found in the 1980s, are incorporated into the RBD/Nb system. The scores from latter visits and the cumulative total are given. The NIEC has not increased to anything like the extent of the either of the rare species scoring system. This underlines the advantage of the NIEC indexes; the scores are much more stable, as most species are easily identified. Other than the Lea and Great Wood areas, a selection of other woodland units are listed below, from the outstanding Mounsey NNR and adjacent sites (WU9), the reasonably rich but disturbed 19<sup>th</sup> century high forest with relic trees of the Knaplock Wood area at Tarr Steps (WU4) to the largely pure 19<sup>th</sup> century Oak high forest derived from coppice around Drayton Wood etc (WU10).





Doctors Wood, Exmoor. An abandoned pasture woodland on a coastal slope. This wood has one of the richest assemblages of oceanic dry bark and lignum lichens in Britain and the world's largest known population of *Enterographa sorediata*. The oak shown supported *Bacidia subturgidula*, its first site recorded outside of the New Forest. Other habitats are not well developed and the NIEC ancient woodland score does not suggest that this wood is of national significance. Scoring by rare species, however, produces more realistic results.

### Exmoor SSSIs

Site	Date	NIEC Score	NR/NS Score	RDB/Notable Score	Source
Barle Valley SSSI	1972-2009	57	4100	6150	Sanderson (2009a)
North Exmoor SSSI	1972-2009	54	4600	6350	Sanderson (2009b)
Watersmeet SSSI	1972-2009	35	2950	3850	Sanderson (2009c)
WEC & W SSSI Woods	1977-2009	45	3000	4250	Sanderson (2009d)
WEC & W SSSI Cliffs	1993-2009	–	2150	2050	Sanderson (2009d)
WEC & W SSSI All	1977-2009	48	4150	5850	Sanderson (2009d)
Doctors Wood	1999-2009	17	1200	1250	Sanderson (2009d)

WEC & W SSSI = West Exmoor Coast & Woods SSSI & Doctors Wood in Exmoor Coastal Heaths SSSI

## Barle Valley SSSI

Site	Date	NIEC Score	NR/NS Score	RDB/Notable Score	Source
Barle Valley SSSI	1972-2009	57	4100	6150	Sanderson (2009a)
Lea & Great Wood (WU3)	1986-1987	26	250	1100	Sanderson (2009a)
Lea & Great Wood (WU3)	1996-2009	30	900	1800	Sanderson (2009a)
Lea & Great Wood (WU3)	1986-2009	34	1050	2150	Sanderson (2009a)
Drayton Wood etc (WU10)	1986-1994	15	0	400	Sanderson (2009a)
Knaplock Wood etc (WU4)	1986-2009	26	450	1150	Sanderson (2009a)
Mounsey area (WU9)	1986-2009	49	1900	3500	Sanderson (2009a)

WU = SSSI woodland unit, a subdivision of the meta-site used in data analysis.

Blue Below recommended threshold

Red Above recommended threshold



Left: *Enterographa elaborata*, Lyndhurst Hill, New Forest, a very rare species assessed as Nationally Rare and Critically Endangered. Right: an Oceanic Lobarion community on Hazel, Coille Thogabhaig, Skye, with *Degelia cyanoloma* & *D. atlantica* along with *Lobaria virens*. These are all International Responsibility species, with large populations in Britain that are not assessed as rare in Britain. Using IR in the new scoring system allows the presence of rich assemblages of such species to be utilised in site assessments.

## West Highlands

Finally, just out of interest, I have listed a few sites in the west Highlands for which I have data from carrying out site condition assessments in 2004. All are SSSIs with epiphytic lichens listed as a reason for notification. For the NR/NS scoring system in this area, a Nationally Scarce species scores 30 and the threshold of SSSI quality is 300. I have also added the totals that would result if NS species were scored as 50 each in brackets to allow comparison with the results above. The RDB/Nb system is as above but I have no clear idea what would be a reasonable threshold of SSSI quality here. The first three are top sites (Ellary Woods, Glen Creran and Taynish). The scores in both systems are comparable with the scores from the richest woods to the south. Craighoyle is a small acidified Oak plantation and associated pasture woodland in Cowle. It conspicuously fails using the WSIEC index to reach SSSI quality (SSSI threshold 25) but passes the NR/NS system, but not by that much. The score for the RDB/Nb system is quite high. The RDB/Nb score includes numerous International Responsibly species that are not Nationally Scarce and are frequent in the west Highlands. My feeling on carrying out the SCM here was that, although the site was of interest, it was not remotely of SSSI quality for its lichens given the far superior quality of numerous unnotified woods in the west Highlands. The final site, Balnabraid Glen, is in the far south of Kintyre and includes some moderately rich woodland and very important coastal rock *Lobarion*. The WSIEC index is even lower, but reassuringly for a site that is definitely of SSSI quality, the rare species scores are much higher than Craighoyle. (NB, climatic maps show the climate here as closer to that of Ayrshire than of Argyle north of Tarbet, so the NIEC index might be more appropriate in Kintyre, anyway, and the site scores much higher in the NIEC). Looking at these limited data for the RDB/Nb system, the threshold for national importance in the West Highlands might be somewhere between 1000 and 2000, but much more data from marginal sites would be required to be sure.

Site	Date	WSIEC Score	NR/NS Score	RDB/Notable Score	Source
Ellary Woods SSSI	1970s-2004	36	2260 (3100)	5150	Sanderson (2005b)
Glen Creran Woods SSSI	1976-2004	37	2300 (3300)	5200	Sanderson (2005c)
Taynish Woods SSSI	1972-2004	38	2610 (3950)	5700	Sanderson (2005d)
Craighoyle Woodlands	1977-2004	17	550 (850)	1600	Sanderson (2005e)
Balnabraid Glen SSSI	1994-2004	11	1250 (1750)	2700	Sanderson (2005f)

Blue Below recommended threshold  
 Red Above recommended threshold



## Other Habitats

There needs to be more work on other habitats. Some preliminary work suggests that, as with the sea cliff data looked at above, habitats with low numbers of International Responsibility species produce similar scores for both scoring systems. Also, some habitats, such as lowland heaths are probably best assessed using specially devised indicator lists. Such habitats have important assemblages of species but too few rare species to be easily assessed using either rare species scoring systems.

## Conclusions

I would follow Hodgetts (2007) and stress that the scoring system in Hodgetts (1992) intended as a guideline rather than a rule. The same would apply to any replacement. I would contend that some form of similar scoring system has merits. In woodlands, not all important sites are picked up by the appropriate Index of Ecological Continuity. Sites without the full range of woodland communities present, but with some individual communities well developed, quite often fail using one of the IEC indexes but show high rare species scores. Parks with veteran Oaks but limited woodland habitats are typical examples. The Indexes of Ecological Continuity (IEC) also level out at the top, while the RDB/Nb system can pick out differences even between sites with very high IEC scores. On the other hand the IEC indexes are more stable over time and require less survey effort to obtain good estimates of site value.

The system can also be used to compare sites with habitats other than woodlands, for which no indexes of conservation interest exist. It might be better to actually devise other indexes, but this has not yet been done.

The proposed RDB/Nb system of scoring adapts the NR/NS system to modern conservation assessments of the lichen checklist as in Woods & Coppins (2003). It will also be a bit more stable than the NR/NS system, as it incorporates RDB threat assessments and IR status, both of which are less likely to change than distribution assessed by numbers of dots on 10km national grid square maps. For example *Schismatomma quercicola* (lost its NS status in 2003) and *Opegrapha corticola* (will lose its NS status in the 2011 assessment) would remain as Notable species as they are both also International Responsibility species.

Adaptations to my proposal are perfectly possible. For example higher scores could be given to Endangered and Critically Endangered, but I thought this was an unnecessary complication. On a more prosaic level knocking a nought off each individual species score (to give 5, 10 & 20) would save ink but I have kept similar scores to those used in the existing system. I have ignored Schedule 8 status and BAP status as these are not comprehensive assessments.

The site total scores alone can be used comparatively against sites with a similar level of survey and habitat, without the need for any threshold levels for SSSI quality. If thresholds are used, however, different thresholds are likely to be needed for different habitats and separate regions but this would take much more time than I have to sort out.



Final there is the *Punctelia jeckeri*/*Lecanora persimilis* problem. Some system of highlighting recently described species currently with a Nationally Rare or Nationally Scarce status, which are actually widespread ruderals likely to lose their NR or NS status quite soon, would be good. Obviously the scoring system downgrades occurrences of a few Nationally Scarce species on a site. Planning systems, however, can also be based on protecting local interest and even one NS species can be taken as local interest. Marking the most obvious culprits as say NS (Under Recorded) and advising that such species are not used in conservation assessments would be handy.

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# *Caloplaca citrina* and *C. lactea* are incorrectly understood in the British Isles

## Introduction

In the British Isles the genus *Caloplaca* is rich in species and new taxa are still being described from there (e.g. Arup, 2006b). One would think that the genus would be rather well known in this country; nevertheless we have found, with little effort, two species not recorded from the territory before.

The recent publication of a paper about the *Caloplaca crenulatella* species complex (Vondrák *et al.*, 2011) raised some interesting issues for the first author of the current paper who sent some material tentatively identified as *C. crenulatella* and *C. lactea* to the second author for his appraisal. Specimens of this English material have been analysed by the second author. Now we have data that may be surprising for British lichenologists.

We have gone further and investigated two specimens of the *Caloplaca citrina* group from an English church and have similarly surprising results.

## Methods

### *Molecular bar-coding and phylogenetic analyses*

Identification of the samples was supported by molecular data – ITS nrDNA sequences. Direct PCR was used for PCR-amplification of the ITS regions including the 5.8S gene of the nuclear rDNA following Arup (2006a). Primers for amplification were ITS1F (Gardes & Bruns, 1993) and ITS4 (White *et al.*, 1990). PCR cycling parameters followed Ekman (2001). The most similar known sequences were found using the BLAST search in the GenBank.

New sequences were aligned along with similar GenBank sequences using BioEdit; unaligned regions and unaligned sequence ends were manually excluded. Final alignment of 14 sequences for analysis of sequences from the *C. citrina* group contains 527 positions; 41 positions are variable. Final alignment of 35 sequences for analysis of sequences from the *C. crenulatella* group contains 512 positions; 120 positions are variable. Bayesian phylogeny shows relations of the newly generated sequences from the *Caloplaca crenulatella* group and the *C. citrina* group to the known clades (Figs 1 & 2). For Bayesian inference, the likelihood model was set to general time reversible model (Rodríguez *et al.*, 1990) including estimation of invariant sites and assuming a discrete gamma distribution with six rate categories (GTR+I+G). Two runs with 600 000 generations (in both analyses) starting with a random tree and employing 4 simultaneous chains each (one hot, three cold) were executed. The temperature of a hot chain was set to 0.2 and every 100th tree was saved. After finishing the analysis, the average standard deviation of split frequencies among the runs dropped below 0.01. The first 1500 trees (25%) were discarded as the burn-in phase, and remaining 4500 trees were used for construction of the 50% majority consensus tree.

### Phenotypic examination

Phenotype characters of two specimens of British "*C. lactea*" were appraised in detail to generate data for distinguishing between known characters of *C. lactea* (A. Massal.) Zahlbr. vs. *C. marmorata* (Bagl.) Jatta. Measurements of ascospore sizes and widths of ascospore septa are given here as (min–)  $X \pm SD$  (–max), where  $X$  = mean value and  $SD$  = standard deviation. Total numbers of measurements in each sample was 10. Investigated lichens were photographed to show their morphology and images are available on <http://botanika.bf.jcu.cz/lichenology/index.php?pg=5>.

### Results & discussion

Molecular analysis of the *Caloplaca crenulatella* group together with three sequences from the British material (Fig. 2) shows that specimens called "*C. lactea*" belong to the clade of *C. marmorata*; the specimen of "*C. crenulatella*" does not belong to any of the known clades within the group but possess characters of *C. crenulatella* (Nyl.) H. Olivier s. lat. (sensu Vondrák *et al.* 2011). Morphological investigation of the two samples of *C. marmorata* (called *C. lactea* before) shows that (1) apothecia are (pale) orange to yellow, (2) apothecia are 0.15–0.4 mm in diam., (3) ascospores are (13.0–)  $15.35 \pm 1.4$  (–17.25)  $\times$  (5.25–)  $6.62 \pm 0.7$  (–7.5)  $\mu\text{m}$  in the sample Powell 1944 and (12.5–)  $14.18 \pm 0.9$  (–15.25)  $\times$  (5.25)  $6.25 \pm 0.9$  (–8.25)  $\mu\text{m}$  in the sample Powell 1445, (4) ascospore septa are (1.25–)  $2.0 \pm 0.4$  (–3.0)  $\mu\text{m}$  wide in the sample Powell 1944 and (1.5–)  $2.15 \pm 0.4$  (–2.75)  $\mu\text{m}$  wide in the sample Powell 1445.

According to Navarro-Rosinés & Hladun (1996) and also according to the new British "Flora" (Fletcher & Laundon, 2009), *Caloplaca lactea* has smaller and broader ascospores than the observed samples and *C. marmorata* (sensu Navarro-Rosinés & Hladun, 1996) should have ascospores that are longer. However, Fig. 1 shows that ascospore lengths of the observed samples are closer to *C. marmorata*; as well as the widths (not depicted). Colour of apothecia in the observed samples is paler than usual in *C. marmorata* but this can be understood by the geographic position of the records; apothecia in specimens from northern parts of the area of distribution may be paler, in this case resembling *C. lactea*. These British records are the northernmost localities known for *C. marmorata*.

Molecular analysis of the two specimens of "*Caloplaca citrina*" from the British Isles (Fig. 3) shows placement of the first one (Powell 1958) into *C. limonia*. It is not surprising to us, because the specimen matches morphologically *C. limonia* collected in Central and South Europe. *C. limonia* is usually recognizable even in the field by its pale yellow coarse soredia/blastidia (Vondrák *et al.*, 2007). The second sample is more problematic, falling into an unknown clade (*C. aff. austrocitrina*) along with specimens from Greece. This taxon must be studied further.

*Caloplaca limonia* is probably common on English churches along with other members of *C. citrina* group (*C. arcis* (Poelt & Vězda) Arup, *C. dichroa* Arup and *C. flavocitrina* (Nyl.) H. Olivier). The English record of *C. limonia* is the northernmost known for this species. We still do not know whether *C. citrina* (Hoffm.) Th. Fr. occurs in the British Isles.



Our results are based on insufficient specimens to allow broad conclusions about the distribution of these new British species. It will be interesting to analyse specimens of “*C. lactea*” from natural habitats, perhaps from south-facing slopes of the Mendip Hills or Portland, to find out whether or not these too are *C. marmorata*. Further research is also necessary to ascertain whether *C. limonia* and *C. aff. austrocitrina* are common on churches and other saxicolous substrata across the country and whether there are further taxa of the *C. citrina* group present in Britain.

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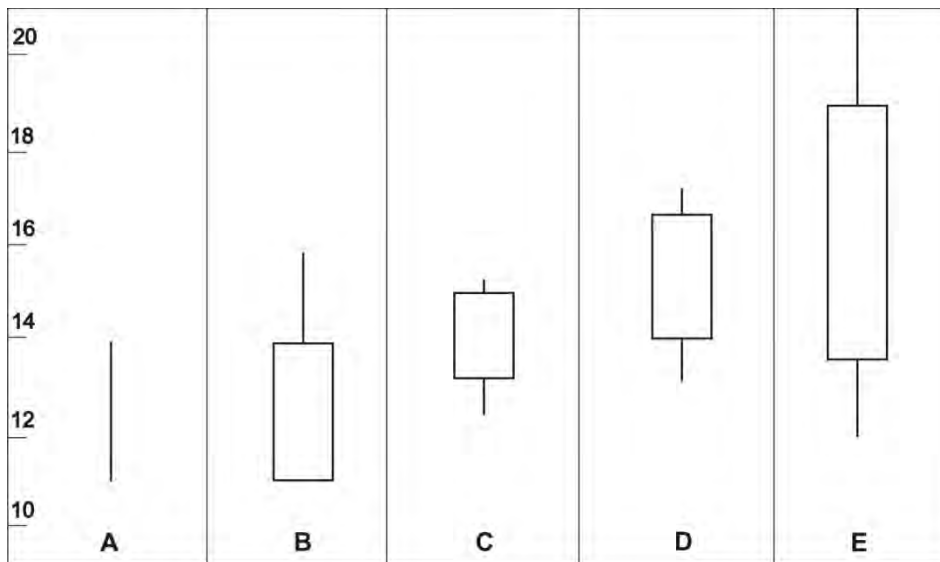
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**Table 1.** Newly generated ITS sequences from British *Caloplaca* samples with their closest relatives (found by Blast search).

Species	Herbarium number		Closest BLAST (% max. identity / % max. coverage)	GenBank accession nrs
<i>Caloplaca</i> aff. <i>austroclitina</i>	P1959; dupl. CBFS JV9058	in	<i>C. sp.</i> EU563414; 99/100	JN806220
<i>Caloplaca crenulatella</i> s.lat.	P1877; dupl. CBFS JV9055	in	<i>Caloplaca ferrarii</i> HQ699657; 98/97	JN806217
<i>Caloplaca limonia</i>	P1958; dupl. CBFS JV9056	in	<i>C. limonia</i> EU563422; 99/98	JN806219
<i>Caloplaca marmorata</i>	P1445; dupl. CBFS JV9057	in	<i>Caloplaca marmorata</i> EU639621; 99/96	JN806216
<i>Caloplaca marmorata</i>	P1944; dupl. CBFS JV9059	in	<i>Caloplaca marmorata</i> EU639621; 99/94	JN806218

Note: ITS sequences of both investigated samples of *C. marmorata* differ only in one nucleotide (in alignment length = 512bp)



**Fig. 1.** Lengths of ascospores (µm), depicted as box and whisker plots (when possible), where boxes are intervals between mean + standard deviation and mean – standard deviation; ends of whiskers are the extremes: A, *Caloplaca lactea* according to Fletcher & Laundon (2009); B, *C. lactea* according to Navarro-Rosinés & Hladun (1996); C, *C. marmorata*, Powell 1445; D, *C. marmorata*, Powell 1944; E, *C. marmorata* according to Navarro-Rosinés & Hladun (1996).

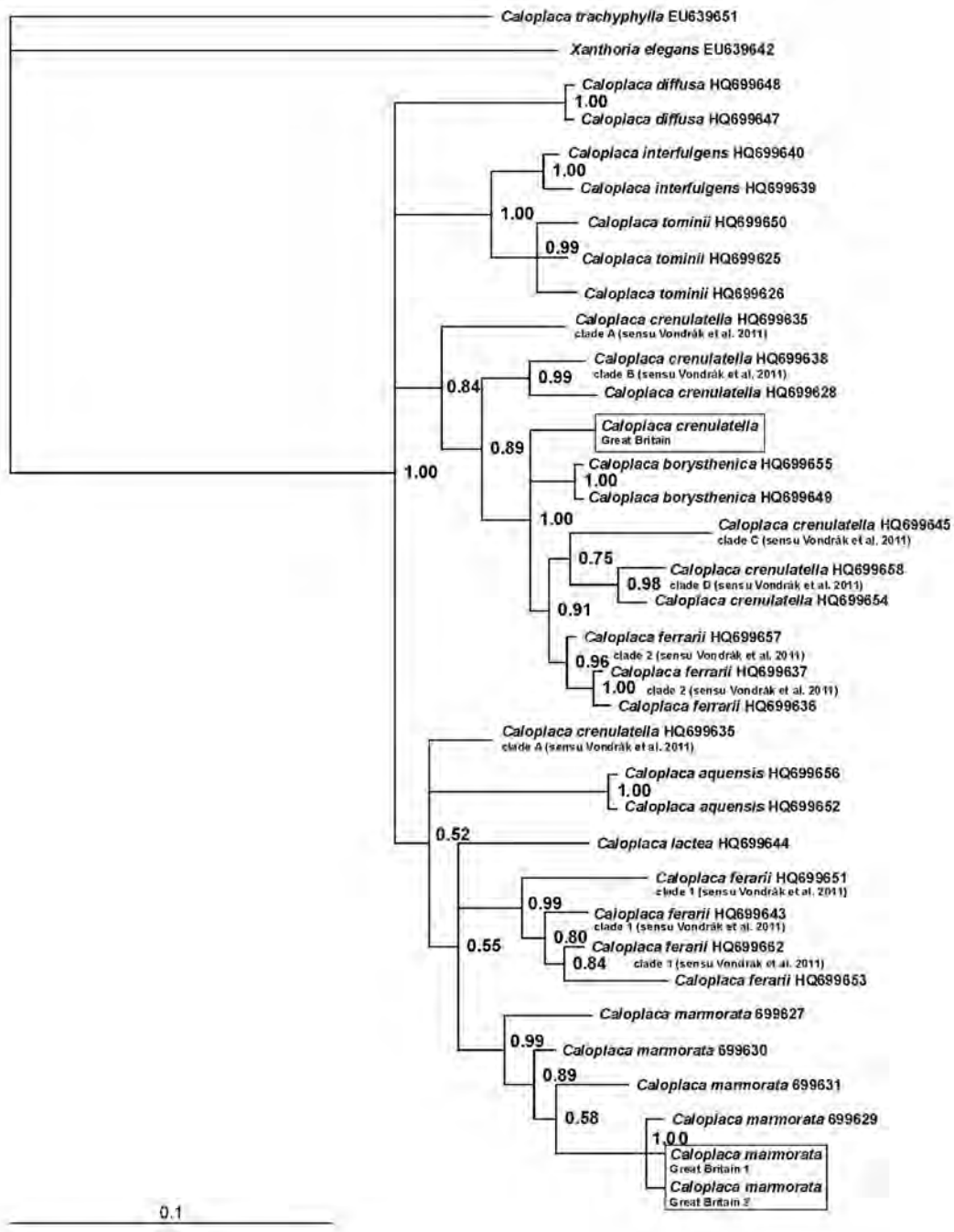


Fig. 2. Bayesian phylogeny of the *Caloplaca crenulatella* group showing placements of the British lichens

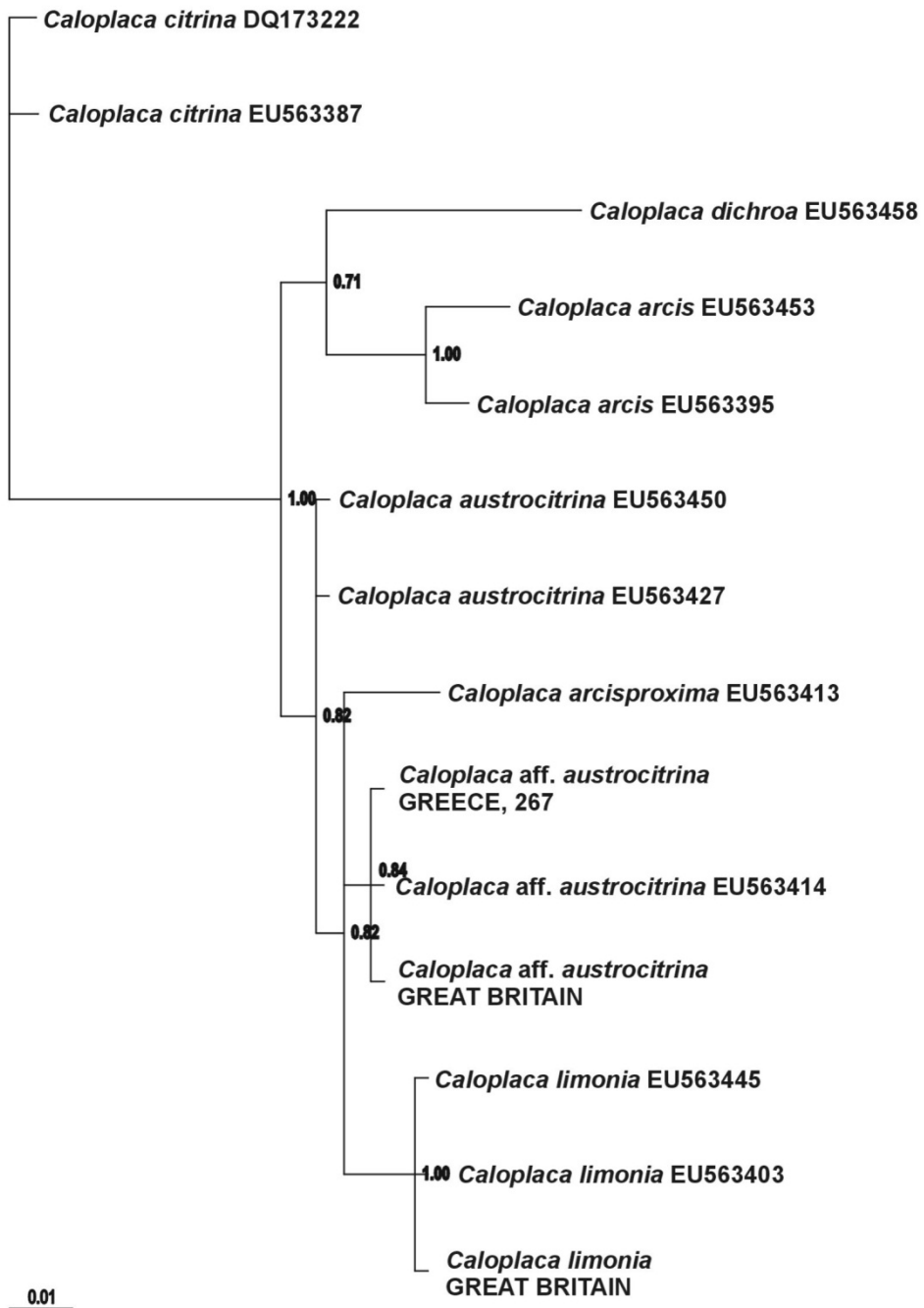


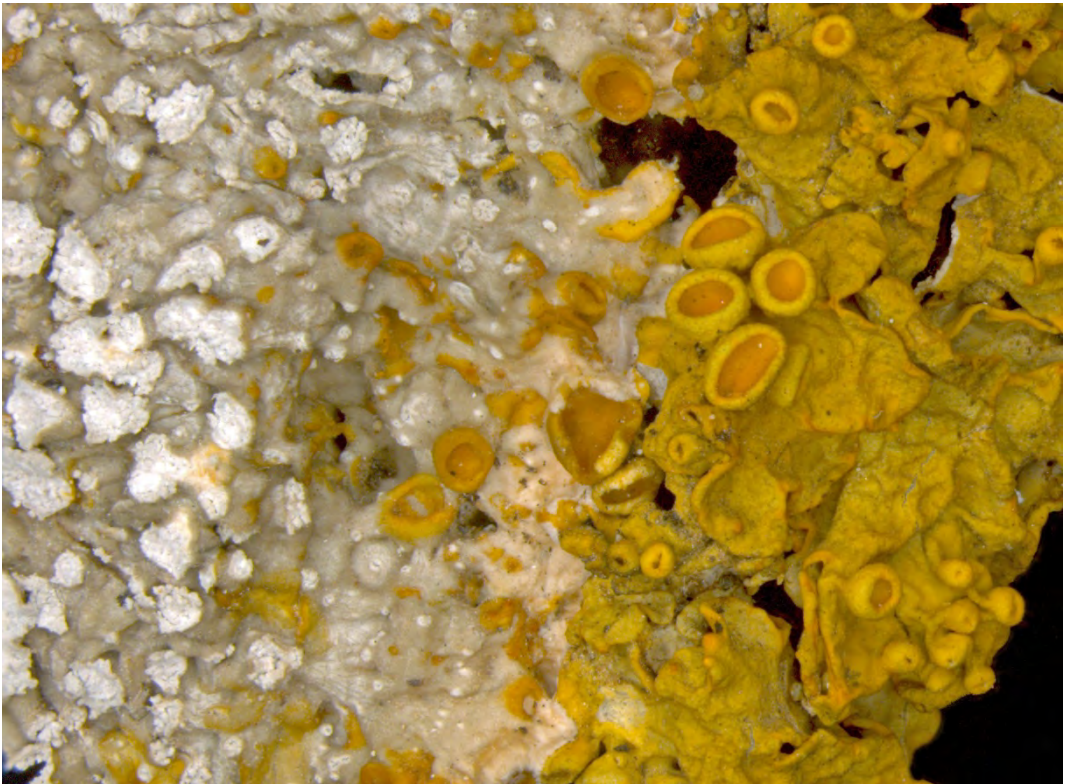
Fig. 3. Bayesian phylogeny of the *Caloplaca citrina* group showing placements of the British lichens



## *Xanthoria parietina* parasitic on *Pertusaria albescens*

It is known that ascospores of *Xanthoria parietina* can develop by taking over the thallus (and, more particularly, the algae) of another lichen. The phenomenon was described by Ott (1987), who provided colour photographs illustrating *X. parietina* gradually taking over the thallus of *Physcia tenella*, and a similar case can be seen in a series of images of *X. polycarpa* invading the thallus of *P. stellaris* posted on the University of Oslo lichen site (<http://www.nhm.uio.no/lav/>). However, the subject is rarely mentioned in the literature, and it does not seem to be known either how common this phenomenon is, or what range of hosts are exploited in this way.

I recently noticed that one of my collections of *Pertusaria albescens* var. *albescens* is parasitised by *X. parietina* in the same way. At one end of the collection is perfectly normal material of the *Pertusaria*, at the other end perfectly normal material of the *Xanthoria*, but a continuous thallus joins the two. In a boundary zone, about 5 mm wide, the grey thallus of the *Pertusaria* develops orange patches that give rise to *Xanthoria* apothecia. Development of *Xanthoria* apothecia precedes development of a distinct *Xanthoria* thallus.



Details of the collection are: Greece: Arcadia: Achaia, between Pirgos and Valima. 38° 06' 56" N, 22° 16' 43"E. Altitude 1050m. On *Quercus coccifera*. Collected 23 March 2007.

It is likely that many species of lichen take over other thalli in a similar way, but the *Xanthoria* case is particularly easy to observe because of the colour contrast between host and parasite. It would be very interesting to collate observations of this phenomenon: we know so little about the biology of lichen reproduction that a well-documented case study would be valuable. Anyone who has observed *X. parietina* taking over the thallus of another species is encouraged to send details to the Bulletin.

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[In: Peveling, E., ed., Progress and Problems in Lichenology in the Eighties]

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## ***Stigonema* in the cephalodia of *Stereocaulon condensatum* differs between Canada and the UK**

During 2009 a BLS travel award was received for research conducted in Wales to study variation in the cyanobacterial partner of *Stereocaulon condensatum* Hoffm. The lichen is one of several crustose members of *Stereocaulon* that grows on sandy substrata in the northern hemisphere and contains rough brown cephalodia with the cyanobacterial partner, which is a filamentous cyanobacterium, *Stigonema*. Nitrogen fixation of cephalodiate cyanobacteria has been shown to vary seasonally for *Stereocaulon paschale* (Crittenden & Kershaw, 1979) and is thought to be an important source of nitrogen from *S. vulcani* as a pioneer species on young lava flows (Kurina & Vitousek, 2001). Studies have described genetic variation in *Nostoc* (Novis & Smitsen, 2006), but little is known about the variation in *Stigonema* or if the variation coincides with that in nitrogenase activity of the cephalodia. A molecular marker that is linked with nitrogenase activity in a pioneer soil crust that stabilizes sandy soils would be advantageous for recolonization of habitats low in nitrogen and with unstable soils.

The main goal of this study was to investigate a link between genetic variation of the cyanobacteria and variation in nitrogen fixation rates by examining: i) if cephalodia of *S. condensatum* from North American and European populations have similar nitrogen fixation levels, ii) if genetic variation of *Stigonema* differs between populations of cephalodia for two continents, and iii) if a relationship exists between nitrogenase activity and cyanobacterial haplotype.

## Methods

Our goal was to collect five soil samples each about 3cm x 3cm from four locations (populations) in each of Wales and Manitoba, Canada. Canadian samples came from Leif Rapids area in northern Manitoba (Fig. 1A). UK samples came from sites by the river Afon Ystwyth near Pont-rhyd-y-groes in central Wales (Fig. 1B). Soil samples were rehydrated in the lab under light conditions to restore nitrogenase activity. Cephalodia were dissected from thalli, weighed, and nitrogenase activity in excised cephalodia was assayed by acetylene reduction. Total DNA was extracted from a single cephalodium from five locations on each soil sample and PCR products of the *trnL* (*Leu*) gene and its intron were sequenced. Preliminary DNA sequences were aligned and compared with each other. BLAST analyses were also conducted to compare with known sequences in NCBI GenBank.

## Results and discussion

Measurements of the nitrogenase activity have been completed but the nucleotide sequencing of the *trnL* gene is still underway. Preliminary results suggest that although the nitrogenase activity does not differ significantly between continents, the genetic variation of *Stigonema* shows five haplotypes with two haplotypes from Wales and three haplotypes from Manitoba. BLAST searches have revealed that no *trnL* sequences for *Stigonema* have been deposited in GenBank. Therefore species determination must be confirmed by the bacterial 16S gene sequence. The most similar sequences in GenBank belong to *Nostoc*. Other studies have shown that populations of *Nostoc commune* in Antarctica can be separated by AFLP analysis and linked to habitat (Novis & Smisson, 2006). High selectivity of *Nostoc* genotypes by the fungal partner was shown for some lichens (Stenroos *et al.*, 2006), and a separate lichenized scytonematoid clade was reported for that associate with different lichen fungi (Lücking *et al.*, 2009).

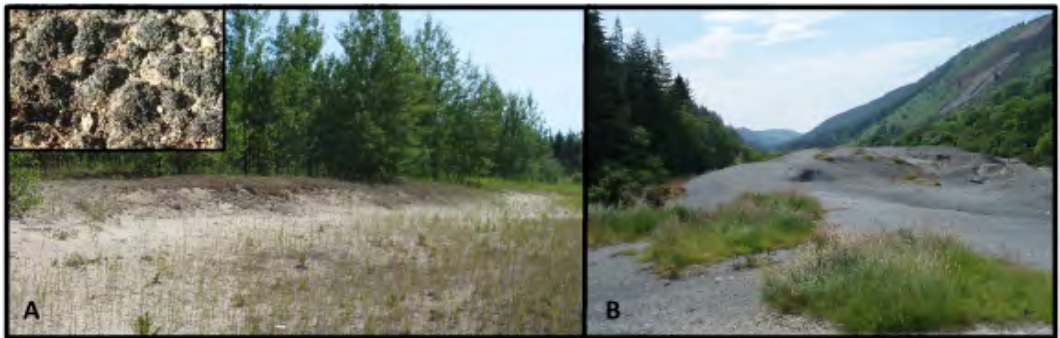


Figure 1: Collection locations in A. Manitoba, Canada, with insert showing a young thallus of *S. condensatum* on sand, and B. in Wales, U. K.

The data are too preliminary to determine whether a relationship exists between nitrogenase activity and cyanobacterial haplotype. Currently there appears to be no relationship but as further data are collected, a more clearly defined link may arise. The association between genetic and nitrogenase variation may be beneficial to select

populations for recolonization of unstable sandy soils. It will also be critical to confirm species identification by 16S sequencing before inferring evolutionary history or gene flow within the species since no trnL sequences from *Stigonema* have yet been deposited in GenBank. Fungal species will also be confirmed by ITS sequencing.

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## Names for lichens. 3. New names for old

It is often necessary to change a name, usually as a result of advancing taxonomic knowledge. A genus may be split into smaller genera, two genera may be merged, it may become clear that a species was originally described in a genus where it does not belong, a taxon originally described as, say, a variety might be better regarded as a species. All of these examples will result in one or more name changes. Before describing the mechanics of how to change names, we need to take a look at the topic of author citations.

In 1779 the French biologist Jean Lamarck published the name *Lichen flavicans*. In 1788 Olof Swartz also published the name *Lichen flavicans*. The two names refer to



entirely different taxa. To avoid total confusion here, and in the many other similar cases, we need some way to distinguish between "*Lichen flavicans* of Lamarck" and "*Lichen flavicans* of Swartz". We do it by a slightly more compact version of the convention that I have just used: the names are cited as *Lichen flavicans* Lam. and *Lichen flavicans* Sw., "Lam." and "Sw." being the standard abbreviations, for nomenclatural purposes, for the two authors concerned. Everyone who has published a plant or fungus (or of course, lichen) name is assigned a unique, usually abbreviated, indicator of this sort. Citing authorship has proved to be useful for more than just resolving ambiguity, and is commonly done in formal publications, but not usually in routine work.

If you look in the *Lichens of Great Britain and Ireland*, or in any taxonomic work, you will also see things like "*Parmelia saxatilis* (L.) Ach.". This form is used to indicate that the name *Parmelia saxatilis* was published by Eric Acharius (standard abbreviation "Ach.") but that the lichen itself was first described, under a different name *but with the same epithet* (or a gendered variant of that epithet), by Linnaeus (standard abbreviation "L."). Linnaeus actually described it as *Lichen saxatilis*. The date of publication may also be appended to a name, e.g. *Parmelia saxatilis* (L.) Ach. (1803); this is sometimes helpful to specialists.

You will sometimes see authorship cited in the form A ex B, (A ex B) C, (A) B ex C, or even (A ex B) C ex D. Just note that it is always acceptable to reduce forms like "A ex B" to simply "B". I am not going to say any more about "ex" citations, as in my view they are an unnecessary complication and we would be better off without them.

Occasionally you will see authorship written as *sensu* Somebody. The word *sensu* (ablative case of the Latin noun *sensus*) means "in the sense of" and it is used to indicate that someone has misapplied a name. If, in your Lichen Flora of Ruritania, you provide a description of what is in fact *Parmelina pastillifera* under the heading *Parmelina tiliacea* then we would say that *Parmelina tiliacea sensu* You = *P. pastillifera*. We could be even more explicit: *Parmelina tiliacea sensu* You, non (Hoffm.) Hale = *P. pastillifera*. [The Latin word *non* means "not".]

Knowing the authorship is helpful for far more than just avoiding ambiguity. Even if you know little about the genera concerned you can be almost certain that *Micarea adnata* Coppins and *Fuscopannaria albomaculata* P. M. Jørg. are good species but that *Collema cameroonense* C. W. Dodge probably is not. The first two authors are thoroughly reliable taxonomists, whereas the late Carroll Dodge was notoriously inept. Authorship also tells you roughly when a name was published, and sometimes also where the lichen was described from. Acharius published between 1794 and 1818; William Nylander (abbreviation "Nyl.") was active in the second half of the 19th Century; almost all lichens described by Edward Tuckerman ("Tuck.") are from North America, etc. Familiarity with details like these makes it easy to spot errors and inconsistencies too: you know immediately that things like Ach. (1903), Hook. f. (1822), or (Nyl.) Ach. can not possibly be correct.

Here is an example, from a recent issue of *The Lichenologist*, of a new name being created for a previously described species.

***Tetramelas thiopolizus* (Nyl.) Giralt & Clerc comb. nov.**

Mycobank No.: MB561208

*Lecidea thiopoliza* Nyl., *Flora* 64: 244 (1878)

Not all of this is necessary for valid publication. The three essentials are: (1) you must state the new name (obviously!); (2) you must state the name under which the lichen was originally described; and (3) you must give a full bibliographical reference to where that name was published. For (2) I am simplifying slightly, but the simplified version is good enough for now.

The MycoBank number is not currently required for valid publication, but changes to the nomenclatural rules earlier this year mean that registration of new names in Mycobank or an equivalent database will be compulsory from 2013. (MycoBank is a database intended to help mycologists and lichenologists keep track of names.) It is not necessary to include the phrase "comb. nov.", an abbreviation for *combinatio nova* [= new combination]. Explicitly specifying the authors of the new combination, Giralt & Clerc in this case, is also not necessary: if not specified the author(s) is assumed, by default, to be the author(s) of the publication itself. Nor is it necessary to put the new name in bold font. However, all of these things are good practice. The reason for the "comb. nov." and the bold font, incidentally, is that without them new combinations are surprisingly easy to overlook.

You don't need to provide a description of *Tetramelas thiopolizus*, though you can if you wish and in this case the authors did, probably because the species is not very well known. You don't designate a type for *Tetramelas thiopolizus*: its type is automatically the type of *Lecidea thiopoliza*.

It is customary to ascribe a combination to the author(s) who first published it. If, not realising that Giralt & Clerc had already made the combination, somebody was to validly publish *Tetramelas thiopolizus* (Nyl.) Somebody, everyone would still cite it as *T. thiopolizus* (Nyl.) Giralt & Clerc.

The name under which the species was first described, *Lecidea thiopoliza* Nyl. in this case, is termed the basionym. That word has always seemed to me an ugly and unnecessary piece of jargon - what is wrong with "base name"? - but we seem to be stuck with it. Incidentally, Nylander actually published the name as *Lecidea thiopholiza*. I shall defer to a later article all discussion of the vexed question of when it is appropriate to "correct" an author's original spelling.

If you change the rank of a taxon while keeping it in the same genus, e.g. if you change *Parmelia something* var. *somethingelse* to *Parmelia something* subsp. *somethingelse*, it is common to indicate this with "stat. nov.", an abbreviation for *status novus* [= new status], rather than "comb. nov.". (The distinction seems unnecessarily fussy to me, but it's what some people do.)

Now for some complications. In 1921, Zahlbruckner wanted to transfer the name *Pyrenula megalospora* Fink into the genus *Arthopyrenia*. Normally he would just have made the combination *Arthopyrenia megalospora* (Fink) Zahlbr., but the name *Arthopyrenia megalospora* Lönrr. (1858), for a different taxon, already existed, and having two versions of *Arthopyrenia megalospora* would lead to confusion. In cases like

this you have to introduce a new epithet; Zahlbruckner chose *finkii*. If he were publishing the name today (requirements were different in 1921) he would write:

***Arthopyrenia finkii* Zahlbr. nom. nov.**

*Pyrenula megalospora* Fink [ ... full bibliographical details for Fink's name... ]

Basically, requirements are the same as for a new combination. Again, you don't need to provide a description, and the type of *Arthopyrenia finkii* is automatically the type of *Pyrenula megalospora*. The phrase "nom. nov." is short for *nomen novum* (plural *nomina nova*) which just means "new name"; it's a bit of a misnomer as a new combination is also a new name, but the Latin phrase *nomen novum* has come to be used in this restricted sense of a change in epithet.

Nomina nova are a real trap for the unwary. The problem is that *Arthopyrenia finkii* Zahlbr. looks like the name of a species first described, with that name, by Zahlbruckner, so people are tempted to make a combination like *Neopyrenula finkii* (Zahlbr.) Somebody. However, that would be incorrect. You must revert to the original epithet, and the correct combination would be *Neopyrenula megalospora* (Fink) Somebody. The only exception would be if the epithet *megalospora* had already been used in *Neopyrenula*. Even some of the best lichenologists have got muddled in cases like this.

You might wonder why the Code insists that you provide full details of both the basionym and its place of publication. If you ever have to work with old publications you will soon understand why. Before 1953 an "indirect reference" to a basionym was sufficient. Such references were often *very* indirect, cryptic and hard to interpret. For example, in 1855 Gustav Körber published a discussion of a lichen under the heading *Callopisma agardhianum* Ach. However, Acharius never published the name *Callopisma agardhianum*. It turns out that he did publish one, and only one, name with this epithet, namely *Lecanora agardhiana* Ach., so Körber is here making the combination *Callopisma agardhianum* (Ach.) Körb. As you can imagine, establishing exactly what Acharius did and did not publish is hard work and most people would prefer to spend their time doing other things. Yet this example from Körber is by no means as obscure as it gets: sometimes the "indirect reference" is no more than a very cryptic reference to a publication. It is also very easy to overlook new combinations presented in this sort of way: for example the combination *Dactylospora parasitica* was actually first published by Arnold in 1887 (not, as everyone, including me, has assumed, by Zopf in 1896), but I only noticed this last week, even though I had read the relevant publication by Arnold twice before. If you have to work on nomenclatural matters with old publications, and are not used to doing so, it is advisable to seek help. Better still, delegate the job to an assistant. Then when he or she screws up, as is almost inevitable, you can claim it's not your fault.

One final word of warning. Many lichenologists seem to be unaware that the list of lichen names in Zahlbruckner's ten volume *Catalogus Lichenum Universalis* must be treated warily. Apart from straightforward errors and omissions, of which there are

many, a big problem is that Zahlbruckner does not distinguish between original names, new combinations, and *sensu* names. When Zahlbruckner lists, e.g. *Parmelia something* Nyl., he could mean any one of: (1) *Parmelia something* Nyl., (2) *Parmelia something* (Somebody) Nyl., or (3) *Parmelia something sensu* Nyl. To find out what is really meant, it is *essential* to consult the original publications. Much confusion has been caused by people neglecting to do this.

In the next article I will address the question "What is the correct name for my lichen?".

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## **Another lichenicolous fungus you can look out for – *Illosporiopsis christiansenii***

The current British Lichen Society map (2008) indicates that a red lichenicolous fungus, *Illosporiopsis christiansenii* is either very rare in much of England, or no one has looked for it. In an interesting parallel with the absence of records of another lichenicolous fungus, *Xanthoriicola physciae* (Preece & Blackwell, 2004), Ted Blackwell collected the first known Herefordshire specimen of *I. christiansenii* in 2002 (Blackwell & Spence, 2003). It was inconspicuous, occurring as minute pinkish dot-like “splashes or lumps”, apparently with no macroscopic structure on the lichen *Scoliciosporum chlorococcum* growing on elder (*Sambucus nigra*) in Leintwardine churchyard.

By 2006, eleven records of *I. christiansenii* from different sites in Herefordshire had been made, on *Physcia tenella*, *Parmelia sulcata* and, especially, on *Xanthoria parietina*. In 2006, I found it for the first time in Shropshire on a lilac tree (*Syringa vulgaris*) in our garden near Oswestry on *X. parietina*. Soon, *I. christiansenii* had been recorded from 23 sites in Shropshire (VC 40) and 14 sites in Herefordshire (VC 36). Mike Stroud found it (again on *X. parietina*) on an apple tree in his garden in Brecknockshire. As I had to hand 400 specimens of portions of branches with *Xanthoriicola physciae* growing on *X. parietina*, I re-examined these, looking for *I. christiansenii*. Including the finds among these specimens, by 2009, 52 specimens or records of *I. christiansenii* had accumulated from 14 VC's, including four recorded in the “New, Rare or Interesting” sections of *Br. Lichen Soc. Bull.* Nos. **88** (VC's 25 & 27), **89** (VC 41) and **96** (VC 46) from the years 1997, 2000 & 2001.



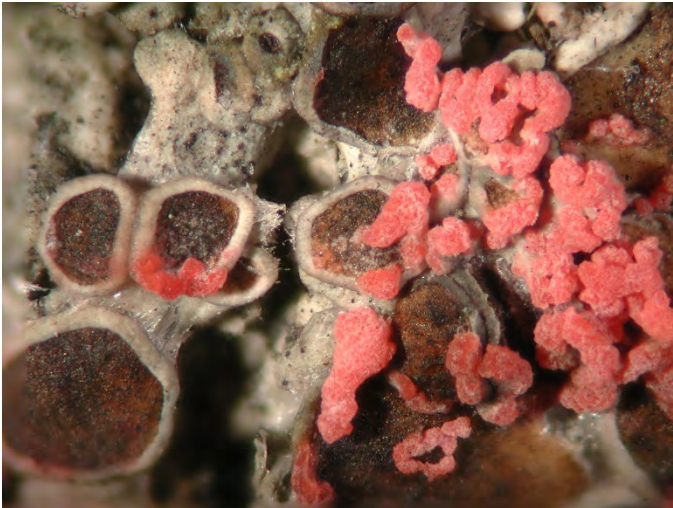
## What does *Illoporiopsis christiansenii* look like?

The type specimen, then called *Hobsonia christiansenii* was described by Lowen *et al.* (1986) as being “strong pink” in colour. Often only one isolated pink-red mass is seen, curiously angular in appearance, not round, having the general appearance of a tiny piece of pink-red butter, 1-2 mm across. The mass consists of multicellular conidia, which are helicoid, irregular in size and shape, borne on stalks and approximately 17-30  $\mu\text{m}$  x 11-20  $\mu\text{m}$ .



*Illoporiopsis christiansenii* growing on thallus of *Physcia tenella*, Nordeifel, Germany. Image © Norbert Stapper, featured in the website <http://www.lichenology.info/>

*Don't confuse it with Marchandiomyces corallinus!*



The look-alike but unrelated species *Marchandiomyces corallinus*, on *Physcia aipolia*, Ayrshire. Image © Alan Silverside.

Jo Weightman in Kent, and myself in Shropshire have come across a different lichenicolous fungus which at a glance in the field was mistaken for *I. christiansenii*. We were not alone in this difficulty. When he recorded the first specimen of *I. christiansenii* from the whole of Wales collected in 1997, Alan Orange wrote “*I. christiansenii* may have been ignored as *Marchandiomyces corallinus* in the past” (*Br. Lichen Soc. Bull.* 89: 75, 2000). Whereas the curious stalked spores of *I.*

*christiansenii* quickly disperse in a drop of water, those of *M. corallinus* are very difficult to separate. They are simple, spherical or ovoid. Under a dissecting microscope *M. corallinus* looks like numerous orange warts.

### *What is known about I. christiansenii?*

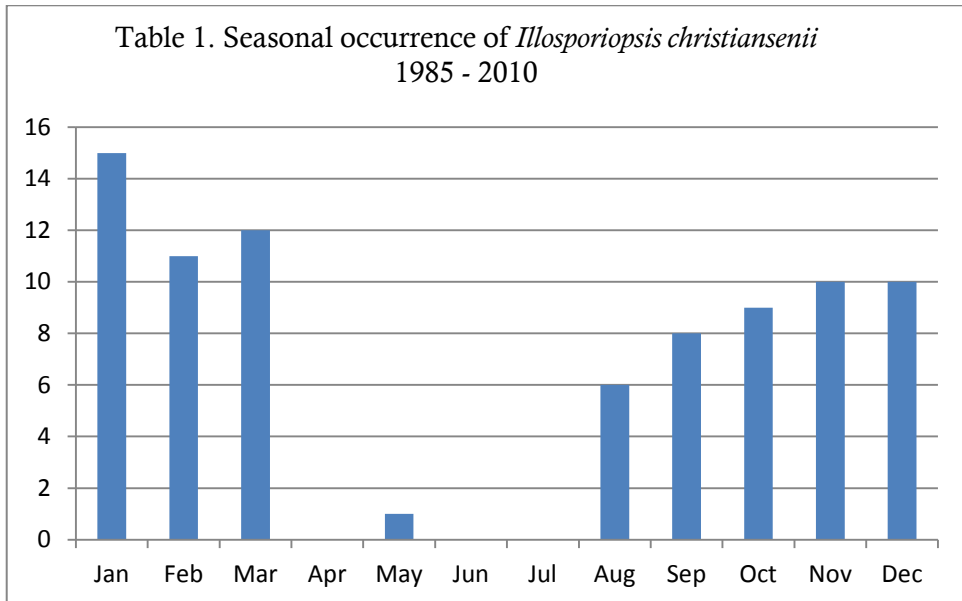
This is a difficult fungus to see because of its size amongst crowded lichen thalli which may account for the spread of dates on which it has been found over the last 86 years; on the other hand finding the fungus may be related to its biology (see later) in some way.

First recorded in Germany in 1923 on *Physcia tenella* growing on *Ulmus*, there was no report again for 30 years (Canada, 1955). Then another gap of over 20 years (Italy, 1979), followed by Luxemburg (1983), Austria (1985), South Devon, England (1985), Spain (1985), Baltimore, U.S.A. (1990), Cardiff, Wales (1997), East Norfolk, England (2000), East Suffolk, England (2001), Glamorgan, Wales (2001) followed by the records described at the beginning of this account.

World-wide, the list of recorded host lichens for *I. christiansenii* is as follows: *Xanthoria parietina*, *Physcia tenella*, *P. aipolia*, *P. adscendens*, *P. stellaris*, *P. semi-pinnata*, *Scoliosporium chlorococcum*, *Aspicilia cinerea*, *Porpidia albo-caerulescens*, and *Candelaria concolor*. The infected lichens were found only on trees or shrubs, species of *Salix*, *Crataegus*, *Sorbus*, *Malus*, *Sambucus*, *Syringa*, *Prunus*, *Ulmus* and *Fraxinus*.

As with *Xanthoriicola physciae*, little is known about the biology of *I. christiansenii*. Perhaps one of the key features of this fungus are its helicosporous multicellular spores and their rapid dispersal in water (rain?) drops. There is a large literature about the biology of such spores, and this aspect is being studied further.

A review of the collection records of *Illosporiosis christiansenii* (see Table 1) strongly suggests that the species is seasonal in its occurrence, being present in the autumn and winter months but almost absent in spring and early summer. All sites in Shropshire were revisited to confirm these observations.



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## Ecology, taxonomy and the end of an era – celebrating a century

In 1911 there was an International Phytogeographical Excursion, led by Tansley and Druce, on which botanical luminaries from Europe and North America, including Clements, were shown the highlights of British vegetation. Leaving from Cambridge they travelled to north Norfolk, Derbyshire and on via Liverpool and Crossfell to Ben Lawers and the Cairngorms before crossing to Dublin, to Connemara and Killarney, and returning via Plymouth. The Lizard was a highlight before their visit to Hampshire and the British Association meeting in Portsmouth. Much lively discussion took place which was to lead to the founding of the British Ecological Society (BES) in 1913 (Sheail, 1987).

At the Natural History Museum (NHM), in the same year, there was a taxonomic exhibition of lichens in two chests, of fifty drawers each, arranged by Annie Lorrain Smith. In the same year she completed Part II of a *Monograph of British Lichens*, a project started by Crombie. A photograph of the chests in situ can be seen in *Nature's Treasurehouse* (Thackray & Press, 2001). Each drawer can be removed and laid on a table to study - under glass there are real lichens, illustrations and pertinent information. They are currently in the new Angela Marmont Centre of the NHM and can be viewed by appointment. I am told this is the first systematic lichen exhibition in a museum. Does anyone know of an earlier one?

1911 also saw the death of Sir Joseph Dalton Hooker, aged 94, who had been Director of Kew 1865-85 following his father. He was succeeded by his son-in-law Thistleton-Dyer. It had been an interesting life – going on one of the voyages of discovery and survey to Australia and Antarctica; producing a monumental work on the *Flora of British India* (1872-97) following his own journey in the Himalayas; and, with the collaboration of George Bentham, producing *Genera Plantarum* (1860-83) based on the Kew collections and a '*Handbook of the British Flora*' which was a standard text for close on a century. He was also a member of the X Club, a select group of nine friends who dined together regularly and influenced policy and

emphasised the importance of science. They were George Busk (zoologist & paleontologist), Edward Frankland (chemist), Thomas Archer Hirst (mathematician), Thomas Henry Huxley (initiator), John Lubbock (MP and archaeologist), Herbert Spencer (philosopher & political theorist), William Spottiswoode (physicist & publisher), John Tyndall (physicist) as well as JDH. Together they helped lay the groundwork for professional scientists in the 20<sup>th</sup> century.

The 20<sup>th</sup> century was the century of ecology and conservation and of advance in the understanding of DNA. A decade after the founding of the BES Tansley was to resign his post at Cambridge and move, with his family, to Vienna to study under Freud; he returned and took up the Sherardian chair at Oxford in 1927, retiring ten years later.

The human element in conservation has always been a problem. There have been attempts to include it (Ostrom, 2009) but no satisfactory system has yet been adopted. At the other end of the scale the huge changes that finding the structure of DNA made to research are still being absorbed. The concepts of DNA barcoding and Seed Banks reflect the current retail mentality; the market place of life is there to be tested. The 21<sup>st</sup> century will be an interesting one.

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## Dazed and Amazed in the New Forest

Since carrying out NVC based vegetation surveys of lowland heathland SACs in the Thames Basin and the Weald in the early 2000s, I have been concerned that there has been a considerable decline in the quality of heathland lichen floras in these areas compared to the New Forest. This reinforced concerns expressed by Francis Rose (Rose, 1992) about the disappearance of some sensitive species from the Sussex heathlands, including *Cladonia arbuscula*, which appears to be extinct in that county. This decline had not been apparent in the New Forest (Sanderson, 1996; 2010), possibly reflecting a continuity of grazing and careful controlled long rotation burning.

There is the potential for the shifting baseline phenomena, with the impoverishment of many lowland heaths being regarded as normal. Certainly there





The rich site at White Moor, Lyndhurst, New Forest. Short open heather about 15 years since the last controlled burn, with frequent glades rich in small lichen species. The ruts on an old track show here support *Cladonia callosa*, new to the lowlands. Image © Neil Sanderson

seems to be little general appreciation that there might be a problem and searching the internet produced nothing concerning lowland heathland management and lichen diversity. The standard methods for carrying out condition assessments in lowland heaths are concerned only with cover of lichens, not species diversity (JNCC, 2004). As species poor heaths can still have sheets of one species, *Cladonia portentosa*, this would seem to be sure fire recipe to produce a shifting baseline in heathland lichen diversity.

As a result of this I believe that the BLS ought to consider organising a survey of lowland heathland lichens so we can get a more accurate picture of what is going on. We desperately need an update on the comprehensive study of Fletcher *et al.* (1984). As a first step, however, this summer I started looking closely at lichen heaths on the New Forest which I had looked at with Francis Rose in the 1990s as well as some new sites. This was mainly to work out what could be recorded but also just to be sure things really were still OK in the New Forest.

It rapidly emerged that not only were the New Forest heaths in fine fettle but that I had clearly been neglecting the New Forest heaths for the woods. In particular one new site has completely blown me away with several new species for the New Forest found, one of them new to the lowlands. This is a not especially

striking looking area of open short heath looking like it had been burned within the last 10 years north east of Lyndhurst at White Moor SU3108. Actually, Forestry Commission records suggest it was controlled burned 15 years ago, and the site is probably quite heavily browsed which has kept the stand in the building stage longer than usual. There are numerous canopy gaps with lichen dominance on thin hard humus and varying sized banks in ruts and hollow ways.

The survey of this site started curiously; during a lunchtime walk I took some pictures in damp and strongly lit conditions in an area with high cover of species such as *Cladonia strepsilis* and *Pycnothelia papillaria* on 4<sup>th</sup> August 2011. Some rather bluish looking wet "*Cladonia strepsilis*" was photographed. Clearly this was a good area in need of a closer look.

A couple of days later Andy Cross and I had a detailed look at the lichens in a separate area. In a WWII gravel pit at Yew Tree Heath (SU3606) where we found more of the bluish "*Cladonia strepsilis*", this time dry and reacting C-. My first thought of "odd *C. cervicornis*" was dispelled by Andy asking of the same taxon nearby "what is this?" On the second look the penny dropped, this was probably *Cladonia subcervicornis*; latter proved by the K+ yellow reaction. This was a surprise; there is a previous record on the BLS dot maps for old Hampshire in new Dorset (SZ19), but this was apparently not accepted by Francis Rose in the 1996 Hampshire Flora (Sandell & Rose, 1996), who had no records of this species. Otherwise there are a few lowland records, none apparently recent and none from the New Forest. Curiously in Fletcher et al. (1984), the presence of *Cladonia subcervicornis* is mentioned as an unusual feature of the New Forest heaths for a lowland site; so someone had seen it before. However, no records seem to have got into the BLS system and I had assumed this was some sort of error; apparently not!

On the 1<sup>st</sup> September, I went back to White Moor during lunchtime to check if the photograph from White Moor was really another *Cladonia subcervicornis* site. I confirmed it was present in some local abundance. In addition, back in the lab associated with a *Cladonia diversa* specimen were some squamules that I thought might be just be *Cladonia callosa*, which would have been even more exciting. So I went back the next lunchtime and confirmed it



White Moor, Lyndhurst, New Forest. *Cladonia callosa*, new to the lowlands, on the side of an ancient hollow way. Image © Neil Sanderson



by finding fertile material, on small banks in old vehicle ruts (WWII vintage?). As this was new to the lowlands this was quite something. It did not stop, next was *Cladonia cornuta*, new to Hampshire, and material of the *Cladonia coccifera* agg. that had the appearance of being possibly *Cladonia borealis*, if correct also new to the lowlands, but only TLC will tell. East of this the sides of an ancient hollow way produced *Cladonia incrassata* (NS), which is widespread in the New Forest, and a very odd lichen indeed that I took a bit of time to work out and was an object lesson on the difficulties of *Cladonia* identification. The determination of this wandered

through odd *Cladonia pyxidata*, *C. monomorpha* and *Cladonia phyllophora* before ending at the more prosaic determination of big exuberant *C. ramulosa* with wide cups.

Finally on Saturday 3<sup>rd</sup> September, Andy Cross and I went back for an afternoon session on the site and found more. As well as new magnificent colonies of *Cladonia callosa*, growing with *Cladonia subcervicornis* on the banks of an ancient hollow way, further new species to the New Forest were found. On the way to the rich area, at a stop to admire some fertile *Icmadophila ericetorum* I found earlier, material of what seems to be *Cladonia rei* was spotted. If correct, new to Hampshire. This has corticate podetia bases,

with curved and twisted podetia but not as forked as *C. subulata*, weekly Pd+ yellow and a UV+ medulla. Again this



Top: Yew Tree Heath, New Forest. Dry *Cladonia subcervicornis* in a WWII gravel pit. Bottom: White Moor, Lyndhurst, New Forest. Wet *Cladonia subcervicornis* in a open patch in heath last burned 15 years ago. A rare species in the lowland western Europe that appears widespread in the New Forest but over looked until recently. Images © Neil Sanderson

needs TLC to be sure. Within the rich area another new to Hampshire turned up, the mainly upland *Micarea leprosula*. This unassuming crust also had the honour of being the 500<sup>th</sup> lichen, related fungi and lichenicolous fungi recorded from the New Forest common grazings since the 1960s.

No more new species were found at this amazing site but the those confirmed from here have all turned up in other sites, with both *Cladonia callosa* and *Cladonia subcervicornis* appearing quite widespread. Other new species have turned up; *Arthrorhaphis grisea* parasitizing *Baeomyces rufus* and, just as this was being written, real *Dibaeis baeomyces*, all previous records of this species being sterile *Icmadophila ericetorum*. Another curiosity is out for expert determination.



Copthorn Common, New Forest. *Cladonia arbuscula* with some *C. ciliata* var *tenuis* in short grazed heath. Diverse communities of reindeermosses (subgenus *Cladina*) are mainly found in short grazed heaths which have not been burned for decades, but these sites are poorer in the smaller heathland lichens. Image © Neil Sanderson

It seems the description by Fletcher et al. (1984) of the New Forest as an internationally important site for heathland lichens still stands. On current data some of the new records seem anomalous in a British context but comparisons with the Netherlands (Aptroot et al., 1998 & BLWG, 2011) shows species such as *Cladonia callosa* and *Micarea leprosula* are widespread there. There are interesting differences, however: *Cladonia subcervicornis* and *Icmadophila ericetorum* were extinct before 1900 in the Netherlands and I have failed to find any *Stereocaulon condensatum*, a signature species of lichen rich heathland in the Netherlands, in the New Forest.



I am still not sure what to make of all this, and am still quite stunned by the number of new species found, but there is clearly a lot more work to do in lowland heathland in England. What are the environmental conditions and management that encourages lichen diversity? I have ideas but these need further investigation. Are there more areas quite as spectacular as this in the New Forest? Is anything like this surviving out side of the New Forest? Well we can look and see.



White Moor, Lyndhurst, New Forest. *Pycnothelia papillaria*, an especially well developed thallus in a glade in short heath last burned about 15 years ago. Image © Neil Sanderson

Apparently strongly declining species for which records would be very helpful are *Cladonia arbuscula*, a fire sensitive specialist of grazed short heath and grassland, and *Cladonia strepsilis* and *Pycnothelia papillaria*, which are open ground and fire dependant species. This would be a focused way of getting a good indication of the severity of the apparent declines. Beyond this surveying on a 1km grid square basis would also be useful. The best New Forest heathland squares have produced over 40 terricolous taxa, over 25 *Cladonia* taxa and a score of up to 29 using an index adding together the total number of *Cladonia*, *Cetraria* and *Pycnothelia* species. Finding out what survives is fascinating, exciting, requires quite a bit of field concentration, produces some hair pulling over identification and involves some stunningly beautiful lichen species.

It goes on, on the 8th October another stunning site was found, this time a short grazed lichen rich dry heath, which included *Cladonia azorica*, both the forms with and without usnic acid, and a member of the *Cladonia sulphurina* aggregate.

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## **“...none at present from the Southern Hemisphere”: joining the BLS in 1959**

Over half a century ago at a family cricket match at Seaward Bush Scenic Reserve east of Invercargill, New Zealand, I experienced a kind of lichenological “Damascus Conversion”. A wild swipe from my father landed the ball in the flax, fern and *Sphagnum* moss, well away from the picnic area, stopping the game and forcing a hunt for the ball. Shortly afterwards I found it, nestling in a mound of a spongy, white, lace-like “plant” the like of which I’d never seen before. I gathered a handful of it, finding that although you could squeeze water from it, its spongy texture was retained. I was intrigued. What on earth was it?

Next day I took it to the Biology Master of Southland Boys’ High School where I was a 5<sup>th</sup> form pupil, and asked him what it was. He turned it round in his fingers a bit then said in a fairly final way, “That’s a moss.” I wasn’t convinced,

feeling reasonably certain that mosses were generally green and not white. So to check, I took the unknown “plant” next door to Room 16, the Chemistry lab, and asked our Chemistry Master, Mr G.C. Martin, if *he* knew what it was. “Please sir, Mr Waterston says this is a moss”. Mr Martin looked at the specimen, coughed in his rather dry way and pronounced, “That’s not a moss. It’s a lichen.” He then proceeded to tell me that its scientific name was *Cladonia retipora* [it is now correctly *Cladia retipora*], with *retipora* referring to the network of lace-like holes that is the lichen’s characteristic feature.

Gordon Martin (1916-1984) was the son of William Martin (1886-1975), a retired primary school headmaster from Dunedin, who was then writing an account of the New Zealand species of *Cladonia*. Gordon collected specimens for his father as well as making chemical studies on these collections, using paper partition chromatography in the preparation room of the Chemistry Lab at SBHS. He asked me where I’d found this lichen and on being told Seaward Bush, enquired if I would like to accompany him there one Saturday to search for other species of *Cladonia* that might be of interest in his father’s project. Since Gordon Martin suffered from multiple sclerosis (he was known to generations of SBHS schoolboys as either “Hoppy Martin” or “Hopalong Chemistry”), he couldn’t jump across the deep drainage ditches that then criss-crossed marginal areas of the Awarua Bog, of which Seaward Bush was a part. I was thus enlisted as an agile pair of legs (I was the school Junior long-jump champion, so the deep ditches posed no problems), and as a collector.

In 1957 much of the land surrounding the Seaward Bush Reserve was still covered with flax, and scrub and areas of peat bog that held well-developed lichen communities dominated by species of *Cladonia* and *Cladia*, though at that time, both genera were still all regarded as belonging to *Cladonia*. This was the lichen group that I helped collect for Gordon Martin who sent them out of interest to his father in Dunedin. On one such *Cladonia*-collecting trip, while having afternoon tea in his grey Austin A40 car on the side of the road, Mr Martin suggested that I might like to make a collection of lichens, telling me that *Cladonia* would be a good starting point, as species were readily recognised by their hollow stalks and, moreover, they were common and widespread on peat bogs in the Invercargill area. He indicated that fresh collections should first be allowed to dry on newspaper before being put into packets and labelled. My early attempts at drying lichens on newspaper under my bed were frustrated by my mother discovering them there and promptly throwing them out onto the compost heap. She was reassured that lichens, once they were dried, posed no risks either to carpets or furniture, so I was allowed to persist in this rather “different” hobby. Early collecting trips by bicycle on Saturday afternoons took me to Sandy Point and to Awarua Bay, in search of *Cladonia*, and the (to me) fascinating peat bogs where they were so richly developed.

But what to call them? The school library was no use alas, but in the Invercargill Public Library were William Martin’s nature study books, *New Zealand Nature Study* and *The Flora of New Zealand*, both having a few paragraphs on lichens, but nothing really to get your teeth into. There was also a copy of Joseph Hooker’s *Handbook of the New Zealand Flora* with pages 550 to 594 devoted solely to

“Lichenes”. But the publication date was 1867 and to me the account was virtually impenetrable, although I enjoyed (as I still do) Hooker referring to South Island throughout as “Middle Island”. In 1959, during my Upper Sixth year, Gordon Martin gave me a reprint of his father’s paper “The *Cladoniae* of New Zealand” published by the Royal Society of New Zealand to help me in my collecting. I was fascinated by William Martin’s notes on *Cladonia retipora*, “my” lichen from Seaward Bush, “...the finest and most handsome of all *Cladonia* species, coralloid and reticulate, white, grey, or rarely faint brown...sea-level to subalpine on bogs, manuka heaths, sand dunes, grassland and shingly wastes...Specimens collected by me on Longwood Range show a primary thallus of minute squamules. This is probably the first certain discovery of a primary thallus on any member of the *Clathrinae*. The discovery is corroborated by Dr A.W. Evans...”

I was hooked. Henceforth my collecting would be dictated by those romantic words “bogs, manuka heaths, sand dunes, grassland and shingly wastes”. Somehow our gooseberry bushes and the trees in nearby Queens Park weren’t quite in the same league. And I was spurred on by the thought of possibly finding additional sites of *Cladonia retipora* with their “primary thalli”. But Martin’s account of the many other species of *Cladonia* then known in New Zealand was full of scientific names and terminology that made lichens even more mysterious to me. Fortunately, help was at hand. The school library subscribed to the Penguin series *New Biology*, and in issue 29 published that year (1959), F.H. Brightman’s essay “Neglected plants – Lichens” made things much clearer. I asked Whitcombe & Tombs to get me a copy. Frank Brightman (who was to become a friend, when I later worked at the British Museum in London) discussed the structure of lichens, the symbiotic nature of the lichens’ components (fungi and algae); he mentioned lichen acids and antibiotic compounds produced by lichens and commented on lichen ecology and on lichenometry, a method of dating rock surfaces using the lichen *Rhizocarpon geographicum*. In his conclusion he wrote... “The scope for further work on lichens is considerable; a great deal remains to be done in the field and in the laboratory...These neglected plants, whose fascination increases the better one becomes acquainted with them, can be commended without reservation to botanists in search of a subject, amateur and professional alike”. I thus found what I thought would be my lifelong hobby, something to put alongside Biochemistry which I hoped to make my career. In the rather slender list of references Brightman mentioned the recent (1958) formation of the British Lichen Society and gave the Secretary’s contact details.

Plucking up courage, I sent a letter to the Secretary of the British Lichen Society C/- of the National Museum of Wales in Cardiff, asking about the Society and the cost of membership. Mr Arthur Wade the BLS Secretary, sent me a very pleasant letter back (Fig. 1), informing me that the Society had no members from the Southern Hemisphere, but hoped that they would have the pleasure of enrolling me as a member, and that a year’s subscription would be £1.00. However, since I was still at school, I could join for the reduced price of ten shillings. As it turned out this was to mark another turning point the following year.



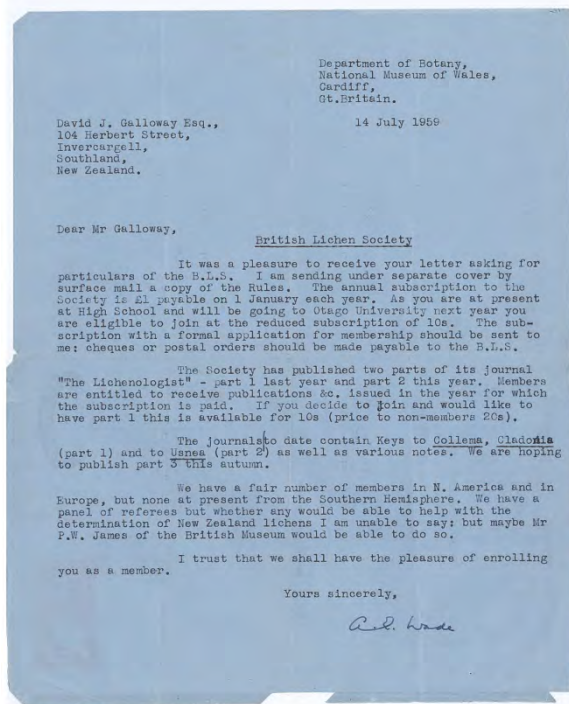


Fig. 1. Letter from Arthur Wade, Secretary of the BLS

delight I found examples of both *Cladia retipora* and also *C. aggregata* developing from small, inflated primary thalli. I made collecting packets from grey Arthur Ellis & Co notepaper (my father ran Ellis's warehouse in Invercargill) and wrote names and localities in green ink in a spidery hand, thinking myself very sophisticated. As I had earlier posted off the requisite number of five-shilling postal notes to cover membership of the British Lichen Society and the four published parts of *The Lichenologist*, the Society's journal, these in due course reached me in Dunedin. On the inside back cover of Vol. I, Part 4 (1960), I was delighted to see my name printed as a New Member (Fig. 2), along with such luminary lichenologists as Ted Ahti, Ove Almborn, Ernie Brodo, Bill Culberson, Gunnar Degelius, Henry Imshaug, David

Lewis, Rolf Santesson, Erik Skye, Bill Weber and Cliff Wetmore, all of whom I

In 1960, my first year at Otago University where I hoped to enter the Honours School in Biochemistry, I studied Botany, Zoology, Chemistry and Physics. Exploring in the University Library, I found Annie Lorraine Smith's books on lichens, with another copy also in the Botany Department's Library outside the Professor's office. Lichen horizons began very slowly to open up. I read another of William Martin's papers in which he again mentioned his discovery of primary thalli in *Cladia retipora*. On visits home to Invercargill, I began a search for these elusive primary thalli myself. On exposed peat at Tussock Creek on the Southland Plain near Winton, to my great

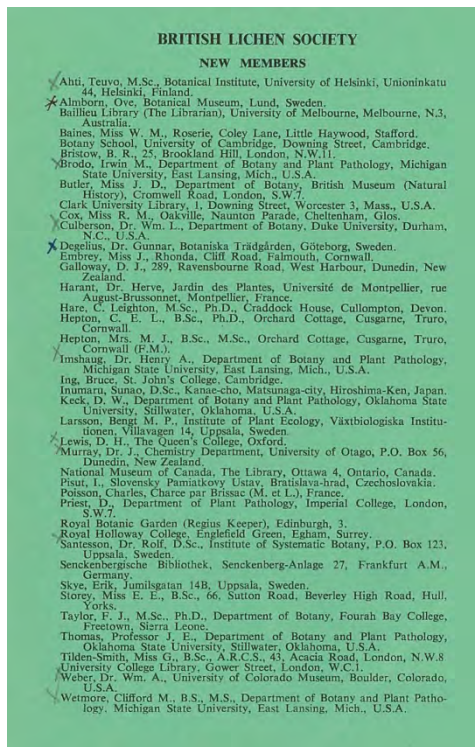


Fig. 2. BLS New Members 1960



came to know in later years. I somehow vaguely thought that I had “arrived”, but in truth most of the contents of the *Lichenologist* were then almost completely double-Dutch to me. The only other Southern Hemisphere member was a Dr J. [James] Murray (Fig. 3) from the Chemistry Department of Otago University. Who was he I wondered? I was shortly to find out.

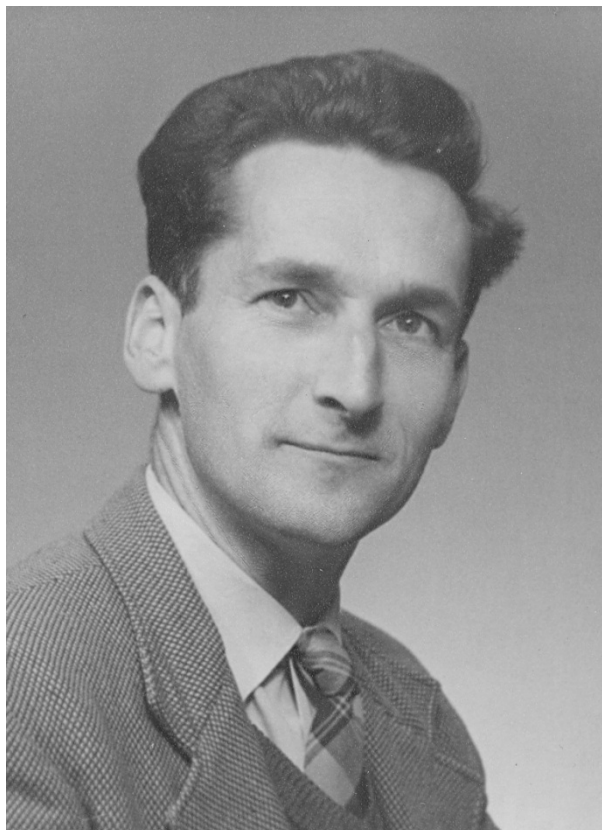


Fig. 3. Dr James Murray (1923-1961)

Jas Murray, as he was widely and affectionately known, was a natural-product chemist in the Chemistry Department, with a Cambridge PhD and some fine organic chemistry papers to his credit. In 1960 he published three detailed papers on New Zealand lichens in Vol. 88 of the *Transactions of the Royal Society of New Zealand*, contributions that at once marked him out as a lichenologist of real talent and potential, indeed the only serious lichenologist then actively working in Australasia. When I asked Prof. Ted Corbett, our Lecturer in Organic Chemistry, if I might meet Dr Murray, he told me that Murray was on sabbatical leave at Imperial College in London and that he would not return to Dunedin until the following year. In March 1961, I graduated to the upstairs Senior Chemistry laboratory and felt very grown up. Towards the end of the month Ted

Corbett came up to me and said “Good afternoon Mr Galloway, I have someone here who I would like you to meet”. He took me round the corner to a small room opening off the teaching laboratory and introduced me to Dr Murray, a welcoming, dark-haired figure in a white lab coat and wearing a dark-blue Murray of Atholl tartan tie, who stretched out his hand and said, “Hello, I’m Jas Murray.” First impressions of Jas’s room were of piles of papers and reprints, brown manila envelopes containing specimens, glass bottles, a microscope on a cluttered bench and glass-fronted bookshelves full of books, and a pervading smell of aromatic chemicals. Here I was a welcome guest and introduced to many fascinating things. I vividly remember the day that Jas showed me the just-published Volume I of the *Flora of New Zealand*, dealing with New Zealand’s flowering plants and ferns. It was printed on perilously thin rice paper that he laughingly said, “would make good cigarette tissues!” He seemed to know the systematic names of as many flowering plants as he

did lichens. His knowledge was, wide, deep and, to me, utterly breathtaking, yet always worn so lightly with no thought to impress. In his cupboards he had the 10-volume reprint of Zahlbruckner's famous *Catalogus lichenum universalis* published between 1921 and 1940, the last volume posthumously. This formidable set of books contained a vast mass of words and dates that meant almost nothing to me. But Jas patiently showed me what everything meant, including the curious acronyms of author's names included after the genus and species names of a particular lichen; something that earlier had me mystified and utterly confused. Later on, in my career at the British Museum in London, I was to use a battered, red, leather-bound original set of Zahlbruckner as a constant, daily source of reference.

One of the first things I brought to Jas were my specimens of the primary thalli of *Cladia retipora* from Tussock Creek (these are now in the Allan Herbarium at Lincoln as specimens CHR 374162 and CHR 374344). [What I did not know at that time was that Jas was born only a few miles to the north at Forest Hill]. He was most excited at this and promptly made some sections of them and the following day showed me what their structure looked like with a carefully made drawing and annotations (Fig. 4). Over succeeding weeks I brought him collections of subalpine lichens from the head of the Shotover and Lochnagar, visited during a University Tramping Club



Fig. 4. James Murray's drawing of the primary thallus of *Cladia retipora*.

Easter trip, and specimens of *Ramalina* from the Peninsula and various other Dunedin localities. Slowly I learned some names of alpine lichens, and Jas told me of his recent discovery of the lichen collections of John Buchanan (1819-1898) abandoned in boxes in a storeroom of the Otago Museum. These he curated by placing Buchanan's original and often embossed, 19<sup>th</sup> century envelopes into new packets made from folded lined note-paper, and annotated in ink in his characteristic hand. These were subsequently transferred from the Chemistry Department to the Botany Department Herbarium (OTA) where they remained until 1974 when they were transferred to Botany Division at Lincoln (CHR) before finally ending up at the National Museum of New Zealand (WELT), now Te Papa, where Buchanan's main herbarium is held.

A great excitement in June was the arrival of Jas Murray's new Wolseley car from Britain. It was delivered to him on a Thursday, but by a sudden and dire turn of events, he was killed in it two days later (24 June) in an accident on the Taieri Plain near Mosgiel. He was only 38! This was a black day for Chemistry, Botany and Lichenology in New Zealand and a truly substantial loss. He left behind a small legacy of important published work and a very large and significant regional herbarium (much of it needing naming) that was gifted by his widow Audrey to Otago University along with his books and reprints. He was then the brightest and most promising Southern Hemisphere lichenologist of the 20<sup>th</sup> century. It was tragic that his career was so cruelly and suddenly extinguished.

BOTANY DEPARTMENT,  
BRITISH MUSEUM (NATURAL HISTORY),  
Cromwell Road,  
London, S.W.7.  
Telegrams: NATHISMUS, SOUTHRENS, LONDON.

22nd, March 1962.

Dear Mr. Galloway,

Your letter of the 12th. March which you sent to Mr. Peterken has just been forwarded on to me. I was very interested to hear of your interest in lichens and agree with you that collections and knowledge of the southern hemisphere lichens -- particularly those in New Zealand--are very badly known. I am pleased too that you are making extensive collections and this is where you could help me very much in my studies. You may remember that Dr. Murray spent a year over in Britain mainly studying the lichens in this institution and I had the pleasure of working with him over most of this period. His loss was a bitter blow to lichenology and a sad personal loss as well.

As a result of our working together here, Dr. Murray got into partial preparation manuscripts on the following genera: Psoroma, Pannaria, Usnea and Menegazzia. It has now befallen me to prepare these incomplete manuscripts for publication (probably in the Lichenologist) so that Dr. Murray's work will not be lost for posterity. We were also working jointly on a monograph of Sticta and Pseudocyphellaria and I am continuing this work myself. As a result of these commitments, I am wondering if you could help me by letting me see any material of these genera you collect. I shall be glad to refund any postage costs which you may incur on sending the material and I shall be glad to give you boxes for your material where possible. I hope that you will not mind me making this request. I feel that it would be of a mutual benefit to us both.

I am glad you are finding the Lichenologist of good value -- it is encouraging to me as editor to know that it is up to standard and useful--

Fig. 5. First letter from Peter James (BM)

In March 1962 another British aerogramme arrived, this time from Peter James at the British Museum who was sent my name by the BLS Treasurer, J.H.G. Peterken. His letter of 22<sup>nd</sup> March (Fig. 5) was full of fascinating information, and he also asked if I would collect and post to him material of Sticta and Pseudocyphellaria, for which he would refund postage. In university holidays I worked for the New Zealand Forest Service doing survey work, based on the Forest Service Camp at Tuatapere, so there were good opportunities to collect from the Longwood Range and from the Waikoau River catchment where we

cutting survey lines. In August I had a hand-written note from Peter James acknowledging my specimens and also giving me the exciting news that he was coming to Dunedin around 10 October to be based at Otago University (Fig. 6). Professor Ted Corbett, through the auspices of the Nuffield Foundation and Otago University, arranged for Peter James, with whom Jas had worked in 1960, to come to Dunedin for 6 months to curate Jas's lichen herbarium, now a major part of the lichen collection in the Botany Dept Herbarium.

Botany Department,  
BRITISH MUSEUM (NATURAL HISTORY),  
Cromwell Road,  
London, S.W.7  
Telgrams: NATHSEMUS, SOUTHSEAS, LONDON.  
20-10-1962.

Dear Mr Galloway

Thank you very much indeed for your specimens which arrived here safely this weekend. I see that they contain most interesting material - some of which will take me a little time to identify.

I hope to be in New Zealand around Dec. 10th 1962 at Otago University, Dunedin. - & therefore look forward to seeing you and also let me get some work over the postage which I see was 16/3.

Again many thanks!  
Yours sincerely, Peter James.

Fig. 6. Second letter from Peter James (BM)

William Martin's paper on *Cladia* in New Zealand appeared in 1965, and on reading it, I was encouraged to write up my own observations on primary thalli and development of podetia in *Cladia*'s three most common New Zealand species. This I did with the help of Dr George Scott from the Botany Department, and it was published in 1966. My first paper in lichen systematics and dealing in large part with the coral lichen, adding something new to what was already known about it. It would be another 15 years before another, and final window opened in my *Cladia retipora* odyssey, but that is another story for another day.

David Galloway  
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Peter arrived in October 1962 and in November, thanks to a kind offer from Prof. Geoff Baylis, I was given the opportunity to work over the summer vacation as Peter's assistant. It was a tremendous learning curve for me and curating Jas's collections into OTA packets under Peter's direction really opened my eyes and expanded my lichenological horizons. I also finally met William Martin (*Mr* Martin as he was then to me), a rather stiffly formal, always well-dressed gentleman (Fig. 7). It was to be several years, and not until after I moved to Palmerston North, before he and I became regular, and friendly, correspondents on first name terms.



Fig. 7. William Martin (1886-1975)

## Lichens and Erwood

*Extract from Country Diary, The Guardian, 23<sup>rd</sup> July 2011*

### Erwood

“The glen of Craig Pwll Du ... has its own loveliness to halt the wanderer,” wrote WH Howse in a fine book on Wales’s forgotten county of Radnorshire. The great field naturalist and Guardian Country diarist Bill Condry also admired this beautiful gorge that joins the River Wye just above Llanstephan. Hoping to reach the atmospheric waterfall at its head, on a bright summer’s morning fellow diarist Mark Cocker and I waited on the old viaduct built to carry “Scapa Specials” laden with prime Welsh steam coal for the British fleet in Orkney. We were met by expert bryologist Ray Woods. Months before, Ray had agreed to take me and Mark for a walk, and expatiate on his speciality of lichens. We never reached the waterfall in its spray-pearled, mossy cauldron within the gorge – a site around which Condry had enticingly described impatient bittercress, Solomon’s seal, perennial knawel, red catchfly, “and both the hellebores”.

Afterwards, Mark and I agreed that we had seldom spent a more intellectually exciting four hours. We covered a bare half mile of riparian woodland: heard of the traditional usage of grey lichen, crotle, in dyeing; peered through an illuminated magnifier at miniscule growths on trees and rocks; marvelled at the extraordinary structural beauty and strangeness of these combinations of fungus and alga growing together in symbiotic relationship to produce an organism – the thallus – differing entirely from its constituent parts.

Through Ray’s lucid enthusiasm and encyclopaedic knowledge, mitochondria within these complex cells seemed to contain the secret of life itself. I’ve seldom experienced a greater sense of wonder in nature – the symbiotic gift of an exceptional communicator and a tiny organism that seems quite insignificant. Until you learn to look.

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# Utilization of lichens in the central Western Ghats area of Karnataka, India

## Abstract

An ethnobotanical study of lichens was carried out in the central Western Ghats of Karnataka. The information on lichens was collected via interviews with the various ethnic communities of central Western Ghats using a standard questionnaire. The lichen species were identified with the help of manuals and chemical tests. We found that eight species of lichens were and are used traditionally in this area. Five are used as food, two in medicines and one species used for other purposes. The lichen genus most commonly used by the tribal groups such as the Kudabi, Banagar, Jenukurubas, Kadukurubas and Soligas, in and around the areas of Western Ghats is *Parmotrema*.

## Introduction

India is a country rich in both ethnic and bio diversity. It offers immense scope for ethno-botanical studies (Lal & Upreti, 1995). Various communities use over 50% of the plant species of local ecosystems in ethno medicine and in all over 7500 species are utilized in primary health care by various tribes (Badola & Aitken, 2003). The use of lichens in India as a folk medicine was documented for the Ayurvedic and Unani systems (Chandra & Singh, 1971). Lal *et al.* (1985) reported the traditional use of six lichen species by the tribal groups of Madhya Pradesh, and Sakalani & Upreti (1992) studied the uses of four lichen species in Sikkim. Increasing industrialization, globalization (exports), deforestation, human population growth and the emergence of smuggling routes raise questions about the sustainability of lichen harvesting in India (Wolf, 2011). Commercial harvesting and regeneration of epiphytic macrolichen communities among the Paliyan tribes of Western Ghats, India were studied by Molleman *et al.* (2011). They reported that seven years after harvesting, the lichen community showed noteworthy regeneration capacity in terms of total lichen coverage and species richness.

As there have been few previous reports of lichen use in the central Western Ghats areas of Karnataka, the present study was undertaken to document the local ethnobotanical knowledge and the use of lichens by the various ethnic communities.

## Materials and Methods

### Study site

The Central Western Ghats are better known locally as the 'Sahyadri' mountains. They constitute a long mountain chain along the west coast of India and encompass the Chikmagalur, Shimoga, Udupi, Dakshina Kannada, Uttara Kannada, Hassan and Coorg districts in Karnataka State. The average elevation is about 1200 m above sea level and the area is one of the world's ten "biodiversity hotspots". Over 5000 species of flowering plants, including at least 325 globally threatened species occur in the Western Ghats. They were historically well-covered in dense forests that provided wild food and natural habitats for native tribal people.

## Survey and Identification of Lichens

Periodic surveys were carried out in some fifty remote villages of the central Western Ghats in Karnataka State. During the present study, ethnological information on lichen species was collected through interviews with tribal elders and knowledgeable people using a questionnaire modified from Sinha (1996). The collected information was confirmed by discussion with local medical practitioners and knowledgeable persons living in the study area. Lichen samples were collected for identification using standard spot tests (K), Steiner's stable para-phenylenediamine solution (PD) and (C) and the standard manual (Awasthi, 2007). TLC was done on concentrated acetone extracts of lichen fragments, extracted in solvent system A (benzene/1-4dioxane: acetic acid 90:25:4). The colours were noted and  $R_f$  values calculated. Compounds were identified with the help of Culberson & Kristinsson (1970) and Culberson (1972). Identification of lichen species was confirmed by comparison with authentic specimens preserved in the herbarium of National Botanical Research Institute (NBRI), Lucknow. The lichen specimens are preserved in the collection of the Department of Applied Botany, Kuvempu University, Shimoga, Karnataka.

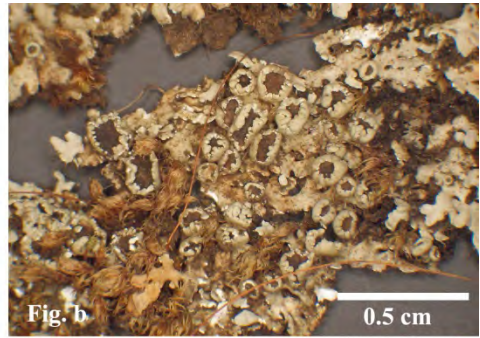
## Results and Discussion

A total of 96 elders and traditional medicinal practitioners in the study area were interviewed and information was collected on the lichen collection method, the preparation, value and use of the lichens. Most of the practitioners collected the lichen from forests as necessary. For medicinal use, 70% of those interviewed used *Parmotrema* species, 20% used *Usnea* and 10% used *Ramalina* or *Heterodermia*. The lichens thalli are used for different purposes in the various districts, the greatest use being in Mysore and Shimoga districts. Lichens were scraped of the substrate with the help of knife or blade. *Parmotrema* or mixtures of *Parmotrema* with other lichen species are ground and the powder is mixed with other species and used in preparation of curry and biriyani; lichen enhances the flavour of the dish. For preparation of medicines collected lichen samples were washed with water and dried in sunlight. They were powdered and mixed with other components of formulations. In case of 'leha' they mix with jaggary, honey, *Elettaria cardamomum*, *Terminalia chebula* and *Withania somnifera* and prepare a semisolid formulation. Churna is prepared by powdered lichen material mixed with *Terminalia chebula* and *Phyllanthus emblica* and in some cases burnt lichen material (ash) is used in formulation.

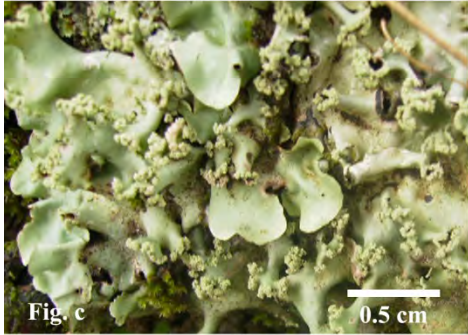
The ethnolichenological survey of central Western Ghats of Karnataka revealed that local people use eight species of macrolichens belonging to five genera in the region. The lichens were locally used as spices, and for treating wounds. Tribal communities like the Jenukurubas of Mysore and the Kudabi of Uttara Kannada district use lichens mixed with flowering plants in local medicines. Among the eight species, four were used as food, three as medicine and one for other purposes. Most of the lichens employed belong to *Parmeliaceae* (75%) followed by *Physciaceae* and *Ramalinaceae*. 62.5% were foliose and 37.5% fruticose, while the majorities were corticolous (87.5%); the remainder being saxicolous (12.5%). The identified lichens and their uses are listed below:



**Fig. a**  
*Everniastrum cirrhatum* (Fr.) Hale ex Sipman



**Fig. b**  
*Heterodermia diademata* (Taylor) Awasthi



**Fig. c**  
*Parmotrema cristiferum* (Taylor) Hale



**Fig. d**  
*Parmotrema reticulatum* (Taylor) Choisy



**Fig. e**  
*Parmotrema tinctorum* (Nyl.) Hale



**Fig. f**  
*Ramalina pacifica* Asahina



**Fig. g**  
*Usnea sinensis* Mot.



**Fig. h**  
*Usnea undulata* Stirton

**Plate 1. Macrolichens utilized in traditional medicines**

*Everniastrum cirrhatum* (Parmeliaceae) (Plate 1a)

Distribution: Mulayanagiri and Kemmanugundi of the Chikamagalur district at an altitude of between 850-950m. This foliose, corticolous lichen contains salazinic acid. It is used mixed with *Parmotrema* species as a spice and as a flavouring agent for meat and vegetables. It is also used wrapped around splints for broken bones in animals.

*Heterodermia diademata* (Physciaceae) (Plate 1b)

Distribution: Sringeri of the Chikamagalur district and Thirthahalli of the Shimoga district at an altitude between 725m and 675m. This foliose corticolous lichen contains zeorin and is mixed with *Parmotrema* for use as a flavoring agent for meat and other food items. This species is also used to heal cuts and wounds or in a plaster to protect them against infection.

*Parmotrema cristiferum* (Parmeliaceae) (Plate 1c)

Distribution: B.R Hills of the Mysore district, Sringeri of Chikamagalur and Sagara of the Shimoga district at an altitude between 650 m and 750m. This lichen is locally known as kalluhuovu. It is a foliose, corticolous lichen and used as a masala ingredient being mixed with jaggary (dried sugarcane juice) and other plant products. It is used to prepare "leha" a medication given to increase energy. It is also used against ring-worm.

*Parmotrema reticulatum* (Parmeliaceae) (Plate 1d)

Distribution: B.R Hills of the Mysore district and Hosanagara of the Shimoga district at an altitude between 650 m and 750m. It is locally known as Kallupase. This foliose, corticolous lichen contains salazinic and consalazinic acids. Local people use it in spices and as a flavoring agent in food to increase the taste and fragrance of meat, pulse and other dishes.

*Parmotrema tinctorum* (Parmeliaceae) (Plate 1e)

Distribution: Bandipur region of the Mysore district at an altitude of 860m. This lichen is commonly known as Kalluhuovu. It is a foliose saxicolous species containing lecanoric acid and orsellinic acid. This lichen is used by people as a spice and is also commonly available in local markets. It is a component of curry powder and is also mixed with calcium carbonate to prepare a paste used for healing cuts and wounds.

*Ramalina pacifica* (Ramalinaceae) (Plate 1f)

Distribution: Shimoga and Chikamagalur districts at an altitude of between 680-750m. This fruticose corticolous lichen contains both usnic acid and salazinic acid. It is used as a spice and in curry powder as well as a flavoring agent for meat and vegetables. It is also used in marriages and religious programs for decoration.

*Usnea sinensis* (Parmeliaceae) (Plate 1g)

Distribution: Kodachadri of the Shimoga district and Mulayanagiri of the Chikamagalur district at an altitude of between 900-1000 m. This fruticose,

corticolous lichen contains usnic acid. It is used for the treatment of children suffering from common ills such as fever, headache and intestinal worms.

*Usnea undulata* (Parmeliaceae) (Plate 1h)

Distribution: the Shimoga and the Mysore districts at an altitude of between 700-900m. This fruticose corticolous lichen contains usnic acid, norstictic acid and salazinic acids. It is mixed with *Parmotrema* and used as a flavouring agent. It is also used to make pillows in the Mysore regions and is made into lockets to be carried around the necks of those suffering from phobias.

The information acquired in this study on the traditional uses of lichen species in some part of central Western Ghats in Karnataka State showed that herbal remedies still very much exist. The nutrient composition of lichens varies widely but they are generally high in carbohydrates and low in most other nutrients. Most of the lichen substances present in the lichens used by the tribal people interviewed in the present study have been reported as having antibacterial or antiviral activity (Lawrey, 1986). The exact value of these compounds in traditional medicines is still being debated.

The survival of these lichen resources in the central Western Ghats is now under threat from the rapidly expanding human population and environmental degradation which is occurring at a fast pace. Tribal communities in different parts of India possess considerable knowledge about the utility of lichens. The Kudabi of Uttara Kannada and Shimoga, Banagar and Jenukurubas in the Mysore, Kadukurabas and Soligas in the Chamarajanagara, Karevokkaliga of the Uttara Kannada district and other tribal people are known to possess extensive knowledge regarding the curative and therapeutic values of a large variety of plant and lichen species. The documentation of information about lichens, their diversity and indigenous practices should help in the preservation of such knowledge.

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## 'Ride for Russia' tree lichen survey, March 2011

### Introduction

A tree lichen survey was conducted along the pre-planning route for 'The Ride for Russia' in March 2011. This route started in the UK, going through Holland, Germany, Poland, Lithuania, Latvia, then through Western Russia to Moscow, then north up to St.Petersburg, across into Estonia, back through a different part of Latvia, to Russian Kaliningrad, back through a different part of Poland, Germany and Holland and finally back to the UK. It passed through 14 countries in 15 days and was approximately 4,200 miles long. Surveys were made in cities, towns, countryside and forests that the route passed through. The 'Ride for Russia' in June 2011 was a motorbike sponsored ride raising support for the Genesis Orphanage Leavers Project, organised by 'Love Russia' a UK registered charity (see <http://www.loverussia.org/rideforrussia/pages/ride.htm>). To date, nearly £27000 has been raised, and further donations are welcome.



Figure 1. Russian students carrying out a lichen survey

## Methods

The Russian Monitoring Air Quality survey uses lichens found on trees in Western Russia. Nine key indicator lichen species are used, three nitrogen-sensitive lichens which are *Usnea* sp., *Evernia prunastri* and *Hypogymnia physodes*, three intermediate lichen species which are *Parmelia* sp., *Melanelia* sp. and *Physcia aipolia*, and three nitrogen-tolerant species which are *Xanthoria* sp., *Physcia adscendens/tenella* and *Hyperphyscia adglutinata*. The survey is based on the UK Opal tree lichen survey but adapted for Western Russia by the author and Pat Wolseley, with support from D. Mendeleev (University of Chemical Technology of Russia). Four trees are sampled using the same tree species which can be birch, oak or alder. The area of lichen growth between 200cm and 50cm height on the trunk with the most lichens is assessed for each of the possible 9 species. No more than 10 minutes on each tree trunk is necessary. A Result of 0 is recorded if no indicator species of lichen is found. 1 is where a small amount overall is found (amounting to less than ¼ of an A4 sheet of paper in total). 2 is where a medium amount of indicator lichen is found (amounting to between ¼ to one A4 sheet in total). 3 is a large amount overall (more than one A4 sheet in total). The survey recorded frequency of each indicator species as 1, 2 or 3. Each pollution-tolerant lichen species scored 1, each median species scored 2 and each pollution sensitive species scored 3. You simply multiply the species score with by 1, 2 or 3 depending on their coverage. The scores were then represented in the form of 'Traffic light ' colours Red 0-8, Orange 9 to 17 and Green from 18 to 27 (Table 1). These colours have been used to show the results of air quality monitoring successfully in Russian schools (reference 4).

COUNTRY LAND SITE	LATITUDE AND LONGITUDE	DATE	TREE SPECIES	LICHEN SPECIES SCORE	LICHEN SCORE		NO <sub>2</sub> µg/m <sup>3</sup>	COMMENTS
Netherlands, Utrecht	52.06 °N 05.11 °E	10/03/2011	Alder	Xanthoria 3 Physcia 1	5		77-103	Industrial and near motorway
Netherlands, Oostraaarders-plassen, nr Lelystad	52.2 °N 05.25 °E	22/03/2011	Birch	Xanthoria 3 Hyperphyscia 3	6		52-77	In nature reserve but near industrial sites
Germany, Osnabruk	52.32 °N 07.97 °E	10/03/2011	Birch	Xanthoria 3 Hyperphyscia 3	6		77-103	Woodland, near industry and motorway

COUNTRY LAND SITE	LATITUDE AND LONGITUDE	DATE	TREE SPECIES	LICHEN SPECIES SCORE	LICHEN SCORE		NO <sub>2</sub> µg/m <sup>3</sup>	COMMENTS
Germany, nr Hanover	52.42 °N 09.75 °E	10/03/2011	Oak	Parmelia 1 Xanthoria 3 Physcia 3	11		103-128	Woodland and farmland
Germany, Frankfurt	50.06 °N 08.68 °E	11/03/2011	Birch	Xanthoria 3 Physcia 3	9		52-77	Woodland near motorway
Germany	52.20 °N 15.46 °E	21/03/2011	Birch	No lichens	0		52-77	Near motorway and intensive farming
Germany, 50km from Berlin	52.31 °N 14.29 °E	21/03/2011	Birch	No lichens	0		77-103	Near motorway and intensive farming
Germany, Berlin	52.52 °N 13.41 °E	21/03/2011	Birch	Hyperphyscia 2	2		77-103	In Tiergarten Park, city centre
Germany, Berlin	52.40 °N 12.56 °E	21/03/2011	Oak	Physcia 1 Hyperphyscia 3	5		77-103	No road, in woodland
Germany, 74m out of Berlin	52.17 °N 12.27 °E	21/03/2011	Oak	Parmelia 1 Hyperphyscia 3 Xanthoria 1	6		77-103	Near roadway and forest
Germany, near hotel	52.05 °N 11.39 °E	21/03/2011	Oak	Xanthoria 1 Hyperphyscia 1	2		52-77	Within a park by river
Germany, near Magdeburg	52.17 °N 06.51 °E	22/03/2011	Oak	Xanthoria 2 Hyperphyscia 3	5		52-77	Near river but within city
Poland, nr Torun	53.41 °N 19.53 °E	12/03/2011	Oak	Usnea 1 Evernia 3 Hypogymnia 3	21		26-52	Forest edge
Poland, nr Augustow	53.84 °N 22.97 °E	12/03/2011	Birch	Hypogymnia 2 Xanthoria 1	7		0-26	Woodland near motorway
Poland, nr Mikolajewo	53.40 °N 19.50 °E	12/03/2001	Oak	Evernia 3 Hypogymnia 3 Xanthoria 1	19		0-26	Trees by roadway but Xanthoria at base of trees
Poland, Golub Dobrzyn	53.11 °N 19.05 °E	20/03/2011	Oak	Evernia 3 Xanthoria 1	10		26-52	Forest
Lithuania, Neris	54.74 °N 25.22 °E	13/03/2001	Birch	Xanthoria 2 Physcia 3	8		26-52	By motorway
Lithuania, Vidiskti	54.91 °N 23.95 °E	13/03/2011	Birch	Hypogymnia 3	9		0-26	By road in town

COUNTRY LAND SITE	LATITUDE AND LONGITUDE	DATE	TREE SPECIES	LICHEN SPECIES SCORE	LICHEN SCORE		NO <sub>2</sub> µg/m <sup>3</sup>	COMMENTS
Lithuania, Hotel Klaipeda	55.44 °N 21.07 °E	19/03/2011	Oak	Parmelia 3 Physcia 1	8		0-26	Near road and houses
Lithuania, nr Hotel Klaipeda	55.46 °N 21.09 °E	20/03/2011	Birch	Hypogymnia 3	9		0-26	In forest
Lithuania, on peninsula	55.47 °N 21.07 °E	20/03/2011	Birch	Evernia 3 Hypogymnia 3	18		0-26	In forest by the sea
Lithuania	55.20 °N 21.00 °E	19/03/2011	Birch	Hypogymnia 3	9		0-26	Forest near sea
Russia Kaliningrad, Baagratiovsk	55.11 °N 20.51 °E	20/03/2011	Birch	Hypogymnia 1 Parmelia 1 Xanthoria 1	6		26-52	Near the town
via Riga	56.18 °N 22.18 °E	19/03/2011	Birch	Evernia 3 Parmelia 1	11		0-26	83 km from Riga in forest
via Mazeikai	56.31 °N 22.35 °E	19/03/2011	Birch	Xanthoria 3 Hyperphyscia 3	6		26-52	In city
via Medumuezeraine	56.30 °N 27.18 °E	13/03/2011	Oak	Usnea 2 Evernia 3 Hypogymnia 1 Parmelia 1	20		0-26	By huge lake on very old oak trees
via Toropec, nr Rezekne	56.40 °N 27.01 °E	14/03/2011	Birch	Evernia 1 Parmelia 1	5		0-26	In a town
via Rezekne	56.50 °N 27.34 °E	14/03/2001	Birch	Xanthoria 1 Hyperphyscia 3	4		0-26	In city by roadway
Russia, Zastino	56.36 °N 28.25 °E	14/03/2011	Birch	Hypogymnia 3	9		0-26	Near roadway in forest
Russia, M9 motorway	56.05 °N 35.16 °E	15/03/2011	Birch	Hypogymnia 3	9		0-26	Near motorway but in forest
Russia, Moscow	55.75°N 37.62 °E	16/03/2011	Birch	Hyperphyscia 1	1		103-128	Park in centre of city most trees no lichens at all
Russia, 79 km out of city	55.99 °N 37.24 °E	16/03/2011	Birch	Hypogymnia 3	9		26-52	Forest near motorway
Russia, motorway	56.7 °N 36.03 °E	16/03/2011	Birch	Parmelia 3 Xanthoria 1	7		52-77	Near motorway woodland
Russia	57.18 °N 34.52 °E	16/03/2011	Birch	Hypogymnia 3	9		0-26	Forest



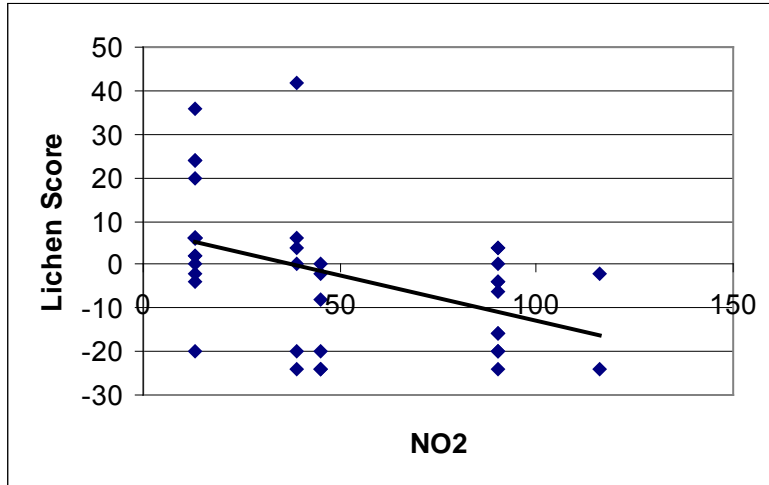
COUNTRY LAND SITE	LATITUDE AND LONGITUDE	DATE	TREE SPECIES	LICHEN SPECIES SCORE	LICHEN SCORE		NO <sub>2</sub> µg/m <sup>3</sup>	COMMENTS
Russia	57.41 °N 34.15 °E	16/03/2011	Birch	Xanthoria 2	2		0-26	Motorway café
Russia	56.07 °N 32.43 °E	16/03/2011	Birch	Hypogymnia 3	9		0-26	Forest near motorway
Russia, Veleyk Nogorod	58.31 °N 31.17 °E	16/03/2011	Birch	Parmelia 3 Xanthoria 2	8		77-103	By River Volkov in city
Russia, Veleyk Novogorod	58.71 °N 31.8 °E	16/03/2011	Birch	Xanthoria 2 Hyperphyscia 3	5		77-103	In the middle of the city
Russia, about 55 km from Veleyk Novogorod	59.14 °N 31.28 °E	17/03/2011	Birch	Hypogymnia 2 Parmelia 3	12		77-103	In forest
Russia, nr St. Petersburg	59.20 °N 28.31 °E	17/03/2011	Birch	Parmelia 3 Xanthoria 2	8		77-103	By motorway
Estonia, Johvi	59.21 °N 27.40 °E	18/03/2011	Birch	Xanthoria 3 Hyperphyscia 2	5		77-103	In centre of city
Estonia Johvi	59.26 °N 30.17 °E	18/03/2011	Oak	Physcia 1 Xanthoria 1	3		0-26	In forest about 1 km from city centre
Estonia, Gideon Camp	59.44 °N 27.25 °E	18/03/2011	Birch	Evernia 3 Physcia 1	11		0-26	On very old Birch trees 100+ years near coast
Estonia	58.13 °N 26.22 °E	18/03/2011	Birch	Evernia 3	9		0-26	Forest
Estonia	57.21 °N 24.88 °E	18/03/2011	Birch	Evernia 3 Hypogymnia 3	18		0-26	Forest

**Table 1**

Shows the location of sites through the Netherlands, Germany, Lithuania, Latvia, Russia, Estonia, Latvia, Russian Kaliningrad, Lithuania, Poland, Germany and Netherlands, showing the tree species and data from Russian method measuring the Air quality Score, the LICHEN SCORES, Nitrous Oxide NO<sub>2</sub> levels (µg/m<sup>3</sup>) from European Environmental Agency Air Quality statistical ground data centres and EUMETSTAT metrological satellites (reference 5 and 6) and description of sites.

## Results

Figure 2 (below) shows the relationship between the LICHEN SCORE and nitrous oxide measurements.



The Pearson Product Moment Correlation shows:

There is a highly significant negative correlation between the LICHEN SCORE and median  $\text{NO}_2$  ( $r = -0.47$ ,  $p = >0.01$ ,  $n = 45$ ). So as  $\text{NO}_2$  increases the LICHEN SCORE decreases. Cell contents as the Correlation Coefficient  $r = -0.46842$ , the P Value of 0.00117 and the Number of Samples  $(-1) = 45$

The pair(s) of variables with positive correlation coefficients and P values below 0.0500 tend to increase together. For the pairs with negative correlation coefficients and P values below 0.0500, one variable tends to decrease while the other increases. For pairs with P values greater than 0.0500, there is no significant relationship between the two variables.

Comparing the LICHEN SCORES with Minimum and Maximum temperature (data not shown), where  $r = -0.191$ ,  $p = 0.215$  and  $n = 45$  there is no significant correlation between any pair of variables, the LICHEN SCORES and meteorological variables. ( $P > 0.0500$ ) and with Annual Rainfall measurements where  $r = -0.2677$ ,  $p = 0.0755$  and  $n = 45$  there is no significant correlation between any pair of variables in the correlation table ( $P > 0.0500$ ).

The results clearly show the highest nitrogen sensitive scores across Europe, the Baltic States and into Russia are found in forests, locations away from motorways and towns and close to the Baltic Sea. However the results from the famous International nature reserve of Oostvaardersplassen, on the West coast of Holland close to the North Sea showed nitrogen-loving lichens in dominance. This may be due to the highly developed industrial sites near the reserve. The highest

'LICHEN SCORES' were found inland in Lithuania by a lake, on ancient oak trees and in Poland, in forest. The nitrogen-loving lichens are far more plentiful along motorways, in cities and towns and near intensive farming areas.

Some of the lowest 'LICHEN SCORES' were found in Holland and Germany, with some trees in Germany with no visible lichens at all. The highest 'LICHEN SCORES' were in Poland, Lithuania, Latvia and Estonia. Western Russia was low both along motorways, in forest and in the cities.

The Russian Air Quality survey method has shown a very high correlation with the air monitoring survey method previously used in the Ryazan Oblast of Western Russia (references 2, 3, and 4). These survey methods used by school students from 60 schools in the Ryazan Oblast could be used across Europe, the Baltic States, Western and Northern Russia as indicated by these results. The Russian Air quality method now pioneered by schools in the Ryazan Oblast, east of Moscow and in the St.Petersburg Oblast, clearly shows the reliability of this method not only for these Regions but all over Western, Northern Russia, the Baltic countries and central Europe, including Poland.

## References

1. Young, S.W. & Wolseley, P. (2010). *Monitoring Air Quality using Lichens on Trees, Ryazan Oblast, Russia*. Supported by D. Mendelev, University of Chemical Technology of Russia. Edinburgh.
2. Young, S.W. & Mustafin, D. (2011). *Monitoring air quality with schools using tree lichens in the Ryazan Region. A comparison of the survey data published in 2007 and in 2010*. University of Chemical Technology of Russia, Moscow.
3. Young, S.W. (2007). *Environmental Audit, Shilovo District Monitoring 2004-2007, Ryazan Oblast*. Moscow.
4. Young, S.W., Wolseley, P. & Street, S. (2009). *Key to Lichens on Trees, Ryazan Oblast*. Edinburgh.
5. Anon. (2011). Nitrous oxide levels from ground stations. <http://www.temis.nl/airpollution/no2.html>.
6. Anon. (2011). Weather data. European Environment Agency <http://www.eea.europa.eu/themes/air/airbase/map-statistics>.

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## Praise for the Handbook – and a few amendments ...

Jack Laundon wrote welcoming the fine Members' Handbook. He added ‘The only error which I noticed was on p. 37 where Oliver Gilbert is described as "one of its founders". In fact Oliver joined the Society in 1964 (see *Lichenologist* 2(3): 286 [1964]) whereas the Society was established on 1 February 1958. The founders were David Bellamy, Frank Brightman, Cyril Castell, Geoffrey Dobbs, John Gilbert, Brenda Haynes, Fred Haynes, Peter James, Clive Jermy, Jack Laundon, Joseph Peterken, Paul Richards, David Smith, David Streeter, Douglas Swinscow, John Tallis, Arthur Wade, Edward Wallace, Miss S. Wilson, and five unidentified persons. An account of the inaugural meeting appeared in the *British Lichen Society Bulletin* 77: 1-10 (1995).”

Tom Preece also wrote with congratulations on the Handbook, adding a cautionary note. ‘Sooner or later we are going to get “caught out” over knives: blade length being a problem. Under S139 of the *Criminal Justice Act 1988* “It is an offence for any person, without lawful authority or good reason, to have with him in a public place, any article which has a blade or is sharply pointed except for a folding pocket-knife which has a cutting edge to its blade not exceeding 3 inches.”

He further adds that scalpels with blades are notoriously dangerous when trying to cut hard things. Based on his long experience as a plant pathologist he is aware of two cases of injury; in one it nearly led to the loss an eye.

He added a query. Referring to water soluble modelling wax, the use of which is advocated in *The lichens of GB&I* (Smith et al 2009, p. 11), Tom wonders where it can be obtained. Chris Ellis advises that it can be purchased on-line, though many suppliers appear to be in the US e.g.:

<http://www.kindt-collins.com/waxes/ferris/ferrisproducts2.html>

<http://shorinternational.com/fileawax.php>

<http://www.freemanwax.com/solublewax.htm>

Chris adds that use of the wax sounds troublesome for routine identification work and suggests it is probably better to collect field material that does not require such extensive preparation.

*Stephen Ward*



**Professor Jack Elix**, who was elected to Honorary Membership of the Society at the Society's AGM in January, being presented with the engraved silver quaich that accompanied the award by Professor David Hawksworth CBE at the Australian National University in Canberra on Tuesday 26 July 2011. Dr Patrick McCarthy, who helped engineer the surprise, was also present.



## Literature pertaining to British Lichens - 49

*Lichenologist* **43**(3) was published on 19 April 2011, **43**(4) on 8 June 2011, and **43**(5) on 12 August 2011.

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

BALFOUR, I.B. 1902. Botanical excursions made by Professor John Hutton Balfour in the years 1846–1878 inclusively. *Notes from the Royal Botanic Garden Edinburgh* **2**: 21–497. Fascinating accounts, with lists of species, including a smattering of lichen records from vice-counties 72, 77, 80, 81, 82, 83, 84, 85, 86, 88, 89, 90, 92 & 100.

BLATCHLEY, I. 2011. Lichen report 2011. *Annual Report of the Orpington Field Club* **51**: 10–14. Report of finds and observations in the Orpington area of West Kent in SE England, including a summary of results of a survey of local gardens. Also the benefits of the heavy winter snows bringing down large boughs and branches for examination! A section on lichenicolous fungi mentions an increasing occurrence of the bright pink ‘blobs’ of *Illosporiopsis christiansenii* on *Physcia* species [this increase seems to be a nationwide phenomenon].

BLATCHLEY, I. 2011. In “Reports of outdoor meetings 2010”. *Bull. Kent Field Club* **56**: 14–47: Crockham Hill churchyard (p. 14–15).

BLATCHLEY, I. 2011. Changes in the lichen flora of the London Borough of Bromley over the last 50 years. In: ANON, *Orpington Field Club – 50 years on*: 51–57. A summary of the changes that have occurred in the area, including the ‘fall and decline’ of many corticolous macrolichens.

CLEMONS, L. 2011. In “Reports of outdoor meetings 2010”. *Bull. Kent Field Club* **56**: 14–47: Oare Gunpowder Works Country Park (p. 29–30).

ERTZ, D., BUNGARTZ, T., DIEDERICH, P. & TIBELL, L. 2011. Molecular and morphological data place *Blarneya* in *Tylophoron* (Arthoniaceae). *Lichenologist* **43**: 345–356. Fertile material of *Blarneya hibernica*, with both ascomata and sporodochia, has been found in the Hawaiian Islands and Galapagos Islands, showing it belong to the genus \**Tylophoron* Nyl. ex Stiz. (1862). This has necessitated the new combination *Tylophoron hibernicum* (D. Hawksw., Coppins & P. James) Ertz, Diederich, Bungartz & Tibell.

ERTZ, D. & TEHLER, A. 2011. The phylogeny of Arthoniales (Pezizomycotina) inferred from nucLSU and *RPB2* sequences. *Fungal Diversity* **49**: 47–71. A large phylogeny from 31 ‘traditional’ genera and 132 species has resulted in there now being four recognized families in the Arthoniales: *Arthoniaceae*, *Chrysothricaceae*, *Roccellaceae*, the re-instated *Opegraphaceae* and the newly described *Roccellographaceae*. The traditional generic delimitations based on morphology alone are in many cases found to be poorly supported, with the Arthoniales exhibiting an unusually high level of plasticity. Several ‘old’

genera are revived, and new one described. Those affecting the British & Irish Checklist are as follows: *Alyxoria* Ach. in Gray (1821), with *A. ochrocheila* (Nyl.) Ertz & Tehler (2011) (syn. *Opegrapha ochrocheila*), *A. subelevata* (Nyl.) Ertz & Tehler (2011) (syn. *O. subelevata*) and *A. varia* (Pers.) Ertz & Tehler (2011) (syn. *O. varia*); *Dendrographa* Darb. (1895) with *D. decolorans* (Turner & Borrer ex Sm.) Ertz & Tehler (2011) (syn. *Schismatomma decolorans*) and *D. latebrarum* (Ach.) Ertz & Tehler (2011) (syn. *Lecanactis latebrarum*); *Paralecanographa* Ertz & Tehler (2011) with *P. grumulosa* (Dufour) Ertz & Tehler (2011) (syn. *Lecanographa grumulosa*); *Roccellographa* J. Steiner (1902) (syn. *Peterjamesia*) with *R. circumscripta* (Taylor) Ertz & Tehler (2011) (syn. *Peterjamesia circumscripta*); *Sparria* Ertz & Tehler (2011) with *S. endlicheri* (Garov.) Ertz & Tehler (2011) (syn. *Arthonia endlicheri*); *Zwackhia* Körb. (1855) with *Z. viridis* (Ach.) Poetsch. & Schied. (1872). The authors suggest that the apothecia reported for *Sparria* (*Arthonia*) *endlicheri* may actually belong to a lichenicolous fungus. [This is still very much a ‘work in progress’, and a huge task at that, so these name changes will not be immediately made to the BLS Checklists. The names will, however, be included as synonyms to help anyone searching for them].

- GIRALT, M., BUNGARTZ, F. & ELIX, J.A. 2011. The identity of *Buellia sequax*. *Mycological Progress* **10**: 115–119. Type studies have revealed that the species known in recent years as *Buellia sequax* (hymenium without oil drops, and thallus usually containing norstictic acid; **BLS no. 1744**) should be called *B. abstracta* (Nyl.) H. Olivier (1903). The name *B. sequax* (Nyl.) Zahlbr. should be correctly applied to the species known as *B. excelsa* (hymenium with numerous oil drops; **BLS no. 0213**), the latter name being a synonym of *B. sequax*. Chemical analyses have shown that *B. sequax* usually contains diploicin and isofulgidin in addition the atranorin and chloratranorin.
- HITCH, C.J.B. 2009. The lichens of Higham Lodge. *White Admiral* **79**: 15–18. A visit to this estate in Suffolk noted 62 lichens and one lichenicolous fungus. The accompanying photographs include two of *Xanthoparmelia luteonotata* on the slate roof of a ‘coal-bunker’.
- HITCH, C.J.B. & M. KIRBY 2009. Lichens on a park bench. *White Admiral* **74**: 19–22. Eighteen species are reported on the woodwork of a teak bench in Aldeburgh, Suffolk. The discussion is accompanied by colour photographs.
- KELLY, L.J., HOLLINGSWORTH, P.M., COPPINS, B.J., ELLIS, C.J., HARROLD, P., TOSH, J. & YAHR, R. 2011. DNA barcoding of lichenized fungi demonstrates high identification success in a floristic context. *New Phytologist* **191**: 288–300. Analysis which confirmed the ITS gene region as a tool for quantifying lichen diversity. Two test cases were applied: a genus level analysis, focussed on *Usnea*, and a floristic level analysis, with comprehensive sampling of lichen species from the Insh Marshes NNR and surrounding woodlands in Strathspey.
- LLOP, E. & GÓMEZ-BOLEA, A. 2009. The lichen genus *Phylloblastia* (*Verrucariaceae*) in the Iberian Peninsula, with a new species from Western

- Europe. *Lichenologist* **41**: 565–569. Includes original description and illustrations of *Phylloblastia fortuita* Llop & Gómez-Bolea, since reported from Wales.
- PALMER, K. 2011. In “Reports of outdoor meetings 2010”. *Bull. Kent Field Club* **56**: 14–47: Benenden Churchyard (p. 39). *Anaptychia ciliaris*, recorded here in the late 1980s, seems to have disappeared.
- PALMER, K. 2011. Lichen report 2010. *Bull. Kent Field Club* **56**: 57–59. A summary of finds in the county during the year, and comment on changes to the Kent lichen flora in recent years. These include an increase of *Flavoparmelia soredians*, *Parmotrema perlatum* and *Physcia aipolia*, and a marked decline in *Lecanora conizaeoides*, *Parmeliopsis ambigua* and *Platismatia glauca*, the last having not been seen for “some considerable time”.
- PITT, J. & BLATCHLEY, I. 2011. Lichen survey of Ashenbank Wood. *Bull. Kent Field Club* **56**: 59–64. A two-day survey reporting 62 epiphytic species.
- RUIBAL, C., MILLANES, A.M. & HAWKSWORTH, D.L. 2011. Molecular phylogenetic studies on the lichenicolous *Xanthoriicola physciae* reveal Antarctic rock-inhabiting fungi and *Piedraia* species among closest relatives in the *Tetrosphaeriaceae*. *IMA Fungus* **2**(1): 97–103. The obligately lichenicolous, host specific lichenicolous fungus *Xanthoriicola physciae*, common on *Xanthoria parietina*, is shown to be related to fungi in the *Capnodiales*, assigned to the family *Tetrasphaeriaceae*. The closest relatives seem to be *Friedmanniomyces endolithicus* and *F. simplex*, both fungi inhabiting rocks, often along with cryptoendolithic lichen hyphae, in Antarctica.
- SPRIBILLE, T., GOFFINET, B., KLUG, B., MUGGIA, L., OBERMAYER, W. & MAYRHOFER, H. 2011. Molecular support for the recognition on the *Mycoblastus fucatus* group as the new genus *Violella* (*Tephromelataceae*, *Lecanorales*). *Lichenologist* **43**: 445–466. Molecular, morphological and chemical evidence supports the recognition of the new genus *Violella* T. Sprib. to accommodate *V. fucatus* (Stirt.) T. Sprib. (syn. *Mycoblastus fucatus*) and a new species described from China.
- VONDRÁK, J., ŽÍHA, P., REDCHENKO, O., VONDRÁKOVÁ, O., HROUZEK, P. & KHODOSOVTSSEV, A. 2011. *Lichenologist* **43**: 467–481. The *Caloplaca crenulatella* complex; its intricate taxonomy and description of a new species. Includes original description and illustration of *Caloplaca diffusa* Vondrák & Llimona, since reported from Wales.
- YAHR, R., COPPINS, B.J. & ELLIS, C.J. 2011. Preserved epiphytes as an archaeological resource in post-medieval vernacular buildings. *Journal of Archaeological Science* **38**: 1191–1198. Describing the widespread existence of lichen epiphytes preserved on structural timbers from low-status homes constructed between the 14<sup>th</sup> and 18<sup>th</sup> Centuries. The paper demonstrates the potential of lichens as a new archaeological tool for the reconstruction of historic environments.

Correction to **Literature Pertaining to British Lichens 48** concerning:

LAUNDON, J.R. 2010. *Lecanora antiqua*, a new saxicolous species from Great Britain, and the nomenclature and authorship of *L. albescens*, *L. conferta* and *L. muralis*. *Lichenologist* **42**: 631–636.

In this entry BJC added the comment that the suggested correction to the authorship of *L. albescens* is unfortunately incorrect, and should be *L. albescens* (Hoffm.) Flörke (1828). However, it has been pointed out to me by Jack Laundon and Linda in Arcadia, that Article 34, Ex. 3 of the ICBN is not applicable to this case. Hence the correct author citation should indeed be *Lecanora albescens* (Hoffm.) Branth & Rostr. (1869).

*B.J. Coppins & C.J. Ellis*  
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## New, rare and interesting lichens

Contributions to this section are always welcome. Submit entries to Chris Hitch, Orchella Lodge, 14, Hawthorn Close, Knodishall, Saxmundham, Suffolk, IP17 1XW, in the form of species, habitat, locality, VC no, VC name, (from 1997, nomenclature to follow that given in the appendix, see BLS *Bulletin* 79, which is based on the Biological Record Centre for instructions for Recorders, ITE, Monks Wood Experimental Station, Abbots Ripton, PE17 2LS, 1974). Grid Ref (GR) (please add letters for the 100km squares to aid BioBase and Recorder 2000 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 on e-mail, my address is [cjbh.orchldge@freuk.com](mailto:cjbh.orchldge@freuk.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

*Caloplaca diffusa* Vondrák & Llimona (2011): on limestone block on bank of stream, slightly shaded by trees, Drefach-Felindre, National Wool Museum, V.C. 44, Carmarthenshire, GR 22/35477.39143, 9 September 2009. Collected by A. Orange 18462 (NMW); Thallus yellow, well-developed, without lobes, thalline margin of apothecium sometimes crenulate, spores 15-17.5 × 7.5-8 µm (slightly larger than in the protologue), septum rather narrow, on average 0.17 of spore length according to protologue. Most likely to be keyed down as *C. crenulatella* or *C. maritima* when using the British Flora. Both collections confirmed by its ITS sequence. For full description and illustration see Vondrák *et al.* (*Lichenologist* 43: 467-481, 2011). See also under **Other Records. BLS no. 2592.** A. Orange

*Caloplaca demissa* (Körb.) Arup & Grube (1999): on large terracotta urn, Thyme Walk, Highgrove House, Doughton, VC 33, East Gloucestershire, GR 31(ST)/875.915, August 2010. Herb. Powell 1401. *C. demissa* is a small, crustose, lobate species, brownish grey in colour, which somewhat resembles *Hyperphyscia adglutinata* but with lobes which are more stubby and convex. Arup & Grube (*Lichenologist* 31(5): 419-430, 1999) transferred this species to the genus *Caloplaca* from *Lecanora*. Apothecia are unknown in this species and spot test reactions are all negative. The Highgrove material has no well-developed soralia and conidiomata were not found. The identification was confirmed by comparison with the



morphology of material from the Czech Republic (Herb. MRDS 115933). It is possible that this occurrence of *C. demissa* is an introduction if the urn was imported from abroad but the species occurs naturally on siliceous rocks on the near Continent. **BLS No. 2593.** M. Powell

*Graphium aphthosae* Alstrup & D. Hawksw. (1990): on thallus of *Peltigera membranacea*, as a very few synnemata occurring with *Stigmidium peltideae*, east of Leitir Fura, Kinloch and Kyleakin Hills SSSI, Skye, recorded during the IAL Excursion. VC 104, North Ebudes, GR 18(NG)/73-15-, July 2010. Herb. (BILAS (Lichens) 4805). Recognized by its short, black synnemata, up to 175 µm tall, with hyaline, cuneiform conidia,  $7.5 \times 3.5\text{--}4$  µm. For full description and illustrations see Alstrup & Hawksworth (*Meddelelser om Grønland* 31: 1–90, 1990). **BLS no. 2582.**

J. Motiejunaite

*Lecanora invadens* H. Magn. (1940): amongst *Lecanora dispersa* on vertical side of slightly calcareous sandstone headstone, Kinnaird Parish Church, Carse of Gowrie, VC 89, East Perthshire, GR 37(NO)/243.286, alt. 60 m, June 2011, Coppins 23402 (E). Seen as small scattered clusters of bluish black apothecia, with a paler, white-pruinose margin, amongst mainly *Lecanora dispersa*. The distinguishing features include the green epithecium with no or only a few granules, which are soluble in K, and apically green-pigmented paraphyses. For detailed description and discussion see Sliwa (*Polish Botanical Journal* 52: 1–70, 2007). Probably a much overlooked species. See also under **Other Records. BLS no. 2585.** B.J. Coppins

*Leptosphaeria ramalinae* (Desm.) Sacc. (1883): on *Ramalina fastigiata* on *Prunus spinosa*, west of Ardinamir, Luing, VC 98, Argyll Main, GR 17(NM)/751.119, alt 40 m, July 2011. Herb. Coppins 23698 (E). The black perithecia contain cylindrical asci with uniseriate, brown, 3-septate ascospores,  $14\text{--}16.5 \times 5\text{--}6$  µm, which have finely warted walls. **BLS no. 2587.** B.J. Coppins, J.R. Douglass, S. Price, P. Harrold & P. Aspen

*Minutoexcipula tephromelae* V. Atienza, Etayo & Pérez-Ortega (2009): on thallus of *Tephromela atra* on sandstone headstone in cemetery, Kilnaughton, Islay, VC 102, South Ebudes, GR 16(NR)/344.451, alt 5–10 m, May 2011. Herb. Coppins 23702 (E). Has minute (30–100 µm diam), brown-black sporodochia with brown, 1-septate, smooth-walled conidia  $5\text{--}6\text{--}(7) \times (2.5\text{--})3\text{--}(4)$  µm. For detailed description and illustrations see Atienza *et al.* (*Lichenologist* 41: 223–229, 2009). See also under **Other Records. BLS no. 2584.** B.J. Coppins

*Phylloblastia fortuita* Llop & Gómez-Bolea (2009): on leaves of *Hedera hibernica* in hedge in garden, 21 Porthamal Road, Rhiwbina, Cardiff, V.C. 41, Glamorgan, GR 31/163.808, July 2007. Herb. A. Orange 17250 (NMW). Differs from *P. inexpectata* in the larger ascospores which are 5- to 9-septate and often submuriform. The ascospores in the Cardiff collection are a bit bigger than given in the protologue,  $(28.5\text{--})32\text{--}35.6\text{--}39\text{--}(42) \times 7.5\text{--}8\text{--}(9) 4.8\text{--}5.4\text{--}(5.8)$  µm, but this is probably not significant. To the writer, both seem very dubiously lichenised, and at least in Wales both can occur in undistinguished habitats (including the collector's suburban

garden). For full description and illustration see Llop & Gómez-Bolea (*Lichenologist* **41**: 565-569, 2009). **BLS no. 2591.** A. Orange

*Rhizocarpon intersitum* Arnold (1877): on roof slate, Honeybrae, Pentland Hills, VC 83, Midlothian, GR 36 (NT)/167.568, 1975. Leg. C.J. Langdon (E). Resembles *R. distinctum*, but spores 3-(to 4-) septate or submuriform, soon blackish green, 20–24 × 8–10 µm; epithecium greenish in K; exciple purplish in K; med I–. In this collection: spores have 3–4 transsepta, and 1–2 longisepta, 24–29(–33) × 9.5–12 µm. See also under **Other Records. BLS no. 2590.** B.J. Coppins

*Sclerococcum tephromelarum* Etayo & Calatayud (1998): on thallus of *Tephromela atra* on sandstone headstone, Kinnaird Parish Church, Carse of Gowrie, VC 89, East Perthshire, GR 37(NO)/243.286, alt 60 m, June 2011. Herb. Coppins 23403 (E). Sporodochia black, to 150 µm diam., becoming concave; conidia dark brown, 2-celled or some 3- or 4-celled, 11–21 × 8–15 µm, with a very thick wall with a roughly lacerate-granulose ornamentation. The same thallus was also infected by the smaller, brown-black sporodochia of *Minutoexcipula tephromelae*; the host thallus seemed little damaged, but had far fewer apothecia than adjacent, uninfected thalli. For detailed description and illustrations see Etayo & Calatayud (*Ann. Naturhist. Mus. Wien* **100B**: 677–681, 1998). As stated by these authors, the report of *Coniothecium lichenicola* on *Lecanora atra* from Scotland by Lindsay (*Trans. Roy. Soc. Edinburgh* **25**: 513–555, 1869) could well be this species. See also under **Other Records. BLS no. 2586.**

B.J. Coppins

## Other Records

*Abrothallus cetrariae*: on *Platismatia glauca* on large boulder by road, Clavells Wood, Eskadale, VC 96, Easternness, GR 28(NH)/4347.3972, alt 60 m, March 2011. Herb. Coppins 23658 (E). Sixth British record. B.J. Coppins

*Arthonia atlantica*: in small amount on two sheltered, but well-lit, vertical rockfaces in old-growth *Quercus* woodland, Coed Penrhyn-mawr, Ynys-hir, Eglwys Fach, VC 46, Cardiganshire, GR 22(SN)/67-.95-. , alt 35m, August 2011. First recorded at Ynys-hir in 1991 (herb. SPC), but lost sometime after 1994 from *Rubus fruticosus* s.l. overgrowth of its rockface due to grazing cessation. Re-found in 2011, on two bramble-free rockfaces in the same part of the wood. S.P. Chambers

*Arthonia epiphyscia*: on *Physcia caesia* on plinth of sandstone headstone in churchyard, St Helens Church, Cockburnspath, VC 81, Berwickshire, GR 36(N7)/774.710, alt 75 m, August 2011. Herb. Coppins 23796 (E). New to the Vice-county and second Scottish record. B.J. Coppins & C.J.B. Hitch

*Arthonia phaeophysciae*: on *Phaeophyscia orbicularis* on boundary wall, Kinnaird Parish Church, Carse of Gowrie, VC 89, East Perthshire, GR 37(NO)/243.286, alt 60 m, June 2011. Herb. Coppins 23407 (E). New to the Vice-county.

B.J. Coppins, J.R. Douglass & R.K. Brinklow

*Arthopyrenia platypyrenia*: on old *Hedera* stems in coastal *Prunus spinosa* / *Crataegus* scrub, Aird Luing, Luing, VC 98, Argyll Main, GR 17(NM)/7444.0564, July 2011. Herb. Coppins 23690 (E). New to Scotland.

*B.J. Coppins, J.R. Douglass, S. Price, P. Harrold & P. Aspen*

*Aspicilia recedens*: at base of dolerite dyke, south of Toberonochy, Luing, VC 98, Argyll Main, GR 17(NM)/748.080, alt 20 m, July 2011. Herb. Coppins 23708 (E). New to the Vice-county.

*B.J. Coppins, J.R. Douglass, S. Price, P. Harrold & P. Aspen*

*Bacidia incompta*: on mature *Ulmus* alongside cliff; on bark at base of the northeast side, below a split in the trunk, Glen Liath, Inverfarigaig, VC 96, East Inverness-shire, GR 28(NH)/5225.2257, alt c. 130 m, November 2009. Herb. Coppins 23605 (E). New to the Vice-county.

*B.J. Coppins*

*Bacidia incompta*: on flushed lignum inside an ancient hollow *Quercus*, as a former hedgerow tree in pasture, Newtown, VC10, Isle of Wight GR 40(SZ)/4279.9042, June 2011. Field record. First record for the Isle of Wight for many years, with previous records being on *Ulmus*.

*N.A. Sanderson & Wessex Lichen Group.*

*Bacidia neosquamulosa*: on dead, attached horizontal branch of *Quercus* at edge of wood, Butterdean Wood, Gladsmuir, VC 82, East Lothian, GR 36(NT)/4532 7186, alt c. 110 m, June 2011. Coppins 23489 (E). New to the Vice-county and third Scottish record.

*B.J. Coppins*

*Bacidia rubella*: sterile in fissures along chamfered edge of stringcourse on sheltered northwest-facing wall of church, St Michael's Church, Eglwys Fach, VC 46, Cardiganshire, GR 22(SN) 686.956, alt 10m, July 2011. Field record. First saxicolous Vice-county occurrence.

*S.P. Chambers & C.J.B. Hitch*

*Bacidia subincompta*: on trunk of mature *Quercus* by path, in woodland on north side of gorge, Reekie Linn, Craigisla, VC 90, Angus, GR 37(NO)/25-53-, alt 150–160 m, August 2011. A small specimen was collected and checked microscopically, but not retained. Second record for the Vice-county.

*B.J. Coppins*

*Bactrospora corticola*: on *Ulmus* bark, with *Chrysothrix candelaris*, Elm Bush Grove, Theberton, VC 25, East Suffolk, GR 62(TM)/43-65-, April 1935. Herb. R. Burn 46 (under *Opegrapha herbarum* (NWH, Accession No. NWHCM 1994.147.813). Determined by B. J. Coppins. Not seen in the eastern counties, the Midlands or East Anglia. New to Suffolk.

*C.J.B. Hitch*

*Biatora veteranorum*: on lignum of partly decorticate trunk of living *Quercus*, in north-facing oakwood opposite Bell Craig, Spott, VC 82, East Lothian, GR 36(NT)/6742.7383, alt 144 m, August 2011. Herb. Coppins 23594 (E). With pycnidia only. New to the Vice-county and second record for southeast Scotland.

*B.J. Coppins*

*Biatoridium delitescens*: two records (i) on trunk of mature *Ulmus*, Clavells Wood, Eskdale, VC 96, East Inverness-shire, GR 28(NH)/4398.3979, alt 70 m, March

2011. Herb. Coppins 23663 (E); (ii) on large *Betula* in boulder field, GR 28(NH)/4407.3976, alt 115 m, March 2011. Herb. Coppins 23664 (E). Vulnerable and Nationally Rare.  
*B.J. Coppins*

***Briancoppinsia cytospora***: on thallus and apothecia of *Lecanora conizaeoides* on west side of hardwood footpath marker post, Cwmfforest, Black Mountains, VC 42, Breconshire, GR 32(SO)/187.289, alt 290m, March 2006. Herb. SPC. Determined by P. Diederich.  
*S.P. Chambers*

***Buellia badia***: on roof slate, Kinnaird Parish Church, Carse of Gowrie, VC 89, East Perthshire, GR 37(NO)/243.286, alt . 60 m, June 2011. Herb. Coppins 23397 (E). New to the Vice-county and second Scottish record.  
*B.J. Coppins, J.R. Douglass & R.K. Brinklow*

***Byssoloma subdiscordans***: on twigs of *Salix cinerea*, within *Salix* scrub in moorland, Big Dog, VC H35, Fermanagh, GR 23(H)/0313.4982, alt 200 m, March 2011. Herb. Sanderson 1578. See [www.uklichens.co.uk](http://www.uklichens.co.uk) for image. First record for Northern Ireland.  
*N.A. Sanderson*

***Caloplaca albolutescens***: on Beer stone kerb at back of beach, Budleigh Salterton, VC 3, South Devon, GR 30(SY)/067.819, July 2008. Herb. B. Benfield. Determined by C.J.B. Hitch. New to Devon.  
*B. Benfield*

***Caloplaca cerinella***: on twigs of *Populus alba* & bark of senescent *Sambucus nigra*, Alver Valley & Browndown Ranges, Gosport, VC11, South Hampshire, GR 40(SZ)/5869.9978 & 40(SZ)/5798.9932, March 2011. Collected by J. Norton. Herb J. Norton L0229 & L0264. Determination confirmed by N. A. Sanderson. New to Hampshire.  
*J. Norton & N.A. Sanderson*

***Caloplaca cerinella***: on twig of *Populus tremula*, in thicket expanding from hedge into pasture, Newtown, VC 10, Isle of Wight, GR 40(SZ)/4292.9040, June 2011. Confirmed by microscopic examination. First record for the Isle of Wight since the 19<sup>th</sup> century.  
*N.A. Sanderson & Wessex Lichen Group*

***Caloplaca diffusa***: on unshaded boulder in river, with *Verrucaria cernaensis*, south-east of Erwood, River Wye, V.C. 42, Breconshire, GR 32/1109.4180, alt. 100 m, 20 May 2010. Collected by A. Orange 18868 (NMW). See also **New to the British Isles**.  
*A. Orange*

***Caloplaca haematites***: on twig of *Populus alba*, within small *Populus alba* plantation on floodplain at edge of water meadow, River Anton, Goodworth Clatford, VC12, North Hampshire, GR 41(SU)/3643.4167, August 2011. Herb Sanderson 1639. See [www.uklichens.co.uk](http://www.uklichens.co.uk) for image. Determination confirmed by B. J. Coppins. First record since the 19<sup>th</sup> century, when recorded from fruit tree and white poplar twigs. A quite distinctive species with a dark grey thallus and thalline margin, thinner when old and not flexuose. The habitat may not have been intensively studied recently, so the species may be overlooked but it is unlikely to be frequent.  
*N.A. Sanderson*

***Caloplaca pyracea***: on twig of *Populus alba*, within small *Populus alba* plantation on floodplain at edge of water meadow, River Anton, Goodworth Clatford, VC12, North Hampshire, GR 41(SU)/3643.4167, August 2011. Herb Sanderson 1640. See [www.uklichens.co.uk](http://www.uklichens.co.uk) for image. Determination confirmed by B. J. Coppins. First record for England, previously known from *Populus tremula* in northeast Scotland.

N.A. Sanderson

***Chaenotheca brachypoda***: associated with *Opegrapha ochrocheila* and *O. viridipruinosa* on dead *Dryopteris* shaded by boulder in birchwood, Clavells Wood, Eskdale, VC 96, East Inverness-shire, GR 28(NH)/4350.3968, alt 60 m, March 2011. Herb. Coppins 23676 (E), with Coppins 23677 (E) [*O. ochrocheila*] and Coppins 23678 (E)[*O. viridipruinosa*]. An unusual niche for these normally corticolous or lignicolous species.

B.J. Coppins

***Chaenotheca brunneola***: on lignum on standing dead *Quercus*, on edge of woodland abutting on to saltmarsh with frequent trees killed by saltwater incursion, Walter's Copse, Newtown, VC 10, Isle of Wight, GR 40(SZ)/4330.9082, June 2011, Field record. New to the Isle of Wight.

N.A. Sanderson & Wessex Lichen Group

***Chaenotheca chrysocephala***: on dry bark of ancient *Quercus*, as former hedgerow tree in a pasture, Newtown, VC 10, Isle of Wight GR 40(SZ)/4264.9032, June 2011. Field record. New to the Isle of Wight.

N.A. Sanderson & Wessex Lichen Group

***Chaenotheca chrysocephala***: on dry bark of post-mature *Quercus* in garden by the National Trust ticket office, Petworth Park, VC 13, West Sussex, GR 41(SU)/9762.2248, July 2011. Field record. First record for Sussex since the 19<sup>th</sup> century.

N.A. Sanderson

***Chaenotheca chrysocephala***: on dry bark of post mature *Quercus* in old secondary woodland on edge of heathland, Little Frensham Pond, VC 17, Surrey, GR 41(SU)/8587.4184, July 2011. Field record. First record for Surrey.

N.A. Sanderson

***Chaenotheca trichialis***: on dry bark of ancient *Quercus*, as former hedgerow tree in pasture, Newtown, VC 10, Isle of Wight GR 40(SZ)/4264.9032, June 2011, Field record. New to the Isle of Wight.

N.A. Sanderson & Wessex Lichen Group.

***Chaenotheca stemonea***: in crevices in dry bark of ancient *Quercus*, a relic tree in mature broad-leaved plantation, Shane's Castle, VC H39, Antrim, GR 33(J)/1004.8746, March 2011. Herb. Sanderson 1597. New to Ireland.

N.A. Sanderson

***Chaenothecopsis nigra***: on lignum on stub of standing dead ancient *Quercus*, on bank of old river channel in floodplain, Eyes Plantation, Isfield, VC 14, East Sussex, GR 51(TQ)/4607.1857, June 2011. Herb. Sanderson 1611. New to the Vice-county.

N.A. Sanderson

***Chaenothecopsis savonica***: on lignum on standing dead *Quercus*, within *Quercus* – *Fagus* – *Ilex* pasture woodland, Great Wood, Bramshaw, New Forest SSSI, VC 11,



South Hampshire, GR 41(SU)/2552.1553, April 2011. Herb. Sanderson 1600. First record for Hampshire and second for lowland England.

*N.A. Sanderson, A.M. Cross & R. Reeves*

***Cladonia callosa***: on humus in a canopy gap, on small banks and the side of an old hollow way in grazed humid *Calluna* heath thought to have been control burned 15 years ago, White Moor, New Forest SSSI, VC11, S Hampshire, GR 41(SU)/3129.0827, 41(SU)/3126.0830, 41(SU)/3126.0829 & 41(SU)/3139.0824, September 2011. Herb Sanderson, 1655, 1656 & 1657. See [www.uklichens.co.uk](http://www.uklichens.co.uk) for images. First record for lowland England and an interesting addition to the rich and prospering heathland lichen flora of the New Forest. Although previously recorded only as an upland species in Britain, it is a widespread component of high quality lowland heathland in the Netherlands ([www.verspreidingsatlas.nl/korstmossen](http://www.verspreidingsatlas.nl/korstmossen)).

*N.A. Sanderson & A.M. Cross*

***Cladonia cornuta***: on humus in canopy gaps in grazed humid *Calluna* heath thought to have been control burned 15 years ago, White Moor, New Forest SSSI, VC11, South Hampshire, GR 41(SU)/3126.0828, 41(SU)/3126.0832 & 41(SU)/3129.0830, September 2011. Herb Sanderson, 1658 & 1663. First record from Hampshire and an interesting addition to the rich and prospering heathland lichen flora of the New Forest.

*N.A. Sanderson & A.M. Cross*

***Cladonia parasitica***: occasional on lignum on *Quercus* stumps, amongst frequent old *Quercus*, within parkland, Shane's Castle, VC H39, Antrim, GR 33(J)/08-89- & 33(J)/09-89-, March 2011. Herb. Sanderson 1602. A rare species in Ireland with few records confirmed by specimens.

*N.A. Sanderson*

***Cladonia strepsilis***: for details see under *Cladonia subcervicornis*.

***Cladonia subcervicornis***: two records within New Forest SSSI, VC 11, South Hampshire (i) on open humus covered gravel in base of 1940s gravel pit in grazed heathland, Yew Tree Heath, GR 41(SU)/3671.0630, August 2011; (ii) on humus in gaps in grazed humid *Calluna* heath thought to have been control burned 15 years ago, White Moor, GR 41(SU)/3129.0827 to 41(SU)/3139.0824, September 2011. Herb. Sanderson, 1638. See [www.uklichens.co.uk](http://www.uklichens.co.uk) for images. First records from the New Forest, and possibly the only recent records for lowland southern England. In both sites it grew with *Cladonia strepsilis*, which looks rather similar when wet. *Cladonia subcervicornis* may have been overlooked in lowland heathlands in winter surveys.

*N.A. Sanderson & A.M. Cross*

***Clypeococcum cladonema***: on *Parmelia sulcata*, Duirinish, woodland on west side of Allt Duirinis, VC 105, West Ross, GR 18(NG)/779.317, July 2010. Herb. **BILAS** (Lichens) 4741. Recorded during the IAL Excursion. Apparently a new host for this species, which usually inhabits *Cetrelia olivetorum sensu lato*.

*J. Motiejunaite*

***Coppinsia minutissima***: on soil at edge of track down to suspension bridge, Corrieshalloch Gorge, Braemore, VC 105, West Ross, GR 28(NH)/2036.7795, alt

160 m, March 2011. Herb. Coppins 23734 (E). New to the Vice-county and furthest north British record. *B.J. Coppins*

*Degelia plumbea sensu stricto*: two records from VC H35, Fermanagh, (i) frequent on *Salix cinerea* and *Sorbus aucuparia*, in mixed oceanic pasture woodland, Stratonagher, GR 23(H)/0754.5243, alt 180m;(ii) two thalli on *Salix cinerea* on ride in conifer plantation, Big Dog Forest, GR 23(H)/0354.5010, alt 200m, March 2011. Field record. The distribution and frequency of *Degelia plumbea sensu stricto* and *D. cyanoloma* in Ireland is not yet clear but *D. cyanoloma* appears to be the dominant species on the west coast and *D. plumbea* much rarer. *N.A. Sanderson*

*Dictyonema interruptum*: fertile, on river-side rocks at bottom of gorge, Corrieshalloch Gorge SSSI, Braemore, VC 105, West Ross, GR 28(NH)/19-78-, alt 80 m, March 2011. Herb. Coppins 23729 (E). Furthest north British record. *B.J. Coppins*

*Diederichia pseudeverniae*: on *Pseudevernia furfuracea* on *Larix*, Dalwhinnie village, VC 96, East Inverness-shire, GR 27(NN)/634.849, alt 350, July 2010. Herb. (BILAS (lichens) 4732). Recorded during the IAL Excursion. Second British site. *J. Motiejunaite*

*Endococcus exerrans*: on *Rhizocarpon distinctum* on roof slate, Kinnaird Parish Church, Carse of Gowrie, VC 89, East Perthshire, GR 37(NO)/243.286, alt 60 m, June 2011. Herb. Coppins 23397, sub *Buellia badia* (E). New to the Vice-county and second Scottish record. *B.J. Coppins, J.R. Douglass & R.K. Brinklow*

*Enterographa soredata*: on dry bark on ancient *Quercus*, within an area of modern *Fagus* plantation planted on fields and incorporating ancient former hedgerow trees, Piddle Wood, Black Down Hills, VC 5, South Somerset, GR 31(ST)/2490.1897, July 2011. Field record. New to the Black Down Hills and lowland Somerset. *N.A. Sanderson*

*Eopyrenula grandicula*: on *Corylus* in ravine, Dunglass Burn, VC 82, East Lothian, GR 36(NT)/768.718, alt 40 m, January 2010. Herb. Coppins 23469 (E). With pycnidia only. New to the Vice-county and second record for southeast Scotland. *B.J. Coppins*

*Epiphloea byssina*: on moist soil at foot of stony bank by old road, St Cyrus Bay, VC 91, Kincardineshire, GR 36(NO)/75.64, October 1958. Herb. (E). Collected by Ursula Duncan. Previously determined as *Leptogium tenuissimum*. New to the Vice-county and first of three Scottish records. *B.J. Coppins*

*Icmadophila ericetorum*: two records within New Forest SSSI, VC 11, South Hampshire, (i) fertile thalli on sandy humus on bank in hollow way in heathland Shatterford Bottom, GR 41(SU)/ 4344.0610, March 2011. Recorded by R. Reeves. Determined by N. A. Sanderson. (ii) fertile thallus in same habitat, White Moor, GR 41(SU)/3095.0845, July 2011, N. A. Sanderson. These are the first fertile thalli recorded from the New Forest. Because of these fertile thalli, all other similar sterile thalli found in heathland in the New Forest have been confirmed as *Icmadophila*

*ericetorum* by UV fluorescence. The records are from GR 41(SU)/39-06-, 41(SU)/19-10-, 41(SU)/28-15- & 41(SU)/31-08-. 2011, *N.A. Sanderson*. Previously, such sterile white thalli were recorded by Francis Rose and latterly the author as *Dibaeis baeomyces*. It now seems unlikely that the latter species occurs at all in the New Forest, and it is recommended that all records of *Dibaeis baeomyces* from here are treated as errors unless backed by specimens. *N.A. Sanderson*

*Imshaugia aleurites*: on damp north facing sandstone, with *Bunodophoron melanocarpon*, *Mycoblastus caesius* and *Platismatia glauca*, Big Dog, VC H35, Fermanagh, GR23(H)/0304.4975, alt 240m, March 2011. Field record. First recent record for Northern Ireland, for this very rare Irish species, which was recorded from an unusual habitat for the species. *N.A. Sanderson*

*Lasallia pustulata*: numerous thalli, mainly 3–7 cm diameter on gritstone coping of retaining wall to south outlet of Malham Tarn, VC 64, Mid-West Yorkshire, GR 34(SD)/895.662, July 2011. Herb. MRDS 116326, with duplicate in Herb. E. Records for Yorkshire are scarce, the only recent records (1972-73), are from the western edge of the county. There are also old records from the northwestern edge (details unknown) and by James Bolton from Halifax in the late 18<sup>th</sup> century!

*M.R.D. Seaward*

*Lecanactis latebrarum*: at base of trunk of old *Betula* in boulder field, Clavells Wood, Eskdale, VC 96, East Inverness-shire, GR 28(NH)/436.397, alt. 70 m, March 2011. Herb. Coppins 23660 (E). An interesting occurrence of this normally saxicolous species as an epiphyte. *B.J. Coppins*

*Lecania atrynoides*: on top of concrete tank trap in full sun, behind fixed shingle bank on coast, Shingle Street SSSI, VC 25, East Suffolk, GR 62(TM )/36-41.2, May 1997. Herb. Hitch (T31). Confirmed by B. J. Coppins. Only known from Yorkshire northwards and west of the British Isles. New to the Vice-county and East Anglia.

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

*Lecania rabenhorstii*: (i) frequent on mortar of boundary wall, Llanddeiniol Parish Church, VC 46, Cardiganshire, GR 22(SN)560.721, alt 100m, May 2010; (ii) on mortar of remnant brick wall corner piece in dry dune slack, Ynys-las NNR, VC 46, Cardiganshire, GR 22(SN)605.935, alt 2m, May 2011. Herb. SPC. New to the Vice-county. *S.P. Chambers & T.A. Lovering*

*Lecanora albellula* var. *albellula*: on bark of *Pinus sylvestris*, in old secondary woodland on edge of heathland, Little Frensham Pond, VC 17, Surrey, GR 41(SU)/8588.4165, July 2011. Herb. Sanderson 1616. New to the Vice-county.

*N.A. Sanderson*

*Lecanora gisleriana*: on *Lecanora handelii* on copper-rich block in mine spoil, New Pandora Mine, Gwydyr Forest, VC 49, Caernarfonshire, GR 23(SH)766.599, alt 245m, May 2011. Herb. SPC. New to Caernarfonshire. *S.P. Chambers*

*Lecanora invadens*: amongst *Lecanora dispersa* on west vertical side of slightly calcareous sandstone headstone, St Helens Church, Cockburnspath, VC 81, Berwickshire, GR 36(N7)/774.710, alt 75 m, August 2011. Herb. Coppins 23799 (E) and duplicate in Herb. Hitch. New to the Vice-county and second British record.

B.J. Coppins & C.J.B. Hitch

*Leptogium intermedium*: on moss on west-facing crags, Creag na h-lolaire, Ben Griam Beg, VC 107, East Sutherland, GR 29(NC)/82.41, alt 380–410 m, August 1999. Herb. Coppins 23682 (E). New to the Vice-county.

B.J. Coppins

*Lichenocodium usneae*: on necrotic blackened branch of *Teloschistes flavicans* on side of a gabbro boulder on coastal headland, Mynydd Penarfynydd, VC 49, Caernarfonshire, GR 23(SH)/216.260, alt 140m, June 2006. Determined by P. Diederich. Herb. SPC. Seemingly a novel host and apparently not reported before from Wales.

S.P. Chambers

*Melanohalea septentrionalis*: on *Betula* twigs, in the grounds of Craggie House, Daviot, VC 96, East Inverness-shire, GR 28(NH)/727.393, alt c. 170 m, July 2011. Herb. Coppins 23618 (E). A new record from the north-western part of its range.

A.M. Coppins

*Melaspilea amota*: on acid *Quercus* bark on old phoenix tree, within *Betula* – *Quercus* oceanic pasture woodland, Stratonagher, VC H35, Fermanagh, GR 23(H)/0752.5232, alt 160m, March 2011. Herb. Sanderson 1576. First record for Northern Ireland.

N.A. Sanderson

*Melaspilea interjecta*: on sandstone under an overhang on north-facing cliff scarp, above Lough Carricknagower, VC H35, Fermanagh, GR 23(H)/0008.5419, alt 240m, March 2011. Herb. Sanderson 1583. First record for Northern Ireland.

N.A. Sanderson

*Micarea leprosula*: on humus in canopy gaps in grazed humid *Calluna* heath, thought to have been control burned 15 years ago, White Moor, New Forest SSSI, VC11, South Hampshire, GR 41(SU)/3128.0831, September 2011. Herb Sanderson 1662. New to the New Forest and the 500<sup>th</sup> lichen, associated fungi and lichenicolous taxon recorded from the common grazings of the New Forest since Francis Rose started recording this very rich heathland and woodland complex in the 1960s.

N.A. Sanderson & A.M. Cross

*Micarea lithinella*: on stones at edge of track down to suspension bridge, Corrieshalloch Gorge, Braemore, VC 105, West Ross, GR 28(NH)/2036.7795, alt 160 m, March 2011. Herb. Coppins 23735 (E). New to the Vice-county.

B.J. Coppins

*Micarea misella*: on lignum on two standing dead *Quercus*, on edge of woodland abutting on to saltmarsh with frequent trees killed by saltwater incursion, Walter's Copse, Newtown, VC10, Isle of Wight, GR40(SZ)/4331.9081 & 40(SZ)/4319.9084, June 2011. Herb. Sanderson 1614 & 1615. New to the Isle of Wight.

N.A. Sanderson & Wessex Lichen Group

*Micarea subnigrata*: on north-facing basalt crags, Smailholm Crags, VC 80, Roxburghshire, GR 36(NT)/637.347, alt 180 m, August 2011. Herb. Coppins 23810 (E). New to the Vice-county.  
B.J. Coppins

*Micarea ternaria*: on stones at edge of track down to suspension bridge, Corrieshalloch Gorge, Braemore, VC 105, West Ross, GR 28(NH)/2036.7795, alt 160 m, March 2011. Herb. Coppins 23736 (E). New to the Vice-county.  
B.J. Coppins

*Milospium graphideorum*: on unidentified host [thallus C-, K-] on Old Red Sandstone cliff by river, north of Bridge of Dillavaird, River Isla, Den of Airlie NNR, VC 90, Angus, GR 37(NO)/2960.5068, alt 70 m, August 2011. Herb. Coppins 23815 (E). New to eastern Scotland and an unusual saxicolous occurrence of this biologically enigmatic species.  
B.J. Coppins

*Minutoexcipula tephromelae*: two records from Carse of Gowrie, VC 89, East Perthshire (i) on *Tephromela atra* on sandstone headstone, Kinnaird Parish Church, GR 37(NO)/243.286, alt 60 m, June 2011. Herb. Coppins 23403, sub *Sclerococcum tephromelarum* (E); (ii) on *Tephromela atra* on top of sandstone post, Kilspindie Parish Church, GR 37(NO)/220.257, alt 30 m, June 2011. Herb. Coppins 23410 (E). New to the Vice-county.  
B.J. Coppins, J.R. Douglass & R.K. Brinklow

*Minutoexcipula tephromelae*: on *Tephromela atra* on sandstone headstone, in graveyard, Kilchatton, Luing, VC 98, Argyll Main, GR 17(NM)/74-09-, alt 20 m, July 2011. Herb. Coppins 23690 (E). New to the Vice-county.  
B.J. Coppins, J.R. Douglass, S. Price, P. Harrold & P. Aspen

*Minutoexcipula tephromelae*: on *Tephromela atra* on sandstone headstones, St Helens Church, Cockburnspath, VC 81, Berwickshire, GR 36(N7)/774.710, alt 75 m, August 2011. Herb. Coppins 23797 (E). New to the Vice-county.  
B.J. Coppins & C.J.B. Hitch

*Opegrapha ochrocheila*: for details see under *Chaenotheca brachypoda*.

*Opegrapha pulvinata*: on *Dermatocarpon miniatum* on coastal rocks, Aird Luing, Luing, VC 98, Argyll Main, GR 17(NM)/7444.0564, July 2011. Herb. Coppins 23689 (E). New to the Vice-county.  
B.J. Coppins, J.R. Douglass, S. Price, P. Harrold & P. Aspen

*Opegrapha viridipruinosa*: on lignum of stump of *Ulmus*, within woodland on north side of gorge, Reekie Linn, Craigisla, VC 90, Angus, GR 37(NO)/258.537, alt 150–160 m, August 2011. Herb. Coppins 23816 (E). New to the Vice-county.  
B.J. Coppins

*Opegrapha viridipruinosa*: for details see under *Chaenotheca brachypoda*.

*Peltigera neckeri*: on mossy soil of low tomb in cemetery, Leigh, Leigh-on-Sea, VC18 South Essex, GR 51(TQ)/847.861, July 2011. Herb. P. M. Earland-Bennett Determined by C.J.B. Hitch. New to Essex.  
P.M. Earland-Bennett



*Pertusaria corallina*: fertile, on inside of wall of green lane, Emsworthy Devon Wildlife Trust Reserve, VC 3, South Devon, GR 20(SX)/747.768, September 2011. Herb. B. Benfield. Very rarely found fertile. The apothecia are covered with mounds of pruina which look like soralia. *B. Benfield & the Devon Lichen Group*

*Pertusaria pustulata*: three records within New Forest SSSI. VC 11, South Hampshire, (i) on old *Ilex*, within *Fagus* – *Quercus* – *Ilex* pasture woodland, White Moor, GR 41(SU)/2748.0799, April 2011. Herb Sanderson 1608; (ii and iii) on two ancient maiden *Fagus* in open grove *Fagus* in pasture woodland, Fox Hill, GR 41(SU)/2998.0998 & 41(SU)/2997.0999, July 2011. Field records. See [www.uklichens.co.uk](http://www.uklichens.co.uk) for picture. Second & third recent records from the New Forest for this rarely recorded species. An easy species to overlook, but the combination of C+ and K+ yellow thallus reactions are diagnostic in the field. *N.A. Sanderson*

*Phlyctis agelaea*: single thallus on *Acer pseudoplatanus* on alluvial plain, near Yester Castle, Yester Estate, Gifford, VC 82, East Lothian, GR 36(NT)/5571.6668, alt 145 m, November 2011. Herb. Coppins 23445 (E). New to southeast Scotland. *B.J. Coppins*

*Phylloblastia fortuita*: on leaves of *Hedera hibernica* in woodland, northwest of Llancarfan, VC 41, Glamorgan, GR 31(ST)/0532.7071, alt 25 m, May 2010. Specimen not retained. See also **New to the British Isles**. Second British Record. *A. Orange*

*Polycoccum microstictum*: on *Acarospora fuscata* on basalt boulder, Broad Law, Ancrum, VC 80, Roxburghshire, GR 36(NT)/624.251, alt 130 m, August 2011. Herb. Coppins 23808 (E). New to the Vice-county and third Scottish record. *B.J. Coppins*

*Polycoccum microstictum*: on *Acarospora fuscata* on west side of sandstone headstone in graveyard, Kilchatton, Luing, VC 98, Argyll Main, GR 17(NM)/74.09, alt 20 m, July 2011. Herb. Coppins 23713 (E). New to the Vice-county. *B.J. Coppins, J.R. Douglass, S. Price, P. Harrold & P. Aspen*

*Polycoccum peltigerae*: on *Peltigera polydactylon* on rock by river, north of Bridge of Dillavaid, River Isla, Den of Airlie NNR, VC 90, Angus, GR 37(NO)/295.506, alt 70 m, August 2011. Herb. Coppins 23813 (E). New to the Vice-county. *B.J. Coppins*

*Porina leptospora*: on *Corylus* in woodland on east side of ridge, west of Ardinamir, Luing, VC 98, Argyll Main, GR 17(NM)/7491.1136, alt 50 m, July 2011. Herb. Coppins 23714 (E). The spores of this collection measure 29.5–36 x 3–3.5 µm. New to Scotland, although previous records maybe revealed by a critical re-examination of collections named as *Porina borreeri*. *B.J. Coppins, J.R. Douglass, S. Price, P. Harrold & P. Aspen*

*Pronectria echinulata*: on *Physcia aipolia* on twig of *Ulmus*, opposite Strathcarron Hotel, Strathcarron, VC 105, West Ross, GR 18(NG)/941.421, alt 10 m, May 2011. Herb. Coppins 23416 (E). New to the Vice-county and second Scottish record. *B.J. Coppins*

*Punctelia borreri*: abundant on mature *Acer pseudoplatanus*, at west side of graveyard, Kilchatton, Luing, VC 98, Argyll Main, GR 17(NM)/744.090, alt 20 m, July 2011. Herb. Coppins 23690 (E). New to the Vice-county and furthest north British record.

*B.J. Coppins, J.R. Douglass, S. Price, P. Harrold & P. Aspen*

*Pyrenopsis impolita*: on boulder at high water mark, west of Aulich, north side of Loch Rannoch, VC 88, Mid-Perthshire, GR 27(NN)/59.58, alt 700 ft, June 1971. Collected by Pauline Topham in Herb. (E). Determined by B. J. Coppins. New to the Vice-county and fourth Scottish record, though the first chronologically.

*B.J. Coppins*

*Raciborskiomyces peltigericola*: on *Peltigera britannica* on boulder by road, Clavells Wood, Eskadale, VC 96, East Inverness-shire, GR 28(NH)/436.397, alt 50 m, March 2011. Herb. Coppins 23650 (E). New to the Vice-county and third British record.

*B.J. Coppins*

*Reichlingia leopoldii*: on Old Red Sandstone conglomerate cliff by river, shaded by trees, north of Bridge of Dillavaid, River Isla, Den of Airlie NNR, VC 90, Angus, 37(NO)/2964.5073, alt 70 m, August 2011. Herb. Coppins 23814 (E). New to the Vice-county and second British record.

*B.J. Coppins*

*Rhizocarpon intersitum*: on pebble in Danger Area, Kingston shingle, Spey Bay SSSI, VC 85, Morayshire, 38(NJ)/31.66, alt 5 m, June 2008, Coppins 23780 (E). New to the Vice-county and second Scottish record. See also under **New to the British Isles**.

*B.J. Coppins*

*Rhizocarpon lecanorinum*: on basalt outcrops, Yellow Craigs, Garelton Hills, VC 82, East Lothian, GR 36(NT)/ 51.75, alt 150–170 m, November 2011. Herb. Coppins 23737 & 23738, both (E). New to the Vice-county.

*B.J. Coppins & A.M. Fryday*

*Rhizocarpon simillimum*: on large schistose boulder by road, Clavells Wood, Eskadale, VC 96, East Inverness-shire, 28(NH)/4347.3972, alt. 50 m, March 2011, Coppins 23679 (E). New to the Vice-county.

*B.J. Coppins*

*Rinodina efflorescens*: in rain track on trunk of *Quercus robur*, in old secondary woodland at edge of heathland, Little Frensham Pond, VC 17, Surrey, GR 41(SU)/589.4164, July, 2011. Herb. Sanderson 1617. New to the Vice-county.

*N.A. Sanderson*

*Rinodina occulta*: on vertical rock face of coastal cliff, north side of Blackmill Bay, Luing, VC 98, Argyll Main, GR 17(NM)/7305.0892, July 2011. Herb. Coppins 23685 (E). New to the Vice-county.

*B.J. Coppins, J.R. Douglass, S. Price, P. Harrold & P. Aspen*

*Schismatomma graphidioides*: on old *Fagus* by path, Shank Lea Wood, Yester Estate, Gifford, VC 82, East Lothian, GR 36(NT)/5575.6678, alt 150 m, November 2011. Herb. Coppins 23444 (E). New to the Vice-county and second record for southeast Scotland.

*B.J. Coppins*

*Sclerococcum montagnei*: on *Lecanora rupicola* on basalt boulder, Broad Law, Ancrum, VC 80, Roxburghshire, GR 36(NT)/623.251, alt 130 m, August 2011. Herb. Coppins 23807 (E). New to the Vice-county and third Scottish record. *B.J. Coppins*

*Sclerococcum tephromelarum*: on *Tephromela atra* on sandstone headstone, St Helens Church, Cockburnspath, VC 81, Berwickshire, GR 36(NT)/774.710, alt. 75 m, August 2011, Coppins 23798 (E). New to the Vice-county.

*B.J. Coppins & C.J.B. Hitch*

*Skyttea tephromelarum*: on *Tephromela atra* on rocks by lighthouse, South Head of Caldersgeo, Esha Ness, Shetland Mainland, VC 112, Shetland, GR 411(HU)/20-78-, July 2011. Herb. Coppins 23630 (E). New to the Vice-county. *A.M. Coppins*

*Spirographa fusisporella*: on *Pertusaria corallina* on north-facing basaltic rock, Traprain Law, VC 82, East Lothian, GR 36(NT)/579.747, June 2011. Herb. Coppins 23427 (E). New to southeast Scotland. *B.J. Coppins*

*Telogalla olivieri*: on *Xanthoria parietina* on limestone headstone, Kinfauns Parish Church, Carse of Gowrie, VC 89, East Perthshire, GR 37(NO)/166.223, alt 50 m, July 2011. Herb. Coppins 23598 (E). New to the Vice-county and fourth Scottish record. *B.J. Coppins*

*Thelocarpon strasseri*: on rotting wood on ground in basic heath, Little Heath, Barnham, VC 26, West Suffolk, GR 52(TL)/84.5-78-, March 1995. Herb. Hitch R7/B (collected by P. M. Earland-Bennett). Determined by B. J. Coppins. Otherwise known from Scotland and the New Forest. New to Suffolk .

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

*Thelopsis rubella*: on east side of ancient *Quercus* bole, The Thicks, Staverton Park, VC 25, East Suffolk, GR 62(TM )/35.6-50-, May 1999. Herb. Hitch T8/B. Determined by B. J. Coppins. New to eastern England and East Anglia.

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

*Toninia mesoidea*: two records from Luing, VC 98, Argyll Main, both July 2011, (i) on east-facing coastal cliff, Aird Luing, GR 17(NM)/742.057, Herb. Coppins 23685 (E); (ii) on north side of Blackmill Bay, GR 17(NM)730.089, Coppins 23728 (E). New to the Vice-county. *B.J. Coppins, J.R. Douglass, S. Price, P. Harrold & P. Aspen*

*Toninia thiopsora*: c. 8 dispersed squamules, on moist, slightly basic, south-facing upland rockface, Meincyn, north of Llyn Teifi, VC 46, Cardiganshire, GR 22(SN)783.688, alt 525m, June 2011. Field record. Second Vice-county record.

*S.P. Chambers*

*Umbilicaria crustulosa*: on hard Borrowdale Volcanic Series rocks shelving down at 45° and facing south-west at a little below mid crag height, Blakerigg Crag, Greenburn, VC 69, Westmorland, GR 35(NY)/3170.1118, alt c. 430 m, November 2010. Herb. DJC and digital images. Consists of two main patches, covering some 3–

4 square metres in all, as well as various outlying thalli. Believed to be the seventh site in Cumbria for this species, and the most north-easterly. *D.J. Clarke*

*Unguiculariopsis lesdainii*: on *Lecanora saligna* on fallen trunk of *Ulmus*, Yarrowbank Plantation, Stenton, VC 82, East Lothian, GR 36(NT)/60.72, alt *c.* 150 m, April 2011. Coppins 23418 (E). New to Scotland. *B.J. Coppins*

*Usnea cornuta*: on cross rails of wooden roadside fence of Methodist Church, Canvey Island, VC 18, South Essex, GR 51(TQ)/797.837, July 2010. Herb. P.M. Earland-Bennett. TLC was by P. Harrold and shown to be Race B. Determined by B.J. Coppins. Growing with *Usnea cf. wasmuthii* and *Parmelia saxatilis* (both rare in Essex), together with 22 other lichen species. New to Essex. *P.M. Earland-Bennett*

*Usnea flavocardia*: on *Salix cinerea*, in scrub on formerly open fen, Browndown, Gosport, VC 11, South Hampshire, GR 40(SZ)/5843.9946, March 2011. Herb. J. Norton. L0250. Likely to have colonised this site, which was fairly heavily polluted by sulphur dioxide in the 20<sup>th</sup> century. New to the Vice-county.

*J. Norton & N.A. Sanderson*

*Verrucaria cernaensis*: for details, see under *Caloplaca diffusa*.

*Vouauxiella verrucosa*: on *Lecanora campestris* on sandstone headstone, Kinnaird Parish Church, Carse of Gowrie, VC 89, East Perthshire, GR 37(NO)/243.286, alt. 60 m, June 2011. Herb. Coppins 23399 (E). New to the Vice-county.

*B.J. Coppins, J.R. Douglass & R.K. Brinklow*

*Vouauxiella verrucosa*: on *Lecanora campestris* on sandstone headstone, St Helens Church, Cockburnspath, VC 81, Berwickshire, GR 36(N7)/774.710, alt. 75 m, August 2011. Herb. Coppins 23796 (E). New to the Vice-county.

*B.J. Coppins & C.J.B. Hitch*

*Vulpicida pinastri*: three fragmentary thalli, to *c.* 8 x 4 mm, on dead *Picea sitchensis* twig about 2ft above ground level in brash-pile, in clear-felled and re-stocked upland conifer plantation, Bryn-y-rhyd, southeast of Llanddewi-Brefi, VC 46, Cardiganshire, GR 22(SN)/693.529, alt 450m, April 2011. Herb. SPC. A likely chance colonist exploiting a temporary synanthropic habitat, within the known historical British range of the species (see Ellis & Binder, *BLS Bulletin* 101: 4, 2007), perhaps benefiting from two recent consecutive cold winters, 2009-2011. New to Wales.

*S.P. Chambers*

*Wentomyces lichenicola*: on thallus of *Gomphillus calycioides* in hazelwood, Coille Gaireallach, Skye, VC 104, North Ebudes, GR 18(NG)/61-20-, July 2010. Herb. BILAS (Lichens) 4805. Recorded during the IAL Excursion. Apparently a new host for this species. *J. Motiejunaite*

*Zwackhiomyces physciicola*: on *Physcia caesia* on retaining wall of basin around fountain, Holyrood Palace, Edinburgh, VC 83, Midlothian, GR 36(NT)/268.739, July 2005. Herb. Coppins 23515 (E). Predates previous records (e.g. *BLS Bulletin* 108:

54, 71) and an addition to the list for the fountain in *BLS Bulletin* **97**: 4. New to the Lothians. *B.J. Coppins*

### **Corrigendum**

The subeditor is grateful to the author for drawing our attention to a typographical error that occurred in *BLS Bulletin* **102** (Summer 2008). In the entries for *Bacidia incompta*, *Chaenothecopsis savonica* & *Gyalecta flotowii*, for Spye Park, VC7, the grid reference given as 31(ST)9530.7637 should have read 31(ST)9530.6737.



# British Isles List of Lichens and Lichenicolous Fungi

## September 2011 update to list

The fully corrected list is available on the BLS web site, <http://www.theBLS.org.uk>.

We are indebted to Alan Orange, Paul Cannon, Jurga Motiejunaite and other checklist users, for bringing several of the required changes to our notice. Anyone encountering difficulties regarding nomenclature or BLS code numbers, please contact one of us, as below.

E-mail contacts (with main responsibilities):

*Brian Coppins* (nomenclature, BLS and NBN species dictionaries, spelling, authorities, dates of publication) [lichensEL@btinternet.com](mailto:lichensEL@btinternet.com)

*Mark Seaward* (allocation of BLS numbers and abbreviations) [m.r.d.seaward@bradford.ac.uk](mailto:m.r.d.seaward@bradford.ac.uk)

*Janet Simkin* (Recorder, BioBase and spreadsheet species dictionaries) [janetsimkin@btinternet.com](mailto:janetsimkin@btinternet.com)

Add:			Notes
2593	<i>Caloplaca demissa</i>	Calo demissa	
2592	<i>Caloplaca diffusa</i>	Calo diff	
2582	<i>Graphium apthosae</i> #	Graphium apth #	
2585	<i>Lecanora invadens</i>	Lecanora inva	
2583	<i>Lecidea fuscoatra</i> s. str.	Lecidea fuscoat s.s.	
2589	<i>Leptorhaphis confertior</i> ##	Leptorh conf ##	
2587	<i>Leptosphaeria ramalinae</i> #	Leptosphaeria rama #	
2584	<i>Minutoexcipula tephromelae</i> #	Minutoex teph #	
2591	<i>Phylloblastia fortuita</i>	Phyllobl fort	
2590	<i>Rhizocarpon intersitum</i>	Rhizoc intersit	
2586	<i>Sclerococcum tephromelarum</i> #	Sclerococ teph #	

Change of genus (sometimes also species epithet):						
Change from:			Replace with:			Notes
185	<i>Blarneya hibernica</i>	Blar hibe	185	<i>Tylophoron hibernicum</i>	Tylopho hibe	
908	<i>Mycoblastus fucatus</i>	Mycobl fuca	908	<i>Violella fucata</i>	Viol fuca	
2146	<i>Phoma cytospora</i> #	Phoma cyto #	2146	<i>Briancoppinsia cytospora</i> #	Bria cyto #	

<b>Change of epithet:</b>						
Change from:			Replace with:			Notes
213	<i>Buellia excelsa</i>	Buellia exce	213	<i>Buellia sequax</i>	Buellia sequ	1
1744	<i>Buellia sequax</i>	Buellia sequ	1744	<i>Buellia abstracta</i>	Buellia abst	1

<b>Change of rank</b>						
Change from:			Replace with:			Notes
724	<i>Lecidea fuscoatra</i>	Lecidea fuscoatra	724	<i>Lecidea fuscoatra</i> <i>s. lat.</i>	<i>Lecidea</i> <i>fuscoat s.l.</i>	
998	<i>Melanelixia</i> <i>fuliginosa</i> subsp. <i>fuliginosa</i>	Melanelix fuli fuli	998	<i>Melanelixia</i> <i>fuliginosa</i>	Melanelix fuli	
997	<i>Melanelixia</i> <i>fuliginosa</i> subsp. <i>glabratula</i>	Melanelix fuli glab	997	<i>Melanelixia</i> <i>glabratula</i>	Melanelix glab	

<b>Change of spelling</b>						
Change from:			Replace with:			Notes
2521	<i>Lecanora albellula</i> var. <i>macrospicidiata</i>	Lecanora albellula m	2521	<i>Lecanora</i> <i>albellula</i> var. <i>macroconidiata</i>	Lecanora albellula m	

<b>Change of abbreviation</b>						
Change from:			Replace with:			Notes
2111	<i>Minutophoma</i> <i>chrysophthalmae</i> #	Minu chry #	2111	<i>Minutophoma</i> <i>chrysophthalmae</i> #	Minutoph chry #	
1891	<i>Rhizocarpon</i> <i>intermediellum</i>	Rhizoc inte	1891	<i>Rhizocarpon</i> <i>intermediellum</i>	Rhizoc intermed	
1440	<i>Tylothallia</i> <i>biformigera</i>	Tylo bifo	1440	<i>Tylothallia</i> <i>biformigera</i>	Tylotha bifo	

## Notes

1 – see entry for Giralt *et al.* (2011) in Literature Pertaining to British Lichens in this issue.

*B.J. Coppins, M.R.D. Seaward & J. Simkin*

# British Lichen Society Field Meetings & Workshops Programme 2012

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

## **SOUTH WALES (day meeting) Sunday 5 February 2012**

This is a field visit is associated with the BLS AGM being held in Cardiff. Full details will be given during the AGM. Those wishing to attend the field trip without going to the AGM meetings (an option not to be encouraged!) should inform the Field Meetings Secretary, Steve Price ([lichenrecords@sorby.org.uk](mailto:lichenrecords@sorby.org.uk)), Woodlands, Combs Road, Combs, High Peak, Derbyshire SK23 9UP, and they will be sent details of the meeting place and time.

## **BRISTOL UNIVERSITY WORKSHOP - Splits and Look-alikes Friday 17th - Sunday 19th February 2012**

Tutors: Dr Brian Coppins and Dr David Hill

Course fee: £50.00

A number of species, some common such as *Hypotrachyna revoluta*, *Lecidea fuscoatra*, *Degelia plumbea* and *Placopsis gelida*, have been split giving rise to *H. afrorevoluta*, *L. grisella*, *D. cyanoloma* and *P. lambii* respectively. There are others where completely unrelated species can look very similar in the field in the same habitat such as *Amandinea punctata* and *Catillaria nigroclavata* (and *Rinodina biloculata*!). These splits and look-alikes lead to the under-recording of the less common species and the over-recording of the better known names.

This course will give lichenologists greater precision and confidence in fieldwork, identification and recording. Please bring specimens for identification including any that could in a split or look-alike group and, of course, pyrenocarps and *Caloplacas*! Selected herbarium material will be provided. We will be working on both morphological characters (as well as ecology and distribution) as well as microscopical examination.

**If you are interested in attending this course please email David Hill ([d.j.hill@bris.ac.uk](mailto:d.j.hill@bris.ac.uk)) or phone 01761 221587 for further information.**

## **BLS SPRING WORKSHOP 2012 - The genus *Caloplaca***

**Sunday 22 - Friday 27 April 2012**

Location: Kingcombe, Dorset

Workshop leader : Bryan Edwards

The objective of this workshop is to give participants the knowledge and confidence to identify species in this potentially confusing genera. The latest revisions of the species concepts will be explained, keys provided, and there will be ample opportunity to examine specimens collected during the week and also those brought along by participants.

So that all attendees will have the opportunity to benefit the number of participants will be limited to 25.

### **Meeting Base & Accommodation**

The Kingcombe Environmental Centre, Toller Porcorum, Dorchester, Dorset DT2 0EQ. Email: [office@kingcombecentre.org.uk](mailto:office@kingcombecentre.org.uk), telephone: 01300 320684

Website: [www.kingcombe.org](http://www.kingcombe.org)

### **Costs at Kingcombe**

All inclusive (about!) £76 per person per night; B&B (about!) £38 per person per night; Day rates for food are yet to be determined but should be about £25 per person per night for dinner, £20 for lunch and two lots of refreshments per person per day.

### **Booking Arrangements**

Please book with the BLS Field Meetings Secretary, Steve Price, and confirm it by sending him a £30 deposit. Cheques to be made out to 'The British Lichen Society' (not to 'BLS' please). Contact: Steve Price, Woodlands, Combs Road, Combs, High Peak, Derbyshire SK23 9UP, email: [lichenrecords@sorby.org.uk](mailto:lichenrecords@sorby.org.uk)

Balances for accommodation and meal costs will be payable directly to Kingcombe Centre.

### **Travel**

See the website: [www.kingcombe.org](http://www.kingcombe.org) for details of getting to Kingcombe. If attendees are travelling by train (either to Dorchester or Maiden Newton) could they let Bryan Edwards (email [b.edwards@dorsetcc.gov.uk](mailto:b.edwards@dorsetcc.gov.uk)) or the Centre know the times and pick-ups and dropping-off can be arranged.

### **Workshop start**

Sunday 22 April

15.00 -17.00 Arrival

17.30 Welcome & Introductory meeting

19.00 Dinner

### **Workshop finish**

Friday 27 April

09.00 Vacate accommodation

12.00 Vacate workshop room

The workshop will be a mix of field visits, tutorials and laboratory sessions. Sites it is planned to visit include:

Montacute Park, South Somerset; ST4988 1693;

Valley of Stones NNR, Little Bredy; SY5990 8755;

Penn's Weare, Isle of Portland; SY6949 7118;

Cattistock & Sydling St Nicholas churchyards; SY5912 9954 and SY6300 9929.

## **BLS SUMMER MEETING 2012 - The Isle of Muck**

**Saturday 23 - Saturday 30 June 2012**

This is an opportunity to participate in a thorough survey of the lichens of a moderately small, family-owned island off the west coast of Scotland. The recording challenge is made greater by the four 10k grid squares that overlay the island. Muck, along with Rum and Eigg, make up the 'Small Isles'. The 559 hectare island is composed mostly of sheet basalt with dolerite intrusions and an area of Jurassic sediments. The island is low lying with a high point of 137m.

### **Accommodation**

The family-run Port Mor Hotel (grid ref NM 42 79) and the island bunkhouse have been reserved for our group. Camping is also possible at the bunkhouse. The bunkhouse has a double and two twin rooms, shower & bathroom, kitchen and lounge.

The cost of full board at the hotel is £60 per person per day in 2011. The cost of staying in the bunkhouse is £12 per person per night in 2011, although we may get a group discount on this rate. The hotel are willing to provide breakfast and dinner for those of our group staying in the bunkhouse or camping. The costs of these meals will be approximately £5 for breakfast and £20 for a three-course dinner.

Please note there are no food shops on the island so if you are planning to self-cater you have to take all your food for the duration of your stay.

Places are limited. The maximum number that can be accommodated is 15 in the hotel and 6 in the bunkhouse, and this number depends on double occupancy of double beds. A few cottages are also available for rent on the island but because of the limited dining capacity at the hotel there is no guarantee that they will be able to cater for people using these.

For more information on the island visit [www.isleofmuck.com](http://www.isleofmuck.com)

### **Microscope work**

A room in the island community hall has been reserved for our use as a laboratory. This facility is 2 minutes walk from the bunkhouse and 5 minutes from the hotel.

### **Transport**

Caledonian MacBrayne ferries run from Mallaig. In 2011 the 14.25 Saturday ferry arrives on Muck at 16.25 and on the return journey the 11.50 ferry arrives at Mallaig at 14.05. Trains from Glasgow and Fort William connect with the ferry and there is an overnight rail sleeper service from London to Fort William.



Contact: [www.calmac.co.uk](http://www.calmac.co.uk) or phone 01687 462403.

Cars are not allowed onto the island without a special permit so we will all need to travel as foot passengers. The ferry fare from Mallaig, in 2011, is £9.50 single. Arisaig Marine also visit the island but not on a Saturday.

### **Booking**

Reserve your place on this island adventure with the Field Meetings Secretary, Steve Price. Please state your preferred style of accommodation (i.e. hotel; bunkhouse; camping) and confirm the booking by sending him a £30 deposit. Cheques to be made out to 'The British Lichen Society' (not to 'BLS' please). Contact: Steve Price, Woodlands, Combs Road, Combs, High Peak, Derbyshire SK23 9UP email: [lichenrecords@sorby.org.uk](mailto:lichenrecords@sorby.org.uk)

The payment of final balances will be made at the end of the stay directly with the hotel.

### **The Midge**

We have been assured that midges in these parts prefer to spend summer-time on Rum and Eigg. But they would say that wouldn't they?

## **BLS AUTUMN 2012 FIELD MEETING, Bedfordshire**

**Thursday 4<sup>th</sup> – Monday 8<sup>th</sup> October 2012**

Local organiser-Mark Powell

The theme of this weekend is to raise awareness of the surprising diversity of lichens to be found in the southern part of the East Midlands. Although a field meeting here may not seem particularly adventurous, such areas of the lowlands are relatively unexplored territory. A careful survey of a randomly chosen Bedfordshire churchyard in February 2011 yielded a list of 121 lichens, twelve of which were new for the vice-county, one of them (*Micarea curvata*) was new for England. Beginners and improvers will have ample opportunity to learn while more experienced members will undoubtedly bring fresh insights.

### **Outline programme**

Welcome & Introduction: 21.00 Thursday 4th (after an evening meal).

Field outings: Friday 5th, Saturday 6th, Sunday 7th and morning of Monday 8th.

The sites that we will visit will include a churchyard, an ancient woodland, heathland and a disused sand quarry.

Meeting close: lunchtime Monday 8th.

### **Accommodation**

The meeting will be based at The Park Inn, 2 St Mary's Street, Bedford, MK42 0AR, ([www.parkinn.co.uk/hotel-bedford](http://www.parkinn.co.uk/hotel-bedford), 01234 799988). This large hotel is situated beside

The River Ouse at the south end of Town Bridge (grid ref TL051495). Double rooms are available at £60 B&B per night if mention is made of the BLS meeting when booking. An internet search will reveal a range of alternative hotels and B&Bs in and around Bedford. The local organiser can be contacted for local knowledge.

### **Microscope work**

A function room has been booked for the duration of our stay. This will provide space for approximately ten work stations while leaving room for others to socialise. The two BLS microscopes will be available for communal use.

### **Transport**

The Park Inn is about ten minutes walk from the Bedford train and bus stations (taxis always on hand). The hotel has its own car parking.

### **Booking**

Accommodation is to be arranged individually by the participants. Please let the Field Meetings Secretary, Steve Price, ([lichenrecords@sorby.org.uk](mailto:lichenrecords@sorby.org.uk)) and the local organiser, Mark Powell, ([markpowell222@btinternet.com](mailto:markpowell222@btinternet.com)) know if you plan to attend. More detailed information about the sites will be sent out to attendees as plans develop.

## **BLS SPRING 2013 MEETING, Kinlochewe, Wester Ross - ADVANCED NOTICE**

**Saturday 27 April to Saturday 4 May 2013**

Local organiser - Oliver Moore

This is a chance to explore unrecorded pockets of the Beinn Eighe NNR and Letterewe Estate SSSI (to assist with local recording effort) as well as other sites of interest in the vicinity of Loch Maree in the North West Highlands. Local geology is dominated by Lewisian gneiss, Torridonian sandstone, quartzite and hornblende schist. Habitats include fabulous Scots pine woodland, some of the northern-most Atlantic oak/birch woodland, moorland, loch edge rocks, acidic rock communities, wooded ravines with *Lobarion*, riverine habitats and mountain summits for the more energetic. The coast is not far away either. More details nearer the time.

### **Meeting base & accommodation**

The base for the meeting will be at Anancaun (the SNH Field Centre at NH024630) where there is space for setting up microscopes and limited accommodation in a recently refurbished self-catering, bunkhouse (4 available bed spaces in each of the two dormitories) and a shared-cottage (3 rooms with 2 single beds in each).

For those not staying at the SNH Centre the village of Kinlochewe is only 1km away and here there is the Kinlochewe Hotel, hostel, B&B and caravan accommodation

available. The Kinlochewe Hotel is willing to organise evening meals for the whole group should that be required and there is a popular café in the village as well. There is a small village store in Kinlochewe that is reasonably well stocked for those self-catering. There is also a free campsite (at NH013637) approx 2km NW of Kinlochewe with toilet block and drinking water (and no midges at this time of year). The Ledgowan hotel at Achnasheen (15-minute drive) also serves food and Gairloch is about a 35-minute drive away for alternative eating venues.

### **Travel**

Nearest train station is at Achnasheen, on the Inverness to Kyle of Lochalsh line, where a pick-up could be arranged. Kinlochewe is about an hours drive from Inverness (where there is an airport and from where cars may also be hired).

### **Registering an interest**

Expressions of interest to the local organiser Oliver Moore and the BLS Field Meetings Secretary, Steve Price (*o.moore10@imperial.ac.uk* & *lichenrecords@sorby.co.uk*) stating if you are interested in staying at Anancaun or if you plan to arrange your own accommodation. Oliver apologises in advance for slow responses to emails, due to temperamental internet access.

*Steve Price*

*BLS Field Meetings Secretary*

## Report of the British Lichen Society Carmarthen Field Meeting, 7 – 11 October 2010

As the Brecon Beacons stretch westwards into Carmarthenshire, geological complexity increases and the climatic influences of western Britain become apparent. These two factors provided the meeting with a varied and rich lichen flora in this generally under-recorded area of Wales.

A mediaeval deer park; a turlough; a veteran orchard; a castle perched on a limestone cliff; millstone-grit boulder fields; and woodland: and when to this mix is added the good company of 29 BLS members it is no wonder that a brilliant weekend ensued. In summary, 283 taxa were recorded over the weekend with 38 being new to Carmarthenshire or not seen since before 1960 and 3 being new to Wales.



### Field Meeting Attendees:

Ann Allen, Leslie Balfe, Barbara Benfield, Ishpi Blatchley, Graham Boswell, Paul Cannon, Brian Carlyle, Heather Colls, Ginnie Copsey, Theresa Greenaway, Cecile Gueidan, Jan Heaney, David Hill, Barbara Hilton, Sue Knight, Les Knight, Fay Newbery, Heather Paul, Steve Price, Maxine Putnam, Janet Simkin, John Skinner, Mike Sutcliffe, Holger Thues, Stephen Ward, John Wardle, Amanda Waterfield, Pat Wolseley, Ray Woods.

### Glynhir Mansion (SN6315)

Once installed in the meeting base of Glynhir Mansion near Llandybie it took members very little time to discover the glories of the old orchard, planted within a walled garden. Here fertile *Usnea florida* and abundant *Usnea articulata* were probably the stars of the show. The latter species was a particularly exciting find. A loose colony had been found some years ago close to a roadside at Carmel Woods (see below) but was considered as likely to have been introduced or even to have fallen off a lorry. Given the next nearest known site on trees was in the far south-west of Pembrokeshire and the



Carmel area was until recently a major centre of lime burning, this seemed a reasonable supposition. It must now be viewed as a probable native at Carmel.

*Usnea articulata* on an ancient apple tree, Glynhir Mansion. Image © Ann Allen

*Parmotrema reticulatum* was a new VCR and *Flavoparmelia soredians* a second VCR and possible first as a native species (see the Welsh Botanic Garden account below).

### Carreg Cennen Castle (SN6619), 8th October

Perched on an isolated limestone hill this imposing ruin of a late 13th Century castle dominates the Cennen valley. The two main habitats of old walls and the limestone outcrops occupied the group for a full morning and two sub-groups soon formed as the 'churchyarders' and the 'natural rockers' showed their preferences. But the strong wind did not discriminate and tested everyone's packet-gripping ability and







*Rhizocarpon cinereoatrum*, with diagnostic spot tests applied by Steve Price. Image © Steve Price

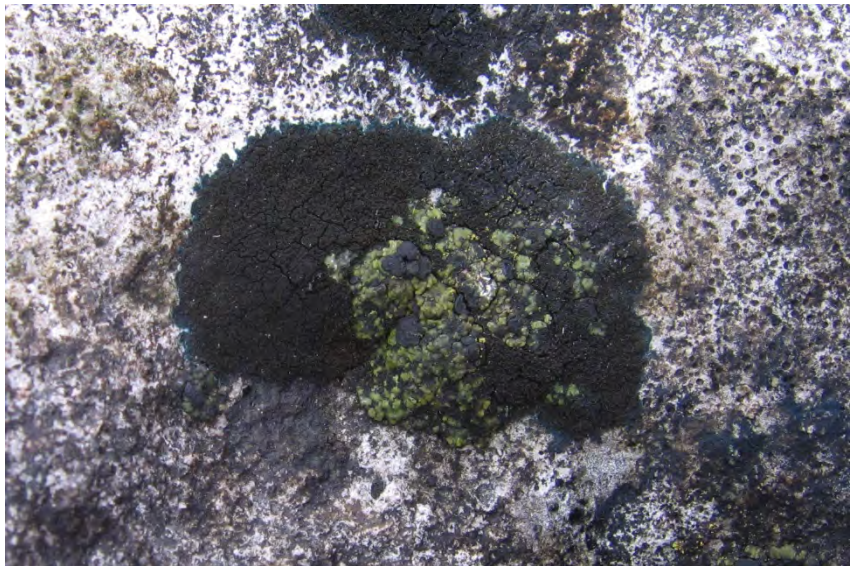
several packets were snatched from hands to disappear eastwards out of sight. We were reliably informed that those packets that got away contained some really rare ones!

**Banc Wernwgan,  
Carmarthen Black  
Mountain** (SN680184),  
8th October

This upland area offering a mix of old quarried limestone as well as small areas of limestone

pavement and gritstone with quartz boulder fields, entertained those members who were not being otherwise entertained in the Council Meeting.

Some time was spent puzzling over *Cladonia uncialis* which, despite having many morphological features of the rarer subspecies *uncialis*, we were assured was the more common subspecies *biuncialis*.



*Toninia verrucarioides* at Banc Wernwgan. Image © Steve Price

There much was less

conjecture, and far more delight, about finding on a small earth bank the delicate *Moelleropsis nebulosa* with its translucent chestnut fruits close to *Placidiopsis custanii* and *Catapyrenium cinereum*, all three species being new to the VC as was *Toninia verrucarioides* on limestone rocks.

**National Botanic Garden of Wales *Gardd Fotaneg Genedlaethol Cymru* (SN5118 & SN5218), 9th October**

The two purposes of visiting this venue were well achieved. Firstly it gave members the opportunity to peruse the BLS Library which is being hosted here and to meet and personally thank those volunteers and staff at the Garden who are organising our library. Secondly the gardens were given a lichenological working over such that they have never had before. The old lime-mortared stone and brick walls were particularly rich in species (providing records of *Acarospora glaucocarpa*, *Catillaria lenticularis* and *Rinodina teicholyta*) whilst a few ancient oak trees added to the list. In all ten taxa previously unreported in the VC were noted. Of interest was the continued survival of well developed colonies of *Flavoparmelia soledians* on most of a group of introduced exotic trees in the plaza. From its abundance it was almost certainly introduced from the nursery outside Wales on the trees.



Perusing the literary treasures of the BLS Library in its new home

**Golden Grove Country Park (SN5919), 9th October**

A former stately home and pleasure grounds with fine mature parkland trees is in sight of Dynefwr Park (see below) and had the potential to support a notable lichen flora. Its somewhat eastern exposure may well have been its downfall with far fewer notable species found than might have been expected. Fifty six



epiphytic taxa were reported including *Crespo-*

*Phaeographis smithii*

*onea premnea*, *Dimerella lutea*, *Japewiella tavaresiana* and *Phaeographis smithii*.



## Dynefwr Estate, Llandeilo (SN6123), 10 October



Ancient oaks at the Dynefwr Estate. Image © Steve Price

This National Trust property is an 18th-century landscape park, enclosing a medieval deer park with Newton House standing at its heart and the BLS Members sampled all its delights: from the veteran trees in the park to veteran chaise-longues in the house, although there were few lichens on the latter. The well-surveyed ancient trees in the park produced only one new species (*Ramalina fraxinea*) but it

was reassuring to note the continued presence of the *Lobarion* albeit in tiny quantity and an appropriate management regime in place with new generations of trees being established. The walls, mostly built of limestone, were given their first close survey providing four new VCRs including *Lecanora rupicola rupicola*, a lichen of puzzlingly patchy distribution in Wales.

### Brechfa (SN5032) & Carmel Woods NNR (SN6016), 11 October

On this final morning some members moved north-westwards to visit woodland at Brechfa whilst others who were heading home eastwards visited the only British turlough at Carmel Woods. The pool at Carmel, lying in a limestone basin, relies on subterranean water sources which vary through the seasons and in summer the pool dries out. The surrounding ash woodland and adjacent disused limestone quarry, with some basalt supported the expected range of lichens.

At Brechfa a small party was introduced to a very steep willow/oak/hazel ravine in Upper Cwm Margoed by the noted bryologist and local Sam Bosanquet. Buried in conifer forestry it provided too tough a challenge for all but the very few.



*Lecanographa lyncea* on old oak, Dynefwr Estate

They were, however rewarded with masses of *Graphina ruiziana* (but sadly no *G. pauciloculata* though the habitat looked ideal), *Dimerella lutea* also in quantity and small amounts of *Parmeliella parvula* and *Porina rosei*. On informing Sam of the exciting discovery of *Usnea articulata* at Glynhir, he was immediately reminded of a dangling *Usnea* he had seen on a roadside oak tree close to where we parked the cars. Sure enough he was quite correct. *Usnea articulata* now had a third station in Carmarthenshire and some considerable distance away from Glynhir. It was a rewarding end to a most enjoyable meeting.....

Ray Woods & Steve Price  
lichenrecords@sorby.org.uk

		Carreg Cennen Castle and cliffs	Glynhir Mansion and Grounds	Carreg Cennen Castle	Banc y Wern Wgan	National Botanic Garden of Wales	Golden Grove Country park	Dynefwr Estate	Upper Cwm Marydd, Brechfa	Carmel Woods
<i>Acarospora</i>	<i>fuscata</i>	•				•		•		
<i>Acarospora</i>	<i>glaucocarpa</i>					•				
<i>Acarospora</i>	<i>smaragdula</i>					•				
<i>Acrocordia</i>	<i>conoidea</i>	•			•	•				
<i>Acrocordia</i>	<i>gemmata</i>							•	•	
<i>Acrocordia</i>	<i>salweyi</i>	•				•				
<i>Agonimia</i>	<i>tristicula</i>	•				•				
<i>Amandinea</i>	<i>punctata</i>		•			•		•		
<i>Anisomeridium</i>	<i>biforme</i>						•	•		
<i>Anisomeridium</i>	<i>polypori</i>						•			
<i>Anisomeridium</i>	<i>ranunculosporum</i>						•	•		
<i>Arthonia</i>	<i>didyma</i>							•		
<i>Arthonia</i>	<i>elegans</i>								•	
<i>Arthonia</i>	<i>muscigena</i>		•							
<i>Arthonia</i>	<i>pruinata</i>							•		
<i>Arthonia</i>	<i>punctiformis</i>									
<i>Arthonia</i>	<i>radiata</i>		•			•	•	•		
<i>Arthonia</i>	<i>spadicea</i>						•			
<i>Arthonia</i>	<i>vinosa</i>								•	
<i>Arthopyrenia</i>	<i>analepta</i>							•		
<i>Aspicilia</i>	<i>calcareae</i>	•				•				
<i>Aspicilia</i>	<i>contorta</i> subsp. <i>contorta</i>							•		
<i>Aspicilia</i>	<i>contorta</i> subsp. <i>hoffmanniana</i>	•				•				





		Carreg Cennen Castle and cliffs	Glynhir Mansion and Grounds	Carreg Cennen Castle	Banc y Wern Wgan	National Botanic Garden of Wales	Golden Grove Country park	Dyrefwr Estate	Upper Cwm Marydd, Brechfa	Carmel Woods
<i>Catillaria</i>	<i>chalybeia</i> var. <i>chalybeia</i>					•				
<i>Catillaria</i>	<i>lenticularis</i>					•				
<i>Catillaria</i>	<i>nigroclavata</i>					•				
<i>Chaenotheca</i>	<i>brunneola</i>							•		
<i>Chaenotheca</i>	<i>ferruginea</i>					•	•	•		
<i>Chaenotheca</i>	<i>trichialis</i>							•		
<i>Chrysothrix</i>	<i>candelaris</i>						•	•		
<i>Chrysothrix</i>	<i>flavovirens</i>					•		•		
<i>Cladonia</i>	<i>chlorophaea</i> s. lat.								•	
<i>Cladonia</i>	<i>coniocraea</i>		•				•	•		
<i>Cladonia</i>	<i>fimbriata</i>		•							
<i>Cladonia</i>	<i>glauca</i>								•	
<i>Cladonia</i>	<i>macilenta</i>		•			•	•	•	•	
<i>Cladonia</i>	<i>parasitica</i>						•	•		
<i>Cladonia</i>	<i>polydactyla</i> var. <i>polydactyla</i>							•	•	
<i>Cladonia</i>	<i>portentosa</i>				•					
<i>Cladonia</i>	<i>pyxidata</i>							•		
<i>Cladonia</i>	<i>rangiformis</i>	•								
<i>Cladonia</i>	<i>squamosa</i> var. <i>squamosa</i>							•		
<i>Clauzadea</i>	<i>monticola</i>									•
<i>Cliostomum</i>	<i>griffithii</i>					•		•		
<i>Collema</i>	<i>auriforme</i>					•				•
<i>Collema</i>	<i>crispum</i> var. <i>crispum</i>					•				
<i>Collema</i>	<i>cristatum</i> var. <i>cristatum</i>							•		
<i>Collema</i>	<i>tenax</i> var. <i>tenax</i>					•		•		
<i>Cresponea</i>	<i>premnea</i>						•	•		
<i>Dermatocarpon</i>	<i>miniaturum</i> var. <i>miniaturum</i>	•								
<i>Dimerella</i>	<i>lutea</i>						•	•	•	
<i>Dimerella</i>	<i>pineti</i>							•		
<i>Diploicia</i>	<i>canescens</i>							•		
<i>Diplotomma</i>	<i>alboatrum</i>					•		•		
<i>Dirina</i>	<i>massiliensis</i> f. <i>massiliensis</i>							•		
<i>Enterographa</i>	<i>crassa</i>						•	•		
<i>Enterographa</i>	<i>hutchinsiae</i>							•		

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<i>Evernia</i>	<i>prunastri</i>		•			•	•	•		
<i>Farnoldia</i>	<i>jurana</i>	•								
<i>Flavoparmelia</i>	<i>caperata</i>		•			•	•	•		
<i>Flavoparmelia</i>	<i>soredians</i>		•			•				
<i>Fuscidea</i>	<i>lightfootii</i>		•			•	•	•	•	
<i>Graphina</i>	<i>ruiziana</i>								•	
<i>Graphis</i>	<i>elegans</i>		•			•	•	•		
<i>Graphis</i>	<i>scripta</i>		•			•	•	•	•	
<i>Gyalecta</i>	<i>jenensis</i> var. <i>jenensis</i>									•
<i>Gyalideopsis</i>	<i>anastomosans</i>						•			
<i>Hymenelia</i>	<i>epulotica</i>				•					
<i>Hyperphyscia</i>	<i>adglutinata</i>					•				
<i>Hypocenomyce</i>	<i>scalaris</i>							•		
<i>Hypogymnia</i>	<i>physodes</i>		•			•	•	•		
<i>Hypogymnia</i>	<i>tubulosa</i>		•			•	•	•		
<i>Hypotrachyna</i>	<i>revoluta</i>		•			•	•	•	•	
<i>Japewiella</i>	<i>tavaresiana</i>						•			
<i>Lecanactis</i>	<i>abietina</i>							•		
<i>Lecanactis</i>	<i>subabietina</i>							•		
<i>Lecania</i>	<i>cyrtella</i>		•							
<i>Lecania</i>	<i>erysibe</i>					•				
<i>Lecania</i>	<i>hutchinsiae</i>							•		
<i>Lecanographa</i>	<i>lyncea</i>							•		
<i>Lecanora</i>	<i>agardhiana</i>					•				
<i>Lecanora</i>	<i>albescens</i>	•						•		
<i>Lecanora</i>	<i>barkmanniana</i>		•			•				
<i>Lecanora</i>	<i>campestris</i> subsp. <i>campestris</i>					•		•		
<i>Lecanora</i>	<i>carpinea</i>		•			•		•		
<i>Lecanora</i>	<i>chlarotera</i>	•	•			•	•	•		
<i>Lecanora</i>	<i>confusa</i>							•		
<i>Lecanora</i>	<i>crenulata</i>	•								
<i>Lecanora</i>	<i>dispersa</i>	•				•				
<i>Lecanora</i>	<i>expallens</i>		•			•		•		
<i>Lecanora</i>	<i>intricata</i>					•				

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<i>Lecanora</i>	<i>jamesii</i>						•		•	
<i>Lecanora</i>	<i>muralis</i>					•				
<i>Lecanora</i>	<i>persimilis</i>		•							
<i>Lecanora</i>	<i>polytropha</i>				•	•		•		
<i>Lecanora</i>	<i>rupicola</i> var. <i>rupicola</i>							•		
<i>Lecanora</i>	<i>sublivescens</i>							•		
<i>Lecanora</i>	<i>symmicta</i>					•		•		
<i>Lecanora</i>	<i>umbrina</i>	•								
<i>Lecidea</i>	<i>doliiformis</i>							•		
<i>Lecidea</i>	<i>fuscoatra</i>		•							
<i>Lecidea</i>	<i>grisella</i>							•		
<i>Lecidea</i>	<i>lithophila</i>					•			•	
<i>Lecidella</i>	<i>elaeochroma</i> f. <i>soralifera</i>					•				
<i>Lecidella</i>	<i>elaeochroma</i> f. <i>elaeochroma</i>	•	•			•		•		
<i>Lecidella</i>	<i>scabra</i>	•	•			•		•		
<i>Lecidella</i>	<i>stigmatæa</i>	•				•		•		
<i>Lepraria</i>	<i>incana</i> s.l.		•			•	•	•	•	
<i>Lepraria</i>	<i>incana</i> s.s.					•		•		
<i>Lepraria</i>	<i>lobificans</i>	•				•	•			
<i>Lepraria</i>	<i>vouauxii</i>					•				
<i>Leptoplaca</i>	<i>chrysodeta</i>					•				
<i>Leptogium</i>	<i>gelatinosum</i>	•				•				
<i>Leptogium</i>	<i>lichenoides</i>							•		
<i>Leptogium</i>	<i>plicatile</i>	•								•
<i>Leptogium</i>	<i>pulvinatum</i>					•				
<i>Leptogium</i>	<i>teretiusculum</i>							•		
<i>Megalania</i>	<i>pulverea</i>								•	
<i>Melanelia</i>	<i>exasperata</i>		•					•		
<i>Melanelia</i>	<i>exasperatula</i>		•			•	•	•		
<i>Melanelia</i>	<i>fuliginosa</i>				•	•				
<i>Melanelia</i>	<i>fuliginosa</i>		•			•	•	•		
<i>Melanelia</i>	<i>laciniatula</i>						•	•		
<i>Melanelia</i>	<i>subaurifera</i>		•			•	•	•		
<i>Micarea</i>	<i>alabastrites</i>								•	

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<i>Micarea</i>	<i>denigrata</i>					•				
<i>Micarea</i>	<i>lignaria</i> var. <i>lignaria</i>				•				•	
<i>Micarea</i>	<i>prasina</i> s. l.						•	•		
<i>Moelleropsis</i>	<i>nebulosa</i>				•					
<i>Neofuscelia</i>	<i>verruculifera</i>					•				
<i>Normandina</i>	<i>pulchella</i>		•			•	•	•	•	
<i>Ochrolechia</i>	<i>androgyna</i>					•	•	•	•	
<i>Ochrolechia</i>	<i>parella</i>		•			•				
<i>Ochrolechia</i>	<i>subviridis</i>					•		•		
<i>Opegrapha</i>	<i>atra</i>					•		•		
<i>Opegrapha</i>	<i>calcareae</i>	•								
<i>Opegrapha</i>	<i>corticola</i>							•		
<i>Opegrapha</i>	<i>gyrocarpa</i>					•		•		
<i>Opegrapha</i>	<i>herbarum</i>							•		
<i>Opegrapha</i>	<i>ochrocheila</i>		•							
<i>Opegrapha</i>	<i>rupestris</i>	•								
<i>Opegrapha</i>	<i>sorediifera</i>						•			
<i>Opegrapha</i>	<i>vermicellifera</i>							•		
<i>Opegrapha</i>	<i>viridis</i>							•		
<i>Opegrapha</i>	<i>vulgata</i>						•			
<i>Pannaria</i>	<i>conoplea</i>							•		
<i>Parmelia</i>	<i>saxatilis</i>		•		•	•		•		
<i>Parmelia</i>	<i>sulcata</i>		•			•	•	•		
<i>Parmeliella</i>	<i>parvula</i>								•	
<i>Parmelina</i>	<i>pastillifera</i>					•				
<i>Parmotrema</i>	<i>perlatum</i>		•		•	•	•	•		
<i>Parmotrema</i>	<i>reticulatum</i>		•							
<i>Peltigera</i>	<i>horizontalis</i>		•				•	•		
<i>Peltigera</i>	<i>hymenina</i>		•				•	•		
<i>Peltigera</i>	<i>membranacea</i>	•	•		•	•	•	•		
<i>Peltigera</i>	<i>praetextata</i>		•			•	•	•		
<i>Peltigera</i>	<i>rufescens</i>									•
<i>Pertusaria</i>	<i>albescens</i> var. <i>albescens</i>					•	•	•		
<i>Pertusaria</i>	<i>albescens</i> var. <i>corallina</i>							•		
<i>Pertusaria</i>	<i>amara</i> f. <i>amara</i>					•		•		

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<i>Pertusaria</i>	<i>flavida</i>					•				
<i>Pertusaria</i>	<i>hymenea</i>		•			•		•		
<i>Pertusaria</i>	<i>leioplaca</i>		•			•	•	•		•
<i>Pertusaria</i>	<i>multipuncta</i>						•	•		
<i>Pertusaria</i>	<i>pertusa</i>					•		•		
<i>Petractis</i>	<i>clausa</i>	•								
<i>Phaeographis</i>	<i>smithii</i>						•			
<i>Phaeophyscia</i>	<i>orbicularis</i>	•				•				•
<i>Phlyctis</i>	<i>argena</i>		•			•	•	•		
<i>Physcia</i>	<i>adscendens</i>	•	•			•		•		
<i>Physcia</i>	<i>aipolia</i>		•			•	•	•		
<i>Physcia</i>	<i>caesia</i>				•	•				•
<i>Physcia</i>	<i>tenella</i> subsp. <i>tenella</i>	•	•			•	•	•		
<i>Physconia</i>	<i>enteroxantha</i>					•				
<i>Placidiopsis</i>	<i>custnani</i>				•					
<i>Placynthiella</i>	<i>icmalea</i>					•			•	
<i>Placynthium</i>	<i>nigrum</i>	•			•					•
<i>Platismatia</i>	<i>glauca</i>		•			•	•		•	
<i>Polysporina</i>	<i>simplex</i>					•				
<i>Porina</i>	<i>aenea</i>		•				•	•		
<i>Porina</i>	<i>chlorotica</i> f. <i>chlorotica</i>		•			•		•		
<i>Porina</i>	<i>rosei</i>								•	
<i>Porpidia</i>	<i>cinereoatra</i>							•	•	•
<i>Porpidia</i>	<i>crustulata</i>				•	•				
<i>Porpidia</i>	<i>macrocarpa</i> f. <i>macrocarpa</i>							•		
<i>Porpidia</i>	<i>platycarpoides</i>									•
<i>Porpidia</i>	<i>soredizodes</i>					•				
<i>Porpidia</i>	<i>tuberculosa</i>				•					•
<i>Protoblastenia</i>	<i>calva</i>	•								
<i>Protoblastenia</i>	<i>incrustans</i>	•								
<i>Protoblastenia</i>	<i>rupestris</i>	•				•		•		•
<i>Protoparmelia</i>	<i>badia</i>				•					
<i>Psilolechia</i>	<i>lucida</i>					•			•	
<i>Punctelia</i>	<i>reddenda</i>							•		



		Carreg Cennen Castle and cliffs	Glynhir Mansion and Grounds	Carreg Cennen Castle	Banc y Wern Wgan	National Botanic Garden of Wales	Golden Grove Country park	Dynefwr Estate	Upper Cwm Marydd, Brechfa	Carmel Woods
<i>Punctelia</i>	<i>subrudecta</i> s.s.		•			•		•		
<i>Punctelia</i>	<i>ulophylla</i>		•			•	•	•		
<i>Pyrrhospora</i>	<i>quernea</i>					•	•	•		
<i>Ramalina</i>	<i>farinacea</i>		•			•	•	•		
<i>Ramalina</i>	<i>fastigiata</i>		•			•		•		
<i>Ramalina</i>	<i>fraxinea</i>							•		
<i>Rhizocarpon</i>	<i>cinereovirens</i>				•					
<i>Rhizocarpon</i>	<i>geographicum</i>				•	•				
<i>Rhizocarpon</i>	<i>oederi</i>								•	
<i>Rhizocarpon</i>	<i>petraeum</i>					•		•		•
<i>Rhizocarpon</i>	<i>reductum</i>	•	•		•	•		•		•
<i>Rinodina</i>	<i>biloculata</i>		•							
<i>Rinodina</i>	<i>oleae</i>					•				
<i>Rinodina</i>	<i>roboris</i> var. <i>roboris</i>							•		
<i>Rinodina</i>	<i>teichophila</i>					•				
<i>Sarcogyne</i>	<i>regularis</i>					•				•
<i>Sarcosagium</i>	<i>campestre</i> var. <i>campestre</i>					•				
<i>Schismatomma</i>	<i>cretaceum</i>							•		
<i>Schismatomma</i>	<i>decolorans</i>						•	•		
<i>Schismatomma</i>	<i>niveum</i>							•		
<i>Scoliciosporum</i>	<i>chlorococcum</i>					•		•		
<i>Scoliciosporum</i>	<i>umbrinum</i>					•				
<i>Solenopsora</i>	<i>candicans</i>	•								
<i>Stenocybe</i>	<i>septata</i>								•	
<i>Sticta</i>	<i>limbata</i>							•		
<i>Strigula</i>	<i>taylorii</i>		•							
<i>Tephromela</i>	<i>atra</i> var. <i>atra</i>					•		•		
<i>Toninia</i>	<i>aromatica</i>	•				•		•		
<i>Toninia</i>	<i>sedifolia</i>	•								
<i>Toninia</i>	<i>verrucarioides</i>				•					
<i>Trapelia</i>	<i>coarctata</i>					•			•	
<i>Trapelia</i>	<i>corticola</i>							•		
<i>Trapelia</i>	<i>glebulosa</i>					•				
<i>Trapelia</i>	<i>placodioides</i>					•				

		Carreg Cennen Castle and cliffs	Glynhir Mansion and Grounds	Carreg Cennen Castle	Banc y Wern Wgan	National Botanic Garden of Wales	Golden Grove Country park	Dyrefwr Estate	Upper Cwm Marydd, Brechfa	Carnel Woods
<i>Trapeliopsis</i>	<i>flexuosa</i>					•				
<i>Trapeliopsis</i>	<i>granulosa</i>		•				•	•		
<i>Usnea</i>	<i>articulata</i>		•							
<i>Usnea</i>	<i>cornuta</i>							•		
<i>Usnea</i>	<i>flammea</i>							•		
<i>Usnea</i>	<i>florida</i>		•							
<i>Usnea</i>	<i>rubicunda</i>							•		
<i>Usnea</i>	<i>subfloridana</i>		•				•	•		
<i>Verrucaria</i>	<i>baldensis</i>	•			•					•
<i>Verrucaria</i>	<i>caerulea</i>	•								
<i>Verrucaria</i>	<i>calciseda</i>									•
<i>Verrucaria</i>	<i>elaeina</i>		•			•		•		
<i>Verrucaria</i>	<i>fuscella</i>					•		•		
<i>Verrucaria</i>	<i>hochstetteri</i>	•								
<i>Verrucaria</i>	<i>macrostoma</i>									•
<i>Verrucaria</i>	<i>muralis</i>	•				•				
<i>Verrucaria</i>	<i>nigrescens</i>	•			•	•				•
<i>Verrucaria</i>	<i>viridula</i>	•			•	•				•
<i>Xanthoparmelia</i>	<i>verruculifera</i>					•				
<i>Xanthoria</i>	<i>parietina</i>		•			•	•	•		•
<i>Xanthoria</i>	<i>polycarpa</i>		•							

# Notice of Annual General Meeting

## *Venues*

The AGM and Winter Meeting for 2012 will be held at the National Museum of Wales on Saturday 4<sup>th</sup> February 2012. This is situated in the Civic Centre of Cardiff at grid ref. 31/184.769. It is easily reached by road, leaving the M4 at Junction 32. On-street parking nearby costs £4 per day, but note that spaces may fill early (very early on weekdays). The Museum car park is in Museum Avenue (west side of Museum; only open to visitors from 10.00 on weekdays); to exit a £4 token must be bought in the Museum shop. There is a multistorey car park in Greyfriars Road, a few hundred metres from the Museum. Cardiff Central rail station is approximately 20 minutes walk away in Cardiff city centre, and is served by buses and taxis. There will be space for exhibits in the Main Hall of the Museum on Friday evening; these will be moved to the Icons Suite of the Museum for Saturday.

The Winter Field Meeting will be held at a site near Cardiff on Sunday 5<sup>th</sup> February 2012; details to be finalised (contact the local organiser).

## *Accommodation*

A range of accommodation is available within 15 minutes walking distance of the Museum. Either do an internet search, or ask the local organiser for a list (not based on personal experience).

## *Timetable*

### Friday 3<sup>rd</sup> February:

18.00-21.00 – Buffet and Exhibition Meeting in Main Hall of the National Museum of Wales.

### Saturday 4<sup>th</sup> February:

9.45 – Coffee / tea / available in Icons Suite of the National Museum of Wales. Access is via the Reardon Smith Lecture Theatre in Park Place (the east side of the Museum).

10.30 – **Annual General Meeting**, Reardon Smith Lecture Theatre, National Museum of Wales.

12.45 – Lunch at own expense in the Museum restaurant or nearby venue

14.00 – Introduction – President of the Society

14.10 – *The Natural Environment Framework for Wales* – Diana Reynolds, Welsh Assembly Government

14.40 – *Wales - a lost or found paradise for lichens?* – Ray Woods, Plantlife

15.45 – *How the Conservation Agencies use Lichens in Air Pollution Assessments* - Khalid Aazem – CCW

16.15 *The Experiences of a Welsh Lichen Apprentice* - Alastair Hotchkiss – CCW

17.00 Close

## *Exhibition*

Exhibits can be put up in the Main Hall of the Museum from 17.30 on Friday and

should be ready for viewing by 18.00 on Friday 3<sup>rd</sup>. They will be moved (by Museum staff) to the Icons Suite on Saturday where they can be viewed during tea breaks. Please advise Alan Orange by e-mail of your requirements for tables or display stands before Monday 30<sup>th</sup> January as these have to be ordered in advance.

### ***Buffet***

A fork buffet will be provided on Friday evening for the Exhibition. Please book in advance using the enclosed form. Cost £16.20 for buffet; wine will be available.

### ***Post-AGM meal***

For those who would like to eat together after the AGM, a booking has been made at Bellini's Italian Restaurant, Park Place, Cardiff, a few minutes walk from the Museum, at 7.15-9.00 p.m., Saturday 4<sup>th</sup> February. Please look at the menu at <http://www.bellinisitaliano.com>, or ask the local organiser for a printed menu. Let the local organiser know your choice of food so that we can pre-order; drinks can be ordered on arrival. **BOOKING IS ESSENTIAL – £5.00 deposit.**

### ***Booking the buffet and / or post AGM meal***

To secure a place for either the buffet or the post-AGM meal please complete the enclosed form and send a cheque for the appropriate amount **made payable to the British Lichen Society (not BLS)** to John Skinner, BLS Treasurer, 28 Parkanour Avenue, Southend-on-Sea, Essex, SS1 3HY. **BOOKING IS ESSENTIAL.**

### ***Nominations***

Nominations for Officers for 2012 and three members of Council for the period 2012-2015 should be sent by e-mail or in writing to the Secretary, Dr. Chris Ellis, Royal Botanic Garden Edinburgh, 20A Inverleith Row, Edinburgh, EH3 5LR, Scotland [C.Ellis@rbge.ac.uk](mailto:C.Ellis@rbge.ac.uk) at least 2 weeks before the AGM. No person may be nominated without their consent. Linda Davies, Mike Simms and Holger Thüs are due to retire from Council and are not eligible for re-election. Nathan Callaghan and Emma Green are retiring as Joint-Chair of the Education and Promotions Committee (E&PC). We thank them all for their service. Sally Eaton has been invited to Chair the E&PC subject to the confirmation of the AGM.

## ***AGM Agenda***

Please sign attendance list and write your own name badge.

1. Apologies for absence
2. Minutes of the Annual General Meeting held at the Natural History Museum January 2011.
3. Matters arising.
4. Officers and Committee Chair Reports.
5. Membership fees.
6. Field Meetings 2012 - 2013
7. Election of Officers, including Chair of Education & Promotions Committee and three members of Council.
8. Amendment of Constitution
9. Awards
10. Any other business
11. Date and place of AGM 2013.

## **AGM Symposium:**

### **A Living Wales: a New Biodiversity Framework for the Principality**

*Details to be circulated at a later date.*

## ***Post-AGM excursion***

On Sunday 5 February we will visit a local site to investigate the lichens; venue to be announced. It would be helpful if you could let the organiser know whether you will be bringing your own car, and whether you can offer seats to other people.

## ***Local Organiser***

Alan Orange, Department of Biodiversity and Systematic Biology, National Museum of Wales, Cathays Park, Cardiff CF10 3NP. E-mail: [alan.orange@museumwales](mailto:alan.orange@museumwales). Phone: 029 20 573264.

## **Obituary**

### **Donald H. Smith.**

Don Smith died peacefully at home after a considerable period of illness on August 25th 2011. A more formal obituary will appear in the next *Bulletin*.

*C. J. B. Hitch and A. Henderson.*



## **British Lichen Society library**

The BLS library continues to be housed at the National Botanic Garden of Wales, Llanarthney, Carmarthen. It is open Tuesdays and Wednesdays and at other times by arrangement. If you intend to visit please email the librarian Margot Greer on [library@gardenofwales.org.uk](mailto:library@gardenofwales.org.uk) or ring 01558 667129. They are very willing to search the library to confirm whether we hold the book or article you require. Photocopies or loans can be arranged, ask Margot for details.

To access the library if you do not also wish to visit the garden do not use the main gate. Enter via the tradesman's and corporate hospitality and weddings entrance on the north side at SN519185. To reach it from the island on the B4310 from which the main entrance can be accessed take the Nantgaredig road NW and the next right turn. After c. half a mile the back entrance appears on the right. At the gate intercom state you wish to visit the library. This is the new building at the end of the first right turn just after the gate.

## **NEW MEMBERS June 2011 to September 2012**

### **Welcome to the following new members of the British Lichen Society ...**

Mrs P. Cully, UK

Miss K. Evans, UK

Miss D. Gammer, UK

Mr N. Magain, BELGIUM

Professor C. Máguas, PORTUGAL

Mrs Y.L. Pin, TAIWAN, R.O.C.

Mr A. Schmitt, FRANCE

Professor M. Stajic, SERBIA

Mr D. Teasdale, UK

Dr T. Valadbeigi, IRAN

Professor J. Vukojevic, SERBIA

Mr H.-G. Wagner, GERMANY

## **OBITUARY**

**Sadly we have to inform you that the following members of the British Lichen Society recently passed away:**

Dr D.D. Awasthi, INDIA

Mrs C.B. Ballinger, UK

Prof. Dr A. Henssen, GERMANY

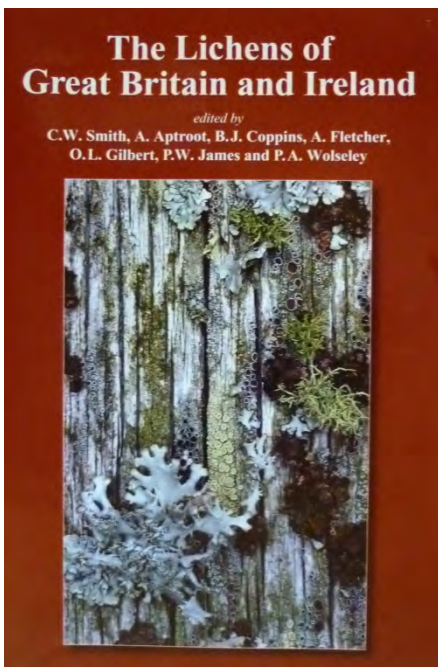
Donald H. Smith, UK

# British Lichen Society

## Publications and other items for sale

Over the years, the Society's sales have been ably handled by Brian Green, Don Palmer, Frank Dobson and John Douglass, to all of whom we owe a great debt of thanks. However, all our sales are now to be handled by Richmond Publishing which should simplify matters for those wishing to purchase. To mark this change and to rationalise our stock, many items are now offered at a special sale price.

To order, please use the order form at the end of this article.



### Cat.1. The Lichens of Great Britain & Ireland.

Ed. Smith et al. (2009). Hardback, 700pp.

This work, a much enlarged revision of 'The Lichen Flora of Great Britain and Ireland' published in 1992, reflects the enormous advances in lichen taxonomy over the last two decades. There are keys to 327 genera and 1873 species, with detailed descriptions and information on chemistry and distributions. The language is accessible, avoiding obscure terminology and the keys are elegant. The Lichens of Britain and Ireland is undoubtedly the standard work for the identification of lichens in Great Britain and Ireland and will be indispensable to all serious students of lichens and to other biologists working in the related fields of ecology, pollution, chemical and environmental studies.

BLS members: £45.00 ; non-members £65.00

Postage & Packing £7.50 UK, £15.00 overseas  
(note this is a very heavy book!).

### Lichen Atlas of the British Isles, ed. M.R.D. Seaward

The Atlas has been published in fascicles, unbound A4 sheets hole-punched for keeping in a ring binder. Each species account includes a distribution map and a discussion of the lichen's habitat, ecology, identification and status. Many accounts give detailed information that is otherwise difficult to obtain. The series is ongoing with a fascicle on lirellate lichens in an advanced stage of preparation.

**Cat.2. Fascicle 2: *Cladonia* part 1 (59 spp).** 1996.

**Cat.3. Fascicle 3: The foliose *Physciaceae* (*Anaptychia*, *Heterodermia*, *Hyperphyscia*, *Phaeophyscia*, *Physcia*, *Tornabea*) plus *Arctomia*, *Lobaria*, *Massalongia*, *Pseudocyphellaria*, *Psoroma*, *Solorina*, *Sticta*, *Teloschistes*.** (54 spp) 1998.

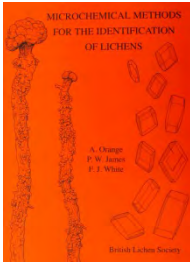
**Cat.4. Fascicle 4:** *Cavernularia, Degelia, Lepraria, Leproloma, Moelleropsis, Pannaria, Parmeliella*. (36 spp) 1999.

**Cat.5. Fascicle 5:** Aquatic Lichens and *Cladonia* part 2. (64 spp). 2000.

**Cat.6. Fascicle 6:** *Caloplaca*. (58 spp) 2001.

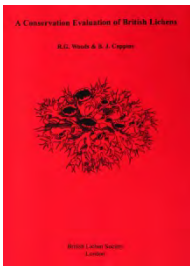
All fascicles are offered to members at a special price of £4.00 each , (approximately half price). Price to non-members is £6.00 per fascicle. Postage & Packing £3.50 UK, 10.00 overseas, per fascicle.

**Cat. 7. All five fascicles for £16.00** (buy 4, get one free!). Price to non-members is £6.00 per fascicle. Postage & packing £8.50 UK, £25.00 overseas.



**Cat.8. Microchemical Methods for the Identification of Lichens** by A. Orange (2010)

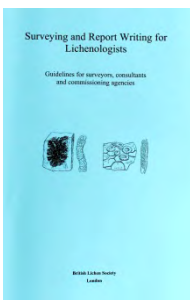
2<sup>nd</sup> edition, with two colour plates. Full of useful information on pigments, crystals, colour tests with reagents and TLC. £8.00 members, £10.00 non-members. Postage & Packing £3.50 UK, £8.50 overseas.



**Cat.9. Conservation Evaluation of British Lichens** by B.J.Coppins and R.G. Woods (2003)

An essential reference for anyone trying to assess a habitat when presented with a lichen species list. This is essentially a directory of all British lichens with their conservation status and with notes on particular species. A second edition is in preparation and the remaining stock of this first edition is being remaindered at £1.00.

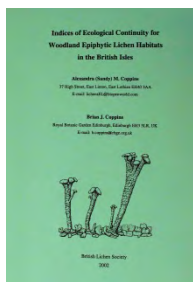
Postage & Packing £2.50 UK, £6.50 overseas.



**Cat.10. Surveying and Report Writing for Lichenologists** Ed. D.J. Hill (2006)

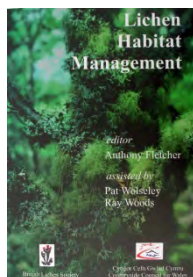
Guidelines on commissioning surveys, fieldwork, identification and report writing, aimed principally at those people and organisations commissioning surveys and at those undertaking them. However, much of the information is of value to any lichenologist engaged in field recording.

BLS members £7.00; non-members £10.00. Postage & Packing £2.50 UK, £6.50 overseas.



**Cat.11. Indices of Ecological Continuity for Woodland Epiphytic Lichen Habitats in the British Isles** by A.M. and B.J. Coppins (2002)

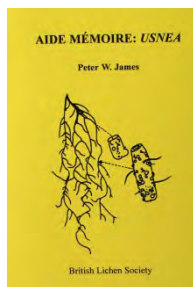
The use of lichens as indices of ecological continuity in British Woodlands was pioneered by Dr. Francis Rose MBE. The indices he proposed are here updated and regional variations are explained. BLS members £2.00; non-members £5.00. Postage & Packing £2.50 UK, £6.50 overseas.



**Cat.12. Lichen Habitat Management** Ed. A. Fletcher (2001)

This 174-page book is the proceedings of a workshop held in 1997 and is packed with practical information for the management of different habitats for lichens. Essential for anyone involved in wildlife conservation.

BLS members: £6.00 ; non-members £10.00. Postage & Packing £4.50 UK, £10.50 overseas.



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

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

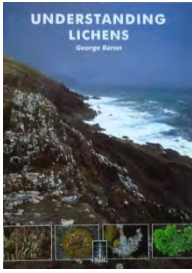
BLS members £2.00 ; non-members £3.00. Postage & Packing £1.50 UK, £2.50 overseas.



**Cat.14. The Lichen Hunters** by O.L. Gilbert (2004). Hardback, 208pp.

If you have been on any lichen field meetings in the last fifty years, this is a book you will enjoy. The late Oliver Gilbert's boundless enthusiasm comes across in every page as he describes field meetings and explorations around Britain. Many past and present members of the Society are fondly remembered in this delightful book. Special price, now £6.00. Postage & Packing £4.50 UK,

£10.50 overseas.



**Cat.15. 'Understanding Lichens'** by George Baron (1999). Paperback, 92pp.

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

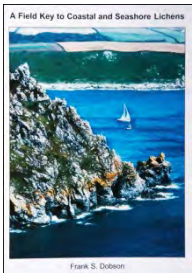
BLS members £8.95; non-members £9.95. Postage & Packing £2.50 UK, £6.50 overseas.



**Cat. 16. A Field Key to Common Churchyard Lichens** by Frank Dobson (2003)

Spiral-bound book with strong paper. Illustrated keys to lichens of stone, wooden structures, soil and mosses. 53 colour photographs. Covers many common lowland lichens.

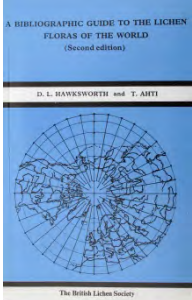
BLS members £6.50; non-members £7.50. Postage & Packing £2.50 UK, £6.50 overseas.



**Cat. 17. A Field Key to Coastal and Seashore Lichens** by Frank Dobson (2010)

A superb guide to over 400 species. 96 colour photographs. In the same format as cat. 16.

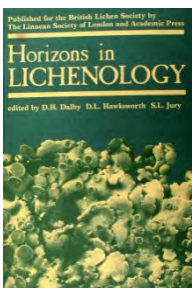
BLS members £10.00; non-members £12.00. Postage & Packing £2.50 UK, £6.50 overseas.



**Cat.18. A Bibliographic Guide to the Lichen Floras of the World** (2<sup>nd</sup> edn.) by D.L. Hawksworth and T. Ahti

Reproduced from The Lichenologist vol. 22 (1990). A useful list, up to its publication date, of reference works to lichen floras around the world.

Special price, now £1.00. Postage & Packing £2.50 UK, £6.50 overseas.

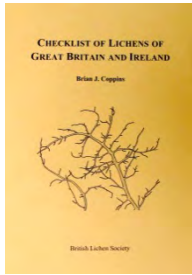


**Cat.19. Horizons in Lichenology** Ed: D.H. Dalby, D.L. Hawksworth and S.L. Jury (1988)

Proceedings of a symposium held in 1987. Seven wide-ranging review articles.

Special price, now £1.00. Postage & Packing £2.50 UK, £6.50 overseas.





**Cat.20. Checklist of Lichens of Great Britain and Ireland by B.J. Coppins (2002)**

Although an updated checklist is available on the BLS website, this is the most recent printed version, an attractive publication ideal for annotation.

Special price now £2.00. Postage & Packing £3.50 UK, £8.50 overseas.



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

Two beautifully illustrated wall charts, 'Lichens on Trees'(cat.21) and 'Lichens on Rocky Seashores' (cat.22) have been produced by artist Clare Dalby. Each is A1 size (80cm wide x 60cm high) and feature over 40 species in colour, nomenclature updated to 2010.

£5.00 per poster, £4.00 per poster for purchases of 8 or more. Postage & Packing (for up to two posters) £3.00 UK, £6.50 overseas.



**Cat.23. Parmelia identification CD-Rom**

Although the nomenclature has been superseded, this CD provides a useful range of photographs and other information for identification.

BLS members: £5.00; non-members £7.00. Postage & Packing £2.00 UK, £5.00 overseas.



## Cat.24. Lichen Identifier CD-Rom

This is a simple to use multi-access computer key that enables the user to find the species name and characteristics of any British or Irish lichen

It is divided into field and microscopical characters and any information available may be entered in any order to obtain a solution. With the majority of species, a few characters, noted in the field, are sufficient to identify the species. A brief note on each species further assists separation of similar species.

This multi-access computer key was originally based on *The Lichen Flora of Great Britain and Ireland* by O.W. Purvis et al (1992). It includes every species mentioned in that book plus many that have been more recently described or added to the British list. The nomenclature agrees with the most recent version of the BLS checklist.

It can therefore be used to identify any of the lichens contained in the above *Flora*. In addition, it includes many species that have been added to the British and Irish lists since that time.

*Lichen-Identifier* will run on a PC with a 486 DX or later processor running Windows NT, 95, 98, 2000, XP, Vista and Windows 7. We regret that it is not available for Apple Mac except under PC emulation or 'Boot Camp'.

Improvements in Version 3 of *Lichen-Identifier* include: Completely revised data, where possible, using the completed sections of the new *Flora*, plus many recently described species. The conservation evaluation from *A Conservation Evaluation of British Lichens* by R.G. Woods & B.J. Coppins is given for each species. Over 750 colour photographs of improved quality and with a scale added to each one. Every distribution map has been updated and include now maps of lichenicolous fungi although these are not part of the actual key.

Please note that this program includes a DataPower 2 reader which will run on an individual computer. It will not run on a multiple system in client/server mode. If you are using a server system, a site licence for DataPower 2 is required.

BLS members £26.00 for version 3, (£15.00 for upgrade from version 2).  
Non-members £28.00 for version 3, (£15.00 for upgrade from version 2).  
Postage & Packing £2.50 UK, £6.50 overseas.



**Cat.25. Greetings Cards/Notelets by Claire Dalby**

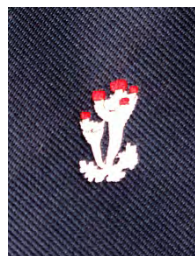
A set of five cards with envelopes, featuring five exquisite pen and ink illustrations of British lichens. £2.00 per set. Postage & Packing £2.00 UK, £3.50 overseas.



**Cat.26. BLS Postcards**

A set of 16 beautiful photographic postcards of British lichens.

£2.00 per set. Postage & Packing £1.50 UK, £3.00 overseas.



**Cat.27. Woven ties** with below-knot motif of BLS logo. Attractive ties with discreet BLS logo. Colours available: maroon, navy blue, brown, black and gold.

£7.00. Postage & Packing £1.50 UK, £3.00 overseas.



**Cat.28. Earthenware mug** with coloured logo on both sides, encircled by the words 'British Lichen Society'

No lichenologist's desk should be without one.

£3.00. Postage & Packing £3.50 UK, £10.00 overseas.



**Cat.29. Hand lenses**

X10 glass lens, diam. 18mm, in metal body.

£8.50. Postage & Packing £1.50 UK, £3.00 overseas.

**Cat. 30. Car sticker, BLS logo**

Ideal for meeting fellow lichenologists. BLS members £1.00. Postage & Packing £1.50 UK, £3.00 overseas.

**Cat. 31. Lichens – An Illustrated Guide to the British and Irish Species 6<sup>th</sup> Edition (2011)**

This latest enlarged edition (496pp) of this popular book provides an invaluable guide to identifying the British and Irish species, both for the beginner and the more advanced lichenologist. With detailed air pollution references and distribution maps, it offers the environmentalist and ecologist a concise work of reference, compact enough to be used in the field.

The 6<sup>th</sup> edition has been revised to conform with the nomenclature of ‘The Lichens of Great Britain and Ireland’ ed. Smith, C.W. et al. (2009) and more recent changes. Over 160 additional species to the previous edition have been added so over 1,000 species are now treated.

Entries usually consist of a description of each species, a photograph, notes on habitat, chemical tests, line drawings to clarify the description and a distribution map giving three date separations.

There is an enlarged generic key and a much extended section on sterile species. A generic synopsis is included to assist the more experienced lichenologist.

Paperback £35.00, hardback £50.00.

Postage & packing £7.00 UK, overseas £10.00

We have an assortment of sweatshirts, jumpers and T-shirts with the BLS logo, in various sizes and colours. Please email the Treasurer ([johnskinner@southend.gov.uk](mailto:johnskinner@southend.gov.uk)) if interested and he will supply a list.

And finally, an apology: the index to the Winter 2010 issue of the *Bulletin* (no. 107) was inadvertently reproduced on the back page of the Summer 2011 issue (no. 108). The correct document is printed on the following page. You have three options; you can mutilate your copy ever so slightly by cutting it out and sticking it onto the back cover of issue 108, you can email me and I'll send you a pdf version of the correct index for the same purpose – or you can keep things as they are as evidence of the Editor's fallibility.....



# British Lichen Society Bulletin no. 108

## Summer 2011

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## Membership Matters – from the Membership Secretary

**Renewal of Membership for 2012: Subscriptions are due on or before 1<sup>st</sup> January 2012. Please be aware that members who do not renew their subscription will be removed from our mailing lists in spring 2012.**

If you don't know whether you need to renew or whether you may have a credit with the society, you can always **check the anonymous list** placed on our website, <http://www.thebls.org.uk/content/renewals.html>. In order to use this list, which is updated from time to time, you will need to know your membership number – it is printed on the envelope in which you receive the Bulletin. The year you last paid for (the year your membership expires) is also printed on the envelope in which you receive the Bulletin.

**Membership rates for next year are given on the inside of the back cover of this Bulletin.** Subscriptions rates remain for most membership categories the same as in 2011. Two changes were agreed on the last AGM: 1) No longer a reduced 3-year subscription for Non-UK members. 2) Junior Associates are now at the same rate as Senior Associates.

### Methods of Payment for UK Members

**By cheque** Cheques should be made payable to 'The British Lichen Society' and drawn on a UK bank or a bank with a UK branch or agent. Cheques should be sent to the Membership Secretary. No renewal form needed, but please note your membership number (or post code) on the back of the cheque.

**Standing Order** UK members are encouraged to pay by Standing Order to ensure timely annual renewal of their membership. You may arrange a Standing Order with your bank. A form is available on the BLS website or from the Membership Secretary. Our bank details are as follows (only to be used for transactions within the UK):

**Bank – CAF Bank Ltd**

**Address:** 25 Kings Hill Avenue, Kings Hill, West Malling, Kent, ME19 4JQ

**Sort Code** – 40-52-40

**Account Name – British Lichen Society**

**Account Number – 00012363**

**By cash** Payment may be made in Sterling cash, sent by Registered Post to the Membership Secretary. The BLS can accept no responsibility for cash sent by post and it is not our preferred payment method.

### Methods of Payment for NON-UK Members

**Payment in US dollars** Cheques should be made payable to 'The British Lichen Society' and be sent to the American Treasurer Dr.J.W.Hinds. If a US-denominated



check or money order is not possible then payment may be made to Dr.J.W.Hinds by Western Union.

**From other currency zones (e.g Euro zone)** You can make your payment with an International Bank Transfer in £ Sterling. Your bank will make the currency conversion. The bank charge should be paid by you, the payer. The Membership Secretary would be grateful for advance warning of foreign payments. It helps us to make sure that these have gone through safely and to amend our database correctly. Our bank details for International Bank Transfer (Note, do not use for any payment from another UK bank, as account details differ):

**Bank – HSBC City Corporate Banking Centre**

**Account Name – CAF Bank Ltd**

**Account Number – 72138549**

**Sort Code – 40-05-30**

**Swift BIC Code – MIDLGB2141W**

**IBAN Number – GB48MIDL40053072138549**

**Address: 25 Kings Hill Avenue, Kings Hill, West Malling, Kent, ME19 4JQ**

**For Credit to (field 72 on payment form) : British Lichen Society (account no. 00012363)**

**But not cash!** Please do not send cash in Euros. You may, on your own risk or covering charges for international registered mail (if available) send cash in Pound Sterling should you have notes in that currency available. You might be able to pay your fees at International Conferences (e.g. IAL or IMC). Contact the Membership Secretary in advance if you wish to do so at a particular meeting.

#### **Method of Payment for ALL Members**

**Paypal (Credit card payment)** This is the only way to pay with your credit card. Instructions and links are on the BLS website, <http://www.thebls.org.uk/content/renewals.html>. You do not need to register with Paypal, although the link for a single transaction is somewhat hidden on the Paypal pages. No extra fees for using your credit card arise, as Paypal fees are covered by the BLS.

***Please keep us informed!*** It is very important that you keep the Membership Secretary informed of any change of address as we have to arrange the mail-outs of literature. Updates on changes of email addresses are helpful as well, as using emails to contact members does save postage. Contact details of BLS officers are given in the inside of the front cover of the *Bulletin*.

**Please do not hesitate to contact the Membership Secretary should you have any query regarding your membership status, need more information about how to pay or any other membership matters.**

## BRITISH LICHEN SOCIETY - 2012 MEMBERSHIP DETAILS

**Applications for membership** should be made to The Membership Secretary, The British Lichen Society: Dr Heidi Döring, Mycology Section, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AB, email [h.doring@kew.org](mailto:h.doring@kew.org), 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 Membership Secretary at the address above.

### 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 2012: **£30 / \$60** [*note: no 3-year rate, please renew annually*]

**Electronic Membership**, as Ordinary Members but access to 'The Lichenologist' online only (no hard copy). Rate for 2012: **£25 / \$50**

**Life Membership** is available to persons over 65 years of age at **£300 / \$600**. 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 2012: **£22 / \$44**

**Senior Associate Membership**, for persons over 65 years of age. Rate for 2012: **£10 / \$20**

**Junior Associate Membership**, for persons under 18 years of age, or full-time students. Rate for 2012: **£10 / \$20**

**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 2012: **£5 / \$10**

**Bulletin only subscriptions** are available to institutions only. Rate for 2012: **£22 / \$44**

*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 (credit card) 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*. Her contact details are given above.

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### British Lichen Society *Bulletin* no. 109, Winter 2011

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