



# British Lichen Society *Bulletin*



## BRITISH LICHEN SOCIETY OFFICERS AND CONTACTS 2009

**PRESIDENT** P.W. Lambley MBE, The Cottage, Elsing Road, Lyng, Norwich NR9 5RR, email [Plambley@aol.com](mailto:Plambley@aol.com)

**VICE-PRESIDENT** S.D. Ward, 14 Green Road, Ballyvaghan, Co. Clare, Ireland.

**SECRETARY** Post Vacant. Correspondence to Department of Botany, The Natural History Museum, Cromwell Road, London SW7 5BD.

**TREASURER** J.F. Skinner, 28 Parkanaur Avenue, Southend-on-sea, Essex SS1 3HY, email [johnskinner@southend.gov.uk](mailto:johnskinner@southend.gov.uk)

**ASSISTANT TREASURER AND MEMBERSHIP SECRETARY** D. Chapman, The Natural History Museum, Cromwell Road, London SW7 5BD, email [don.chapman@nhm.ac.uk](mailto:don.chapman@nhm.ac.uk)

**REGIONAL TREASURER (Americas)** Dr J.W. Hinds, 254 Forest Avenue, Orono, Maine 04473-3202, USA.

**CHAIR OF THE DATA COMMITTEE** Dr D.J. Hill, email [d.j.hill@bris.ac.uk](mailto:d.j.hill@bris.ac.uk)

**MAPPING RECORDER AND ARCHIVIST** Prof. M.R.D. Seaward DSc, FLS, FIBiol, Department of Environmental Science, The University, Bradford, West Yorkshire BD7 1DP, email [M.R.D.Seaward@bradford.ac.uk](mailto:M.R.D.Seaward@bradford.ac.uk)

**DATABASE MANAGER** Dr J. Simkin, 41 North Road, Ponteland, Newcastle upon Tyne NE20 9UN, email [janetsimkin@btinternet.com](mailto:janetsimkin@btinternet.com)

**SENIOR EDITOR (LICHENOLOGIST)** Dr P.D. Crittenden, School of Life Science, The University, Nottingham NG7 2RD, email [pdc@nottingham.ac.uk](mailto:pdc@nottingham.ac.uk)

**BULLETIN EDITOR** Dr P.F. Cannon, CABI Europe UK Centre, Bakeham Lane, Egham, Surrey TW20 9TY, email [p.cannon@cabi.org](mailto:p.cannon@cabi.org)

**CHAIR OF CONSERVATION COMMITTEE & CONSERVATION OFFICER** B.W. Edwards, DERC, Library Headquarters, Colliton Park, Dorchester, Dorset DT1 1XJ, email [b.edwards@dorsetcc.gov.uk](mailto:b.edwards@dorsetcc.gov.uk)

**CHAIR OF THE EDUCATION AND PROMOTION COMMITTEE** Dr B. Hilton, email [bphilton@eclipse.co.uk](mailto:bphilton@eclipse.co.uk)

**CURATOR** R.K. Brinklow BSc, Dundee Museums and Art Galleries, Albert Square, Dundee DD1 1DA, email [richard.brinklow@dundeecity.gov.uk](mailto:richard.brinklow@dundeecity.gov.uk)

**LIBRARIAN** Post vacant. For loans and visits (near Leicester) please contact Dr A. Fletcher, tel. 01509 815514, e-mail [afletcher@leics.gov.uk](mailto:afletcher@leics.gov.uk)

**WEBMASTER** Dr J.I.J. Middleton, 4 Down Close, Heyshott, Midhurst, West Sussex GU29 09N, email [jacquiandbruce@tiscali.co.uk](mailto:jacquiandbruce@tiscali.co.uk)

**CHAIR OF THE MEMBERS' SERVICES COMMITTEE** S.R. Davey, 10 Cottage Home, Common Lane, Ditchling, Hassocks, Sussex BN6 8TW, email [srdavey@globalnet.co.uk](mailto:srdavey@globalnet.co.uk)

**FIELD MEETINGS SECRETARY** Ivan Pedley, email [ivan.pedley@gmail.com](mailto:ivan.pedley@gmail.com)

**MEMBERS OF THE COUNCIL** Linda Davies, Heidi Döring, Ivan Pedley, Steve Price, Ken Sandell, Mike Simms, Mike Sutcliffe, Holger Thüs, Ray Woods.

**REFEREES (Regional & Specialist)** See web-site: [www.thebls.org.uk](http://www.thebls.org.uk)

# British Lichen Society Bulletin no. 105

## Winter 2009

Welcome to the Winter 2009 BLS Bulletin. As Peter Lambley observes in his Presidential Address later on in this issue, the Society might have been forgiven for taking a bit of a breather after all the activities and excitement of the 2009 Centenary year. The reality has been just the opposite, with the publication of the successor to the old but very well-used *Lichen Flora of Great Britain and Ireland* (see next page and also p. 35 for a record of the launch speech in May). The OPAL project also began, which includes a nation-wide survey of lichens on trees and their distribution relative to pollution levels, a brilliant initiative to bring lichens into the collective consciousness of the great British public. See p. 23 for an initial progress report.

Field work in 2009 has been a particular highlight. There has been an emphasis on lichens of limestone habitats, with field meetings studying the great limestone pavements of the Burren in western Ireland in the spring (see p. 69 for the meeting report), and the limestone dales of Derbyshire were visited this October. Family duties prevented me going to the Burren, but the meeting was clearly a roaring success and great encouragement was given to the *Lichen Ireland* project (see BLS *Bulletin* no. 102) – with a generous grant from the project subsidising local travel. The Derbyshire meeting involved lots of close encounters with the limestone cliffs lining the dales, and much scratching of heads over the challenges of identifying what seemed like around 200 identical species of *Verrucaria* and relatives, helped substantially by an *aide memoire* to the group produced by Steve Price. Other habitats included mine spoil heaps with specialist metal-tolerant species, and a privileged visit to the Old Deer Park at Chatsworth with its old and gnarled oak trees.

Good though the Derbyshire meeting was, the highlight of the field season for me was the summer meeting on the island of Raasay (just to the east of Skye for the geographically challenged). It's an isolated but highly geologically varied island, with great western hazel woodland as well as montane habitats and coastal cliffs, and with the help of a knowledgeable bunch of fanatical BLS members we amassed a pretty extensive species list. Accounts of the Raasay and Derbyshire meetings will be included in *Bulletin* no. 106 next summer, so you will have to be patient for more details...

Finally, if all goes well you should have received a questionnaire from the BLS along with this *Bulletin*. Please do take the trouble to fill it in and send it back, we'd really like to know what you think about the Society and how it needs to develop in these challenging times.

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

---

**Front cover:** *Usnea* aff. *longissima* festooning a birch tree in the Bumthang valley, Bhutan.

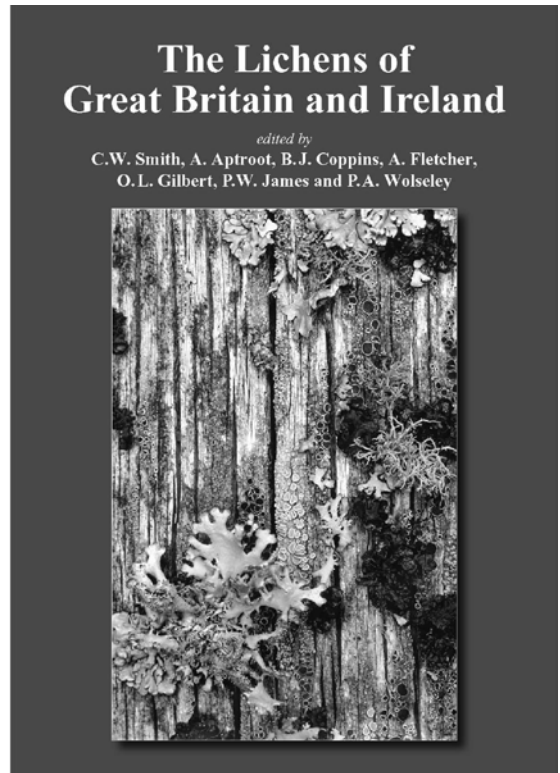
## Lichens of Great Britain and Ireland

In a shameless but entirely altruistic advertisement, please be reminded that if you haven't already bought your copy of the *Lichens of Great Britain and Ireland*, make sure you do soon! The first printing is already nearly sold out (so some of you at least have been persuaded to open your wallets!). As all the profits from the book sales go back to the BLS to help support your lichen habits, the benefits you receive from the book are wider than simply gaining knowledge from it directly.

The book costs £65 (plus £7 p&p) in the UK, but BLS members can buy it for only £45 plus p&p. If you're not a member already, do note that annual associate membership (which does not include the Society's flagship journal *Lichenologist*) only costs £22, so your membership could be very nearly free for the first year!

Those wishing to purchase a copy of this book can send the form included in the flyer available on the BLS website ([http://www.thebls.org.uk/content/documents/Lichen Flora Flier.pdf](http://www.thebls.org.uk/content/documents/Lichen_Flora_Flier.pdf)) along with a sterling cheque for the appropriate amount (drawn on a British bank) to Richmond Publishing Co. Ltd., P.O. Box 963, Slough SL2 3RS.

Foreign members can buy the book through internet companies such as Amazon and NHBS, but they will not be able to process the member discount. Payment by credit/debit card is also possible (but not Amex or similar) with Richmond Publishing, but they do not have secure internet payment facilities and you will need to contact them first at [rpc@richmond.co.uk](mailto:rpc@richmond.co.uk) to establish how much postage will be charged. You will then be requested to phone or send details by email (card-holders name, address to which the card is registered, card number, expiry date and 3-digit security code). You are strongly recommended to split the details between two separate emails as an added security measure. Please ensure that your BLS membership is paid up-to-date before claiming the discount!



# Distribution of Chemotypes of *Cetrelia olivetorum* in England, Scotland and Wales

## Introduction

*Cetrelia* was originally separated from *Cetraria* by Culberson & Culberson (1968), who used correlated morphological and chemical characters to recognise 14 species within the new genus. The taxonomy and biogeography of the genus *Cetrelia* has been examined for Eurasia by Randlane & Saag (1991), and more recently (for central Europe) by Obermayer & Mayrhofer (2007). Randlane & Saag (1991) listed 17 species within the genus in total, and in both cases the authors of these studies recognised as separate species the distinct chemotypes described in detail by the Culbersons (Culberson & Culberson, 1968). However, this contrasts with British lichenologists, who have generally favoured the recognition of a single entity – *Cetrelia olivetorum* – with the additional ‘species’ recognised elsewhere (*C. cetrarioides*, *C. chicitae*, *C. olivetorum sensu stricto* and *C. monachorum*: cf. Table 1) treated in the British Isles as chemical races within the single species (Purvis et al., 1992; Coppins, 2002; Smith et al. 2009). In the context of this paper, four of the *Cetrelia* species that are recognised elsewhere in Eurasia are equivalent to intra-specific chemical races recognised in Britain as a single entity, *C. olivetorum* s.l. (Table 1: cf. Coppins, 2002).

**Table 1.** Chemical races recognised within *C. olivetorum* s.l., Obermayer & Mayrhofer (2007) present a standard TLC plate.

Chemical Race	Chemistry					
	Atranorin	Perlatolic acid	Imbricatic acid	Olivetoric acid	$\alpha$ -collatolic acid	Alectoronic acid
● Present						
○ Accessory						
<i>C. cetrarioides</i>	●	●	○			
<i>C. monachorum</i>	●	○	●			
<i>C. olivetorum</i>	●			●		
<i>C. chicitae</i>	●				●	●

*Cetrelia olivetorum* s.l. is ecologically important in the British Isles: according to James et al. (1977), *C. olivetorum* is a member of epiphyte communities (characterised as the ‘*Parmelion laevigatae*’) in the relatively well-lit oak and birch-woods of oceanic western Britain, a habitat that is of significant conservation concern (Coppins & Coppins, 2005). In addition, the new *Lichens of Great Britain and Ireland* (Smith et al., 2009) highlights differences in the occurrence of contrasting chemotypes, with the perlatolic acid chemical race (= ‘*C. cetrarioides*’) expected to be the most common member of *C. olivetorum* s.l., and other chemical races considered to be ‘very rare’. Studies in continental Europe have also highlighted differences in the abundance of the



contrasting ‘chemical races’ ( $\approx$  ‘species’), and, to a limited extent, they appear to occupy a contrasting range of habitats (Obermayer & Mayrhofer, 2007).

To better understand the chemical diversity for *C. olivetorum* s.l. occurring in Britain, we examined herbarium specimens from our three major national collections (**E**, **NMW** and **BM**) in addition to intensively sampled specimens of *C. olivetorum* s.l. from a single oak-wood site in western Scotland that was considered a typical habitat within its British range.

### Materials and Methods

167 British specimens of the genus *Cetrelia* from the UK national collections and several private sources were analysed using thin layer chromatography (Orange *et al.*, 2001). We used solvent system ‘C’, so that our TLC plates were directly comparable with those presented by Obermayer & Mayrhofer (2007). We found a slow drying process as recommended by Obermayer & Mayrhofer (2007) to be a useful technique in separating imbricarinic acid (identified as a dry ring with a wet centre) and perlatolic acid (drying from the centre). Attempts to separate these chemicals using microcrystal techniques proved equivocal under normal laboratory conditions.

In addition to the analysis of herbarium material, specimens of *Cetrelia* were sampled from an area of oakwood to the east of Resipole on the north shore of Loch Sunart (NM729632). A total of 30 thalli were sampled from different trees throughout the woodland. Specimens were examined by TLC and their consoredia (aggregates of soredia) were measured using light microscopy. Four soralia were selected from each thallus, and eight consoredia were measured from each soralium, using standard light microscopy. The mean size of consoredia was compared between separate thalli grouped into distinct chemical races using a *t*-test (Parker, 1979).

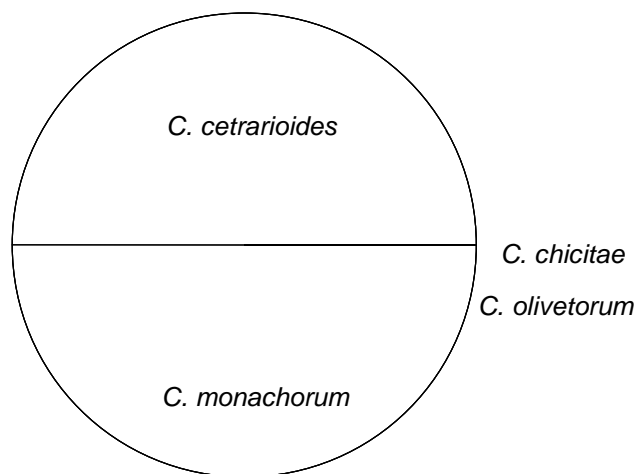
### Results and Discussion

We confirm the presence of four chemotypes treated in Britain as *C. olivetorum* s.l. However, there are a number of important findings with respect to the status of *C. olivetorum* s.l. in the British Isles.

#### *Commonness and Rarity.*

The frequencies of the chemical races varied significantly. Thus, *C. cetrarioides* formed 59% (99 collections) of the specimens, *C. monachorum* 35% (58 collections), *C. olivetorum* 5% (8 collections) and *C. chicitae* 1% (2 collections). *Cetrelia cetrarioides* and *C. monachorum* are clearly the most frequent of the taxa, with *C. olivetorum* being notably less frequent and *C. chicitae* very rare (Fig. 1). Apart from the western distribution for *C. olivetorum* s.l., the occurrence of different chemical races showed no definite biogeographic pattern in Britain (Fig. 2), with the spatial extent of contrasting races attributable to the number of collections, and rarity. However, it is interesting to note the absence (or rarity) of *C. monachorum* in Norway (Bjelland *et al.* 1997). This, combined with its absence from extreme north-western Scotland (Fig. 2), tentatively indicates a general southerly bias for this race, compared to *C. cetrarioides*.

**Figure 1.** Pie chart to show the frequency distribution of contrasting chemotypes of *C. olivetorum* s.l. in British material.



The commonness and rarity of chemical races in Britain matched broadly with those of their equivalent ‘species’ in continental Europe (i.e. *C. cetrarioides* and *C. monachorum* were in general more common than *C. olivetorum* and *C. chicitae*), though regional differences are apparent (Fig. 3). Interestingly, while all four chemical races occur in both Europe and North America, the pattern in occurrence may be reversed on a continental scale, with *C. chicitae* possibly more locally common in N. America than

*C. olivetorum*, in apparent contrast to the situation in Europe (cf. Culberson, 1965; Culberson & Culberson, 1968, 1978; Obermayer & Mayrhofer, 2007).

#### *Co-occurrence of Contrasting Chemical Races, and Identification.*

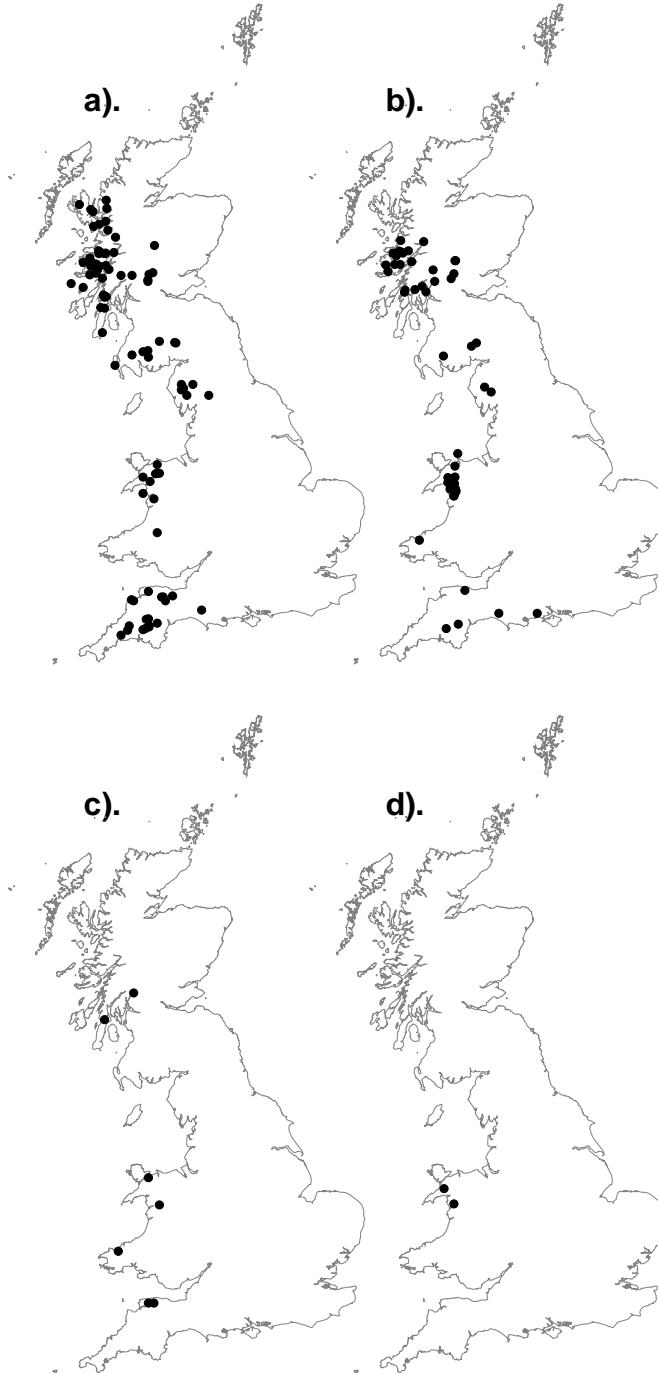
Intensive sampling at a single oakwood site (nr Resipole, western Scotland) showed an exact split between the occurrence of *C. cetrarioides* and *C. monachorum* (15 specimens each, from the 30 sampled), demonstrating that these chemical races do grow in close proximity within the same site. Obermayer & Mayrhofer (2007) likewise observed the co-occurrence of these species, though at a limited number of sites only (8% of collections). Analysis of the sorediate aggregates in these species (consoredia) revealed significant size differences (Fig. 4) and, along with *C. olivetorum* (which is C+ red), these three chemical races are recognisable under field conditions (see Obermayer & Mayrhofer 2007).

#### *Conservation.*

In the British Isles *C. chicitae* has apparently been collected only twice, once in 1919 by H. Weldon, and more recently in 1991 by Alan Orange (# 8649, NMW). While the conservation status of *C. chicitae* is perhaps in need of critical appraisal, these considerations may depend upon its taxonomic status also, and the taxonomic status of the contrasting chemical races in *Cetrelia* requires further work. In several European countries where *C. chicitae* is recognised as a distinct species its rarity has warranted elevation to ‘red list’ status (Obermayer & Mayrhofer, 2007). Following criticism of chemical characters as a definitive tool in species recognition (e.g. LaGreca, 1999), morphological and chemical characters might be appraised by molecular work to confirm or refute the status of chemical races as separate species. However, while *C. chicitae* may be difficult to distinguish from *C. monachorum*, the remaining members of *C. olivetorum* s.l. can be recognised (with practice) without recourse to TLC. A useful start might thus be made by recording the individual

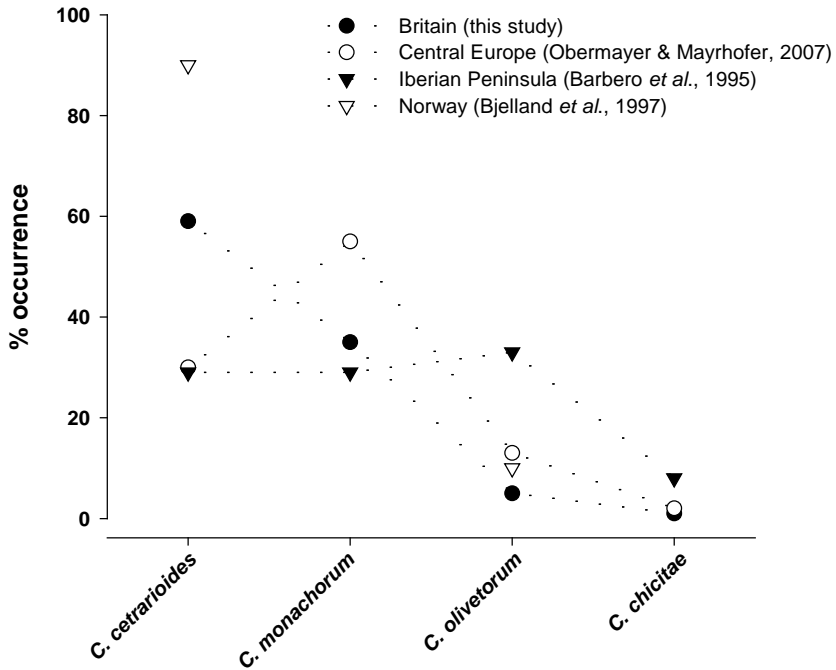
chemical races where possible, and factoring this additional variability into any future consideration of biogeography and conservation status.

**Figure 2.** The distribution of contrasting chemotypes of *C. olivetorum* s.l. in the British Isles: a). *C. cetrarioides*, b). *C. monachorum*, c). *C. olivetorum*, and d). *C. chicitae*.

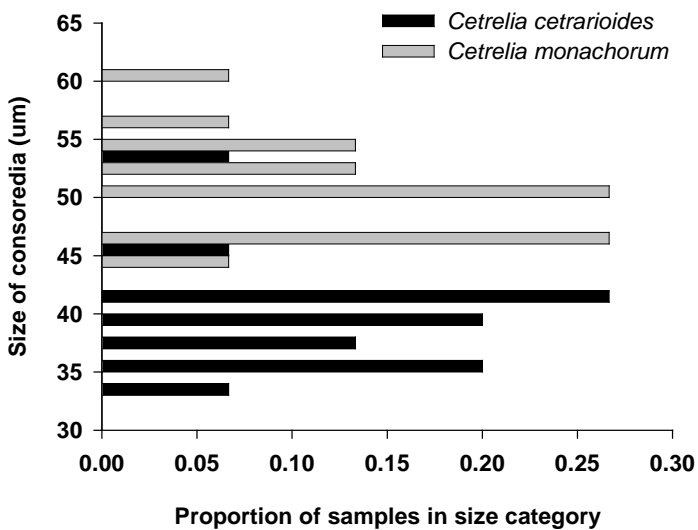




**Figure 3.** The occurrence of contrasting chemotypes of *C. olivetorum* s.l., reported from the lichen flora in different parts of Europe.



**Figure 4.** Distribution plot for the size ( $\mu\text{m}$ ) of consoredia in *C. cetrarioides* and *C. monachorum*. Sampled distributions are significantly different,  $t = -5.73$ ,  $P < 0.001$  with 28 df.





*Cetrelia olivetorum* agg. on mossy oak trunk, Morvern, Scotland. © Mike Sutcliffe, <http://www.britishlichens.co.uk/>

### **Acknowledgements**

We thank the curators of NMW and BM for the loan of material, and Evelyn Turnbull (E) for assistance in preparing the TLC. Many thanks to all the BLS members who sent in material.

### **References**

- Barbero, M., Etayo, J. & Gómez-Bolea (1995) Chemotypes of *Cetrelia cetrarioides* s.l. (Lichenes) in the Iberian Peninsula. *Cryptogamic Botany*, 5: 28-30.
- Bjelland, T., Halleraker, G., Reeb, V. & Tønsberg, T. (1997) The chemotypes of *Cetrelia olivetorum* in Norway. *Graphis Scripta*, 8: 5-7.
- Coppins, B.J. (2002) *Checklist of Lichens of Great Britain and Ireland*. British Lichen Society, London.

- Coppins, B.J. & Coppins, A.M. (2005) Lichens – the biodiversity value of western woodlands. *Botanical Journal of Scotland*, 57: 141-153.
- Culberson, W.L. (1965) *Cetraria chicitae*, a new and widely distributed lichen species. *The Bryologist*, 68: 95-99.
- Culberson, W.L. & Culberson, C.F. (1968) The lichen genera *Cetrelia* and *Platismatia* (Parmeliaceae). *Contributions from the United States National Herbarium*, 34: 449-558.
- Culberson, W.L. & Culberson, C.F. (1978) *Cetrelia cetrarioides* and *C. monachorum* (Parmeliaceae) in the New World. *The Bryologist*, 81: 517-523.
- James, P.W., Hawksworth, D.L. & Rose, F. (1977) Lichen communities in the British Isles: a preliminary conspectus. In: *Lichen Ecology* (ed: M.R.D. Seaward) - Academic Press, London, 295-413.
- LaGreca, S. (1999) A phylogenetic evaluation of the *Ramalina americana* chemotype complex (Lichenized Ascomycota, Ramalinaceae) based on rDNA ITS dequenc data. *The Bryologist*, 102: 602-618.
- Obermayer, W. & Mayrhofer, H. (2007) Hunting for *Cetrelia chicitae* (Lichenized Ascomycetes) in the eastern European Alps. *Phyton*, 47: 231-290.
- Orange, A., James, P.W. & White, F.J. (2001) *Microchemical Methods for the Identification of Lichens*. British Lichen Society, London.
- Parker, R.E. (1979) *Introductory Statistics for Biology*. Edward Arnold, London.
- Purvis, O.W., Coppins, B.J., Hawksworth, D.L., James, P.W. & Moore, D.M. (eds) (1992) *The Lichen Flora of Great Britain and Ireland*. Natural History Museum and British Lichen Society, London.
- Randlane, T. & Saag, A. (1991) Chemical and morphological variation in the genus *Cetrelia* in the Soviet Union. *The Lichenologist*, 23: 113-126.
- Smith, C.W., Aptroot, A., Coppins, B.J., Fletcher, A., Gilbert, O.L., James, P.W. & Wolseley, P.A. (eds) (2009) *The Lichens of Great Britain and Ireland*. British Lichen Society, London.

*Paul Harrold, Katy Grundy, Brian Coppins and Christopher Ellis*  
 Royal Botanic Garden Edinburgh, 20A Inverleith Row, Edinburgh, EH3 5LR  
 Email c.ellis@rbge.ac.uk

# Historic Lichen Communities In Wiltshire

Lichen diversity in lowland England was devastated by the effects of industrial pollution during and after the Industrial Revolution, creating the well-known ‘lichen deserts’ already recognized in the late nineteenth century (Hawksworth and Rose 1970). In an effort to reconstruct pre-industrial biodiversity for heavily industrialised regions of the UK, we develop a novel archaeological record – preserved epiphytes – found in pre-industrial, vernacular buildings. These buildings were constructed of local materials and often preserve lichens and associated epiphytes and fungi on the bark of the wood used for construction. These materials include structural timbers and infill materials, such as wattle rods in wattle-and-daub panels. This paper reports the results from eight properties surveyed in Wiltshire, seven in the vicinity of Downton, S Wiltshire, plus an isolated property in Gooselands, N Wiltshire. A total of 26 building elements contained bark, with a total species count of 53 lichens, bryophytes and associated fungi.

## Introduction

Historic records of lichens are sporadic and incomplete, making it difficult to gain an accurate impression of past lichen diversity, and, therefore, to critically assess long-term changes in diversity. The Victorians were the first to systematically explore Britain’s lichen flora, and by then, the effects of the Industrial Revolution in terms of air pollution had already exacted a heavy toll. Detailed lichen recording, e.g. since the inception of the BLS mapping scheme, provides a valuable albeit limited time-range with which to assess changing lichen diversity, occupying a period entirely within the Industrial and post-Industrial periods. It is highly intriguing to speculate on patterns of lichen occurrence from before the industrial revolution, along with Rackham:

‘Possibly the most pervasive change which someone returning from the Middle Ages would notice in the modern countryside is the appearance of tree-trunks. Trunks everywhere used to be covered in a patchwork of grey, brown, white, green and yellow lichens, with occasional mosses. This normal aspect of a tree-trunk is still to be seen in the remoter parts of western England, Wales, Scotland, and Ireland. To most English countrymen now, tree-trunks are grey-green with a thin layer of a single lichen, *Lecanora comizaeoides*. In suburbs the tree-trunks are bright green with the alga *Pleurococcus*. In cities and downwind from industry trunks have a clean dark-brown appearance, sterilized by acid rain.

The cause is air and rain pollution...’

[Rackham 1986, p. 44]

To reconstruct lichen dynamics in the long-term, in response to climate, pollution and woodland management, a team at the Royal Botanic Garden Edinburgh are undertaking research to quantify lichen diversity for sites in southern England (Figure 1), for a period before the industrial revolution. This work develops lichens as

**Figure 1.**  
Locations of artefacts sampled in England and Wales. Several dots represent many individual artefacts from the same locality, e.g. (1) Coggeshall, Essex (2) Stogursey (3) Exmoor, Somerset (4) Downton, Wiltshire.



a novel archaeological tool and follows a prior study of lichens from a vernacular building (Coppins, et al, 1985).

In this paper we report our preliminary findings from a number of vernacular buildings in Wiltshire, surveyed for the presence of bark and the epiphytic communities it once supported.

### The Archaeological Resource

Three sources of bark are relevant to the examination of vernacular buildings:

- *Timbers* are trees used for structural members of buildings, cut to size and typically only with a single waney edge, though sometimes with bark on an entire face.
- *Poles* consist of underwood cut to size. They are typically from 7–10 cm in diameter and only very roughly squared if at all. They often retain all or most of their bark.
- *Wattles* are sticks or rods of small cross section (typically 1.5–3.5 cm diameter) used whole or sometimes split lengthwise to fill the gaps between studs in walls. They are cut and used green as woven panels or tied to staves before the coating of daub is applied.

Vernacular buildings by definition are constructed from locally-available materials and thereby often preserve a record of the surrounding woodlands from which their timbers and underwood were harvested (Rackham, 1986). This tradition ensures to a reasonable degree that lichens found in vernacular buildings are very likely to come from within a small radius of the current building's location. Although records for

sources of timbers for individual buildings are almost invariably lacking, transport of timbers is very occasionally reported (e.g. Rackham, 1982), though typically only for high-status or Crown properties.

Although bark is thought to be relatively infrequently preserved in building timbers, this is a result of a modern perspective. In older buildings, and indeed even in relatively modern low-status buildings in rural settings, the occurrence of bark may be quite common. For example, for timbers used in out-of-the-way places such as roof spaces, there is no need to maintain either straight edges (for wattle-and-daub or plaster infill) or the visual consistency of completely squared timbers. Instead, tops of trees with their decidedly not-straight growth, and only very roughly squared timbers could easily be accommodated in the joists and rafters of roofs and lofts. It is also easy to appreciate the economy achieved by using strong but not straight timber in such instances, when the labour required for timber conversion before modern sawmills was a substantial cost; a curve in a tree could be dealt with by dividing the curving timber lengthwise, and laying the resulting pair of curving timbers flat, often as a rafter couple.

Finally, a quite important source of bark that is almost invariably overlooked is that preserved in the roundwood of buildings. This source includes the small cross-section ‘pole rafters’ of thatched roofs or the bark that persists on the sticks and rods used to make infill panels. Pole rafters are used only in some parts of the UK, but when found, they are an excellent source of bark, representing trees of about 7–10 cm diameter and at most only roughly squared, removing only the small “corners” of bark (so that the rafters will lie flat). Sticks and rods used for wattles and thatching materials may represent fewer years of growth of the tree concerned, but all the bark is usually retained.

## **Aims**

The goals of this first analysis were twofold: first, to address the idea that bark – and its associated epiphytes – is rarely preserved in buildings; and second, to closely examine a sample of geographically clustered buildings to describe the frequency and diversity of epiphytes preserved.

## **Methods**

In collaboration with members of the Wiltshire Buildings Record, eight vernacular buildings in Wiltshire were surveyed, in Baydon, Downton, and Great Wishford. All visible timbers and other wood were examined for the presence of bark and lichens or mosses. Each incidence of bark is recorded as an ‘artefact’, and the date of each artefact was estimated from the architectural setting and other archaeological evidence. The species of wood of each artefact and for all epiphytes (and associated fungi) was determined by visual, microscopical, and chemical (spot tests) examination.



## Results I. Bark & Lichen Occurrence

All eight buildings surveyed contained some bark dating from between the 15<sup>th</sup> to the 18<sup>th</sup> centuries. Bark artefacts supported a total species diversity comprising 7 bryophytes, 40 lichens, and 16 associated fungi (Table 1).

### *Key findings*

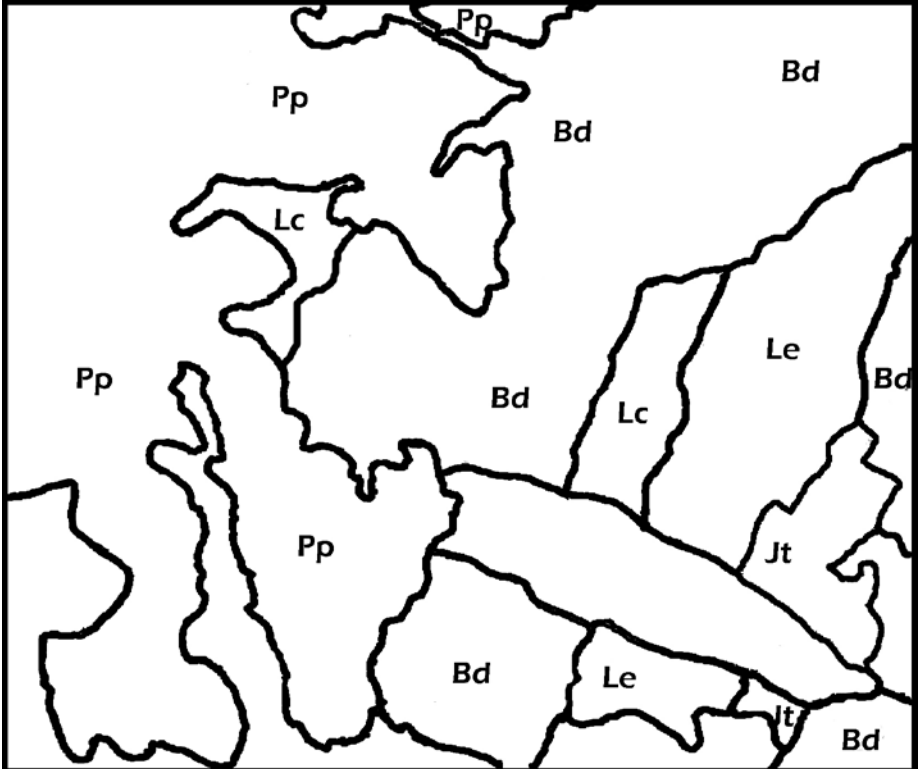
- In most cases it was possible to determine specimens to species level. Preservation of lichen ascomata was often poor, requiring use of structural and chemical features for identification, although spores and interascal elements did sometimes persist.
- On average, four species of epiphyte were detected per incidence of bark.
- Poles supported the greatest number of species ( $\bar{x} = 8$ ), followed by wattles ( $\bar{x}=4.7$ ), with timbers supporting the fewest ( $\bar{x}=2$ ).
- Eight of 14 timbers supported epiphytes, four with bryophytes, and five with lichens (one with both).
- Oak poles supported the richest mosaics of epiphyte communities, with up to thirty species in a community on a single 18th Century pole!

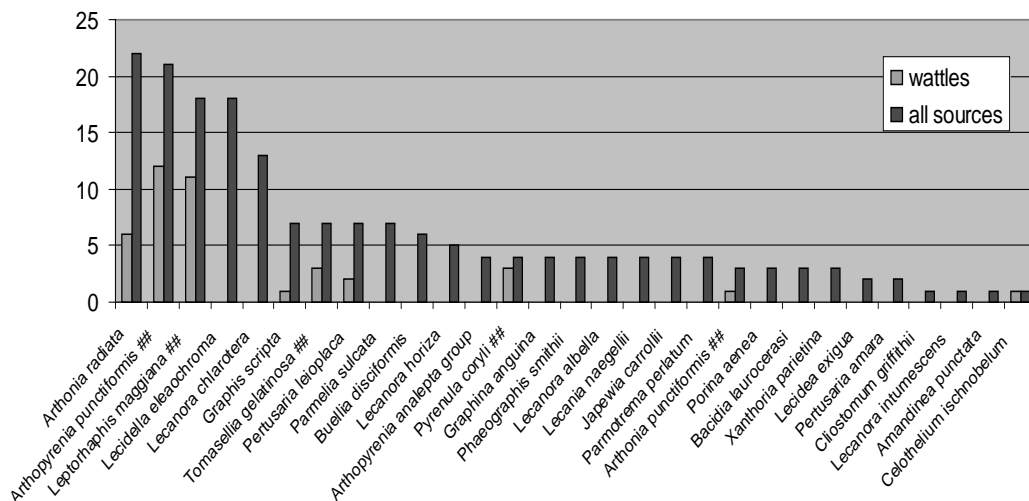
Fourteen timbers retained bark, although three timbers were not identified to species due to difficulty of observation. Eight of these timbers supported epiphytes: one oak (= 1 in 5 of oaks), four elm (= 4 in 5 of elms), one ash (the only ash) and all three unidentified timbers. Elm timber appeared to be as common as oak in building material, though was often used in later periods than oak in this sample.

Six poles were examined from S Wiltshire. Three were used as oak rafters in thatched roofs and two were used as studs. The studs were made of elder and softwood, and were sampled from partitions probably built later than the original dates of the buildings. A single pole was of ash and was used as a joist in a ceiling. All poles are likely of 17-18<sup>th</sup> Century origins. The oak poles supported rich mosaics of lichens and associated fungi (Figure 2), with six, nine and thirty species, respectively. The pole made of elder supported a single species, *Bacidia friesiana*, while the softwood had no epiphytes.

Wattles often are completely covered by epiphyte communities and therefore represent a valuable glimpse into Britain's floristic history. Although the flora represented on most wattles is somewhat limited compared to that found in the entire sample (Figure 3, overleaf), the abundance of these lichens and associated fungi may be reliably assessed because of the relative abundance of the bark in these samples.

**Figure 2** (opposite). Lichen community preserved on oak pole rafter, from Cymbeline, Downton, Wiltshire. Both foliose and crustose species are represented in this example of a species-rich mosaic: Bd=*Buellia disciformis*, Jt= *Japewiella tavaresiana*, Lc=*Lecanora chlarotera*, Le=*Lecidella elaeochroma*, Pp= *Parmotrema perlatum*





**Figure 3.** Frequency of lichens from Wiltshire. Only those species occurring more than twice are included.

## Results II. *Pyrenula coryli*

One of the most interesting finds from post-mediaeval Wiltshire was *Pyrenula coryli*, a species currently very rare in Britain, and only known from N Wales and N and W Scotland (Smith, et al. 2009). Although this species may be overlooked to some degree, it is quite distinctive (for a little black dot!), and is not known from England. On wattles from Downton, this species was identified on at least three separate hazel rods between 1.5 and 3.6 mm diameter (and one from Tewkesbury as well) dating from between the 15<sup>th</sup> and 17<sup>th</sup> centuries. On the sample of hazel wattles from Wiltshire, *P. coryli* was found about as frequently as *Pertusaria leioplaca* and *Tomasellia gelatinosa*, and possibly even more frequently than *Graphis scripta* (Figure 3). Sample sizes are too low to ascertain statistical levels of confidence in this comparison; nevertheless, *Pyrenula coryli* appears to have been more abundant historically than it is in modern landscapes, especially considering the vagaries of hazel rod ‘sampling’ by house-builders and the inherent losses over time of these archaeological resources.

## Can you help?

Too often we have heard tales of people renovating or undertaking ‘improvements’ to vernacular buildings, with the consequence that timber and underwood of historic importance ends up on a bonfire or in a skip. We are prepared to examine and if necessary to curate any such material – please do get in touch if you know of any renovations being undertaken which might yield archaeological material. Much of our research depends on the good-will of private house owners, and we are looking to access material from a wide range of sites from across the UK — we would be

keen to hear from anyone who knows of an opportunity to access vernacular buildings from the pre-industrial period (up to about 1750). Please contact Rebecca Yahr at [r.yahr@rbge.ac.uk](mailto:r.yahr@rbge.ac.uk).

### Acknowledgements

The authors wish to thank Dorothy Treasure and Nigel Walker of the Wiltshire Buildings record for helping to organise access and provide dates for the buildings in question. David Chamberlain and Oliver Moore assisted with the identification of bryophytes.

### References

- Coppins, B.J., Rose, F. et al. (1985). Lichens from a 16th Century Sussex cottage. *Lichenologist* **17**: 297-298.
- Hawksworth, D.L. & Rose, F. (1970). Qualitative scale for estimating sulphur dioxide air pollution in England and Wales using epiphytic lichens. *Nature* **227**: 145-148.
- Rackham, O. (1982). The growing and transport of timber and underwood. *British Archaeological Reports. Woodworking techniques before AD 1500* **V 129**: 199-218.
- Rackham, O. (1986). *The history of the countryside*. London, Phoenix Press.
- Smith, C.W., Aptroot A. et al. (2009). *The Lichens of Great Britain and Ireland*.

### Appendix 1. Species list from 15-18C wooden buildings materials in Wiltshire.

#### Lichens

<i>Amandinea punctata</i>	<i>Lecanora chlarotera</i>
<i>Anisomeridium bifforme</i>	<i>Lecanora horiza</i>
<i>Anisomeridium viridescens</i>	<i>Lecanora intumescens</i>
<i>Arthonia didyma</i>	<i>Lecanora</i> sp. "dark"
<i>Arthonia radiata</i>	<i>Lecidea exigua</i>
<i>Arthopyrenia salicis</i>	<i>Lecidella elaeochroma</i> f. <i>elaeochroma</i>
<i>Arthopyrenia</i> sp	<i>Parmelia sulcata</i>
<i>Bacidia arceutina</i>	<i>Parmotrema perlatum</i>
<i>Bacidia friesiana</i>	<i>Pertusaria amara</i> f. <i>amara</i>
<i>Bacidia laurocerasi</i>	<i>Pertusaria leioplaca</i>
<i>Bacidia rubella</i>	<i>Phaeographis smithii</i>
<i>Buellia disciformis</i>	<i>Physcia</i> sp.
<i>Celothelium ischnobelum</i>	<i>Porina aenea</i>
<i>Cliostomum griffithii</i>	<i>Punctelia reddenda</i>
<i>Cryptosphaeria unomia</i>	<i>Pyrenula chlorospila</i>
<i>Graphina anguina</i>	<i>Ramalina farinacea</i>
<i>Graphis scripta</i>	<i>Strigula</i> sp.
<i>Gyalecta truncigena</i>	<i>Strigula taylorii</i>
<i>Japewia carrollii</i>	<i>Xanthoria parietina</i>
<i>Lecania naegelii</i>	
<i>Lecanora albella</i>	

## **Bryophytes**

*Amblystegium serpens*  
*Ceratodon purpureus*  
*Frullania dilatata*  
*Frullania sp.*  
*Homalothecium sericeum*

*Hypnum cupressiforme*  
*Neckera complanata*

## **Associated fungi**

*Arthonia punctiformis*  
*Arthopyrenia analepta*  
*Arthopyrenia punctiformis*  
*Ascodichaena rugosa*  
*Eopyrenula avellanae*  
*Hypoxylon howeanum*  
*Hysterium angustatum*  
*Hysterium pulicare*  
*Lecanora chlarotera* parasite undesc.

*Leptorhaphis maggiana*  
*Mycoporum antecellens*  
*Pyrenula coryli*  
*Tomasellia gelatinosa*  
Unid sp 1  
Unid sp 2  
Unid sp 3

Rebecca Yahr, Brian Coppins and Christopher Ellis  
Royal Botanic Garden, Edinburgh  
Email [r.yahr@rbge.ac.uk](mailto:r.yahr@rbge.ac.uk)

## **Deception on Dun Caan, Raasay: *Ephebe* and other look-alikes**

Crossing the granophyre outcrops on the way up towards Dun Caan with the BLS Raasay Field Trip this year someone pointed out *Ephebe lanata* to us. As relative lichen novices this was the first time we had seen *Ephebe*, however, we soon found that it was quite common growing on exposed surfaces of the granophyre. A quick glance in Dobson showed that there were two species of *Ephebe* and there was an *Ephebe* look-alike, *Pseudephebe*. This triggered us to look for different forms. Eventually we found some clumps of what looked like straight, jet black hair growing directly on peat. The habitat was different enough to make it worth collecting some.

Under the dissecting microscope it consisted of closely packed, parallel-sided black strands growing clear of the peat surface. When seen under transmitted light the strands were clearly of the cyanobacterium (blue-green alga) *Scytonema*, recognized by its distinctive branching pattern, plus some *Stigonema*, with its distinctive mosaic-like cell pattern. There was no sign of lichenisation.



*Ephebe lanata* (actually from North Wales); © Mike Simms, [www.britishlichens.co.uk](http://www.britishlichens.co.uk)

Professor Brian Whitton of Durham University subsequently identified these as *Scytonema myochrous* and *Stigonema mamillosum*. The physical similarity between the cyanobacterial colony and *Ephebe* is remarkable but perhaps not surprising since *Scytonema* is the photobiont in *Ephebe*.

As an aside, many people commented on the purple sheen covering a lot of the peat in the same area. Under the microscope at the hotel it appeared to be a 'red' alga but did not key out in the British algal flora. Sue had heard of a green alga that is confusingly coloured red due to a pigment in its cytoplasm. Brian Whitton confirmed that this was indeed the case, the deception being caused by the alga *Zygonium ericetorum*.

We would be happy to try and identify any unusual non-lichenised algae found during lichen excursions.

*Sue and Les Knight*  
Email [lesknight@btinternet.com](mailto:lesknight@btinternet.com)



## Country Diary: Lough Coumshingaun, Comeragh Mountains, Co. Waterford

I have always been one to trust my instincts. So when I plucked Brendan Lahane's book *Wild Ireland: A Traveller's Guide* from a bookshelf in the duty-free during an afternoon Stena Line ferry crossing from Fishguard to Rosslaire in Ireland and gazed spellbound at the photograph of Lough Coumshingaun (*Com Seangán* = "Pissmire Hollow") on the front cover, I knew at once I would go there.

At an isolated car park between Carrick-on-Suir and Dungarven below the high ground of the Comeragh and Monavullagh Mountain range (known jointly as the 'Comeraghs'), the pistol-shot crack of the car central locking sounded the start of my lone pilgrimage to this remote body of wild water. Swirls of cloud circled the sky. Pinnacle-capped ridges winked from behind rows of grey, silvered trees. Evergreens skulked, brittle-tipped like stars. The highways lay strangely empty; the boreens hushed and still. Sheaves of sunlight floated down through the mist, shifting like columns. Today was Sunday.



It took just minutes to climb above the lowest belt of trees. From there, I made my way steadily upwards travelling through a dense plantation of closely planted conifers on a soft mattress of fallen pine needles. A broken, barbed-wire fence grew

out of the light where a dilapidated dry stone wall bounded the moor. Lichened rock, bruised like fruit, shone blue with Porpidias. A leafy fretwork of grey-brown *Parmelia* skimmed the wall top like a web. Shaded crannies grew soft-lined with Leprarias. Gaps, as wide as a fist, hid crude mosaics of *Rhizocarpon geographicum* cramped by slimed-over mosses.

April in the Comeraghs is apt to smoulder and seduce. A spring fire had been lit and the gorse was burning: yellow blizzards of flower - incandescent in its beauty. The tor-capped peaks were moon-lit icebergs carved from Old Red Sandstone. Lichens faded over the hard surfaces like algebra, some releasing a perpetual mist of propagules like a weightless, magic dust. A cinnamon of bracken hid the rocky slopes. Parmeliesque forms squatted low, limpet-like, spread-eagled mischievously over the flat-topped rocks, fishing for nutrient. In this heavily overgrazed landscape stood a single hawthorn; crooked and spindly, its muscular branches feathered with *Evernia*; its trunks foxed with *Arthonia* and *Phaeographis* like the inside cover of a rare, antiquarian book.

My gaining height appeared to diminish all distance. One backwards glance saw afforested slopes and quilted fields racing back towards the horizon as though dragged there by elastic. Bursts of sunshine stirred the wheaters that were restless waiting for the summer. I crossed a high ridge before descending, finally, into a moraine scattered with boulders, some in piles like scrap-yard cars. The pudding-stone rock lay crazed and pitted, grey-purple in the unpredictable light. Veins of quartz floated around in the air like water caught in a shaft of sun. In a labyrinth of gullies, issues of seepage thinned promptly to icicles of water. *Porina lectissima* were splashes of orange, *Lecidea phaeops* trickles of beige. A black felt lined the depths of every crevice. Mossy ledges would glow with life where a pool of light fell upon the contents: here, the vermilion and green of *Cladonia bellidiflora*, there, the coral-pink stained branch tips of *Sphaerophorus globosus*. With the stroke of a pencil I re-configured the assemblages as *Clauzadeana macula*, *Lecidea pycnocarpa*, *Pertusaria aspergilla*, *Pilophorus strumaticus* and *Fuscidea intercincta* fell out of the rock and onto my list.

Nothing can prepare you for your first glimpse of Coumshingaum. Through a ghostly ectoplasm of gauzy mist I saw it all: the immense amphitheatre; towering cliffs thinned to jagged ridges by the wind; landscape that could suck you inwards like gravity. Then, as the clouds parted, the lake briefly brightened, dazzling suddenly like headlights on full beam, only for the surface to still again to silvered glass. Alone here at Coumshingaum one could sense both its utter desolation and its imperious grandeur. I hesitated near the lake-shore knowing that the water levels would be high and fearing the lichens may be dull. In the remote silence no birds called.

Peering at the waters edge the shallows lay still and bright as though I'd lifted the lid on a frozen pond. It was quite unlike the lower tarn I'd passed on the way up where legions of tadpoles were mustering in their millions. Here were tiered ledges, and below these, sunken forests of *Dermatocarpon* glued to the stones like seaweed. I went anticlockwise around the lough searching for a sloping edge, eager for a zonation. I found at last a massive slab dipping downwards into the water. Conglomerate generates remarkable traction and using kneepads you can hang upside down. I followed a long streak of *Ephebe* as it disappeared underwater like a

sea-nymph, its floating, blue-green mats of silk, pulsing then dwindling with the current-like lapping of the waves. I could see the reflection of the mountain and a lone hiker climbing a ridge a thousand feet above my head. My hand lens idled for a moment around the *Ephebe* picking out the translucent lobes of *Collema flaccidum*, the initials of *Ionaspis lacustris* and scraps of *Agonimia* hidden among the glossy-green strings of an aquatic moss. I recognised a dark gauzy stain, pin-pricked with dots...and old acquaintance...*Pterygiopsis*, *Pterygiopsis coracodiza*.

By two o'clock my recce of the shore was complete. I could hear the voices of hikers over half a mile away as if they were yelling in my ear. The wind had picked up and the clouds were smaller and brighter. Hypnotised by the cliffs I climbed to the base of a vertical column that formed part of the north face. I was walking up the hypotenuse of a triangle. Squinting into a crevice I saw the lumpy granules of *Micarea prasina* buttressed against the entrails of *Baeomyces rufus*, moribund in its sickness but resurrected in part as *Arthrorhaphis grisea* like a patch of faded denim stained with grass. *Dimerella lutea* grows here, knee deep in wet moss in clefts in the rock blissfully unaware of its arboreal predilections. For longer than I'd ever known I searched for *Micarea botryoides*. High and low I looked, every shaded recess poked and probed. I cornered it, eventually, on a withering liverwort, the white-tipped pycnidia glowing like waxed candlewick in the darkness.

Vince Giavarini

Email [v.giavarini@sky.com](mailto:v.giavarini@sky.com)

## Lichens in environmental education in the Carpathians

Over the past years lichens have engaged the interest of a wider audience than ever, measured by e.g. the increased number of enthusiastic young lichenologists attending IAL symposia. They feature in key strategy, for example the *European Strategy for Plant Conservation (2008-2014): A Sustainable Future for Europe* (report by *Planta Europea* and the Directorate of Culture and Cultural and Natural Heritage, Slovakia). The importance of lichens in providing ecosystem services is often ignored. Promotion of education and awareness about lichen diversity is important to attract the attention of a wider range of interested people, including future supporters, aficionados or professional colleagues.

A message about the importance of lichens in the Carpathians to primary and lower-secondary school children (6 – 15 years old) is incorporated in a teaching handbook for teachers and environmental educators. A set of teaching tools based on the handbook, a training seminar for teachers and a brochure for the public, are all in their final stage of preparation. The material called *World of Carpathians* is a product of a two-year project run by a group of NGOs (Thüringer Ökoherz e.V. Germany, DAPHNE – Institute of Applied Ecology, Slovakia and Carpathian EcoRegion Initiative). Relevant information in an accessible form for its target audience about lichens in the Carpathians (territories of the Czech Republic, Slovakia, Poland,

Hungary, Ukraine, Romania and Serbia) is incorporated into five sections, including a general overview of the species diversity and following an ecosystem approach (forest biotopes, grasslands, water and wetland biotopes and extreme biotopes – caves, deep water, rocks and snow at highest peaks). The text about lichens was compiled according to recent literature produced in the countries concerned, discussions with colleagues (Zdeněk Palice, lichenological team from Polish Kraków, Edit Farkas, László Lőkös, Florin Krisan and Duska Dimovic), and subsequently reviewed. The final material was prepared by an author team of 24 experts from Poland, Slovakia, the Czech Republic, Germany, Hungary, Ukraine, Serbia and Romania. Each chapter was coordinated by an editor-in-chief and reviewed by an expert from the given field. The expert review team has 15 members from Poland, Slovakia, the Czech Republic, Serbia and Romania.

The content of the handbook includes:

1. Introduction to the Carpathians Mountains – importance, natural values, uniqueness
2. Abiotic conditions – geographical division, geology and mountain formation, water, landscape diversity
3. Diversity of life – general overview on species and habitat diversity
  - 3.1 Forest habitats – importance and functions, forest biotope types, vascular plants, mosses, lichens, fungi, mammals, birds, reptiles, invertebrates
  - 3.2 Grassland habitats - importance and functions, forest biotope types, vascular plants, mosses, lichens, fungi, mammals, birds, reptiles, invertebrates
  - 3.3 Water and wetland habitats – importance and functions, forest biotope types, vascular plants, mosses, lichens, fungi, mammals, birds, reptiles, amphibians, fishes, invertebrates
  - 3.4 Extreme habitats – description of extreme biotope types, vascular plants, mosses, lichens, fungi, mammals, birds, reptiles, invertebrates
4. Men and biodiversity in the Carpathians – life, settlement, culture and traditions, modern day impacts on environment and current responses
5. Biodiversity conservation in the Carpathians – global importance, EU influence, Carpathian-wide initiatives for the conservation of biodiversity, biodiversity conservation within the Carpathian countries – local lever and role of NGOs/local people in nature conservation
6. Concrete positive examples of sustainable/wise use of biodiversity in favour of nature and people to show benefits and bring motivation to maintain the richness of biodiversity

The material will be published in English, Slovak and Polish, thanks to funds from Deutsche Bundesstiftung Umwelt and other partner organisations. It will be available at the end of 2009 (the Polish version that will appear in March 2010). Additional funding will be searched for to secure translations into other languages in the forementioned countries. More information may be found on <http://www.daphne.sk/dbu-project08/index.htm> and [www.carpat.es.org](http://www.carpat.es.org).

*Anna Guttova*

*Email [anna.guttova@savba.sk](mailto:anna.guttova@savba.sk)*

## **The Field Outings and Other Lichenological Sortés sub-group**

A small group of BLS members have joined forces in an attempt to re-ignite the spirit of adventure lichenology so well described by Oliver Gilbert in his book *The Lichen Hunters* and exemplified by many of the early published field reports which appeared in the *Lichenologist*, e.g. P.D. Orange *et al.*, 'Lichens of the trig point on Ben Alder' (*Lichenologist* **14**: 289-290, 1982).

We are pleased that Dermot O'Carpon has agreed to chair the group and his sister Coelous act as secretary for the first meeting. Others who have so far expressed an interest in joining the group include:

Vera Carrier  
K O H Gelb-Rot  
Hans Lens  
K Michael-Test  
C Minus (ne. Gative)  
Mrs Terry O'Caulon  
Miss Ida N Tification  
Mick R Scope  
Di Sect  
Anna P Tychia

The first meeting of the group will be held on 1st April 2010 at The Notional Mystery Museum. Any other BLS members who feel they can contribute should re-read this article and think again.

*G Feshie-Bothy*

## **Opal Air Quality: Initial Trends – and Usnea Discovered in Central Birmingham**

Since the start of OPAL, many BLS members have contributed to the development of the Air Quality survey, and we are grateful to you all. To those who let us know about lichens on trees near your homes, to those who have generously given time and materials assisting the development of the work-packs, and in helping OPAL community scientists at sessions with the general public, a very sincere 'thank you'. This has been a huge collaborative effort.

Lichens and the BLS are having good press coverage through the Air Quality project. Following the official launch at the Chelsea Physic Garden on 29 September the Telegraph ran an article in Nature Notes. This included a quote from Pat Wolseley encouraging public participation in the survey '*we want to find out more about what*

*lichens can tell us about the changes in air quality in our towns and countryside'*. Pat had been accompanied by Emma Green (of the Air Quality centre at Imperial College London, Silwood Park campus, and a member of the BLS Education and Promotions Committee), and other members of the OPAL team, including Chris Howard (the IT expert who has created the OPAL website and the direct URL: [www.airsurvey.org](http://www.airsurvey.org)). Coverage in the local press was extensive, as also were radio broadcasts. Barbara Hilton and Nathan Callaghan (like Emma, of Imperial College and a member of the EPC) broadcast 17 interviews from London covering BBC Radio 4's Today programme and 24 local radio stations. These were supplemented by broadcasts direct with local contacts. For example, Sarah West, OPAL community scientist in York, spoke on BBC Radio York, and our own president, Peter Lambley, spoke on a Sunday morning gardening programme for Radio Cambridgeshire.

Diverse events and training programmes were arranged, even before the official launch. OPAL community scientists were working with members of the BLS at various training sessions and workshops across England. These were designed to help members of the public learn the 'key features' selected to help identify each of the nine indicator lichens used in the survey. The sessions proved very popular and were attended by a wide range of people, including teachers, home-school tutors, representatives of local and county councils, as well as members of natural history societies and wildlife trusts. It is hoped that those who attended the training sessions will go on to participate in the Air Quality survey with other groups, cascading their knowledge of lichens and their role as bio-indicators of air quality.

The presence of *Usnea* was confirmed by Ivan Pedley in central Birmingham, at a training event organised by community scientist Adam Bates in mid-September. The specimen was too small to ID definitively at species level and – being the first record for Birmingham for at least 150 years, perhaps longer – it deserves to remain on the tree. While this noteworthy discovery is exceptional it may indicate a trend towards cleaner air in the heartland of industry! Other interesting finds on training days have been the frequency of *Xanthoria concolor* on trunks in several urban areas, the appearance of *Xanthoria ucrainica* in Kensington Gardens in London and, in Nottingham, the contrast between the abundance of nitrogen-loving lichens on oak twigs and the relative paucity of lichens on the trunks.

Lichens may yet become a political (small p) issue. Feisty residents in one of the most deprived areas of south-east London (Pepys estate, Deptford), fighting for the removal of a local scrap-metal yard, are gathering evidence about the quality of their environment. With the help of community scientist Claire McConnell, they are marshalling data of the lichens on trees in their urban landscape. OPAL is committed to reaching those who are disadvantaged or find it hard to explore the environment. Following an event in the North West, community scientist Jonathan Taylor received a message of thanks from a disabled participant who had enjoyed greatly using the workpack and finding out about lichens. In his spare time, which was plentiful, he was looking forward to collecting a lot of data from areas around his

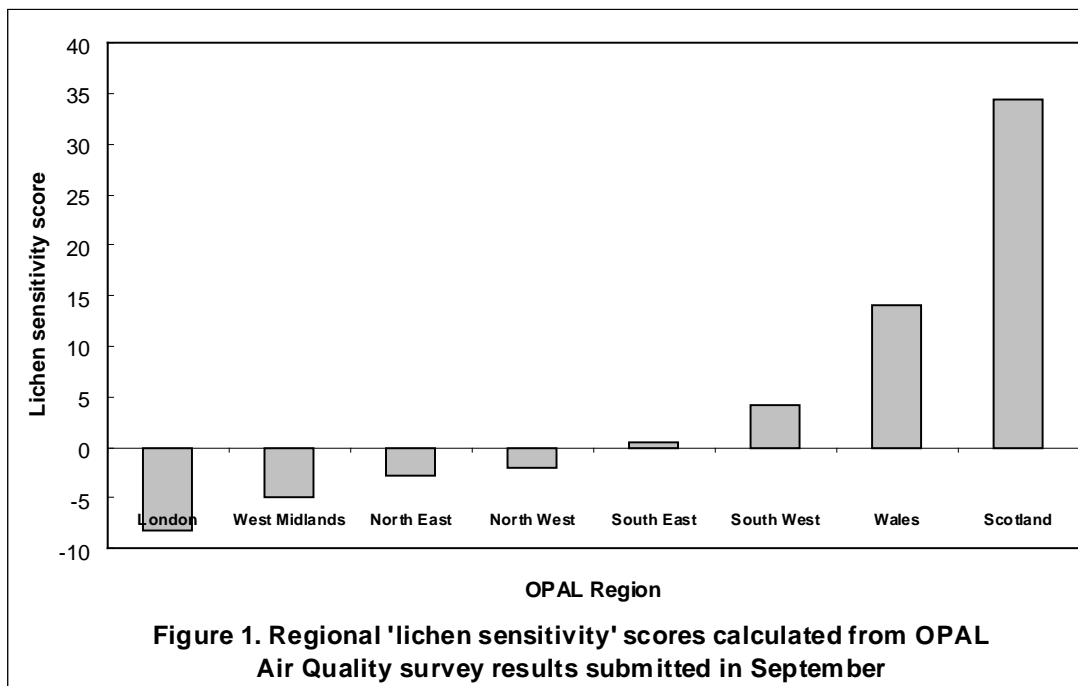


home. Janet Simkin is incorporating the air survey into an introductory session in her lower plants course at Newcastle. The project materials are suitable (and can be adapted) for the needs of her students, of very varied backgrounds, ranging from young PhD students to senior residents (eighty plus in years) who are enjoying finding out about their environment.

Colleagues at the Field Studies Council, Simon Norman and Louise Parker especially, have been very helpful throughout our project: long-suffering during stages of drafting and accepting photographs, and distributing 20,000 packs to schools which is a tremendous boost. It is they we thank for the sudden addition of batches of results, in from schools, some even before the official launch. Watching the accumulation of results on website [www.airsurvey.org](http://www.airsurvey.org) (or [www.OPALexplorenature.org](http://www.OPALexplorenature.org)) can be compulsive. The sites where results have been entered appear on a google map of the UK, and when you click on a site the results come up as a list of indicator lichens on trunks and twigs, so it is very easy to compare sites across England. In addition to the google map, participants will be able to view their results as a bar of the percentage (%) of indicator categories, as nitrogen-sensitive, intermediates and nitrogen-loving species on trunks and twigs in each site and compare it with the % of categories for all records. In addition, a pollution score is being calculated using a scale incorporating the frequency and numbers of nitrogen-loving and nitrogen-sensitive species on trunks at each sample point. The results provide a score where negative results are associated with dominance of nitrogen-loving lichens and positive scores are associated with dominance by nitrogen-sensitive species.

The arrival of Dr Erika Hogan as information officer for the BLS during autumn 2009 has transformed our capacity to analyse results. Erika has a background in lichens and air pollution, having recently obtained her PhD in lichen ecology at the University of Nottingham. She has been responding to queries about lichens sent by the general public and members of the OPAL team as well as monitoring the progress of the survey and the pattern of results received. Her preliminary analysis of early survey results has revealed some very interesting trends:

In England, the nitrogen-sensitive indicator lichens *Usnea*, *Evernia* (*prunastri*) and *Hypogymnia* (*physodes*, *tubulosa*) are most abundant in the South West. *Usnea* has been recorded on tree trunks in the North and South West (as well as a single specimen in the centre of Birmingham!) *Evernia* has been found on tree trunks in the North East, West Midlands and London: however, in all cases, nitrogen-sensitive indicator lichens were either absent or not very common on twigs, where the nitrogen-loving *Xanthoria parietina*, *Xanthoria polycarpa* and *Physcia* (*adscendens*, *tenella*) dominated. Perhaps this pattern indicates a shift in pollution climate, with levels of nitrogen pollutants rising in these regions? As might be expected, in urban areas (such as in London, the West Midlands, the North East and North West), as well as those which are heavily agricultural, nitrogen-loving lichens dominate. The presence of these lichens gives a relatively large negative score in these regions, consistent with increased levels of nitrogen pollutants.



The stimulus of OPAL has generated extra bonuses. To aid identification of additional species that participants in the lichen survey may find, Pat Wolseley has worked on two new keys to common lichens available from the OPAL website: iSPOT created by the OU and Key 2 Nature (K2N) part of an ongoing European programme based at the Natural History Museum providing easy-to-use illustrated keys to identify plant and animal species. The former benefits from illustration by Frank Dobson's photographs and is an interactive Bayesian key using a weighting system for characters developed by the OU. In addition to the key, members of the general public can put their photo-images on iSPOT and exchange comments and guidance on identification of species that they find. The second key has been created by Pier Luigi Nimis and Stefano Martellos who have already worked on other keys for lichens in the K2N site. Together with Pat they have produced a Key to common lichens in the UK using additional pictures of UK specimens from Mike Sutcliffe's website [www.britishlichens.org.uk](http://www.britishlichens.org.uk) and from Harry Taylor in the Natural History Museum [http://dbiodbs.units.it/carso/chiavi\\_pub21?sc=351](http://dbiodbs.units.it/carso/chiavi_pub21?sc=351). K2N also provides an interactive slideshow called 'More About Lichens' with stunning photography and description of the main lichen-forms. This even includes a short film on chemical tests. The advantage of web-based keys is that we can expand them to include other species found on the OPAL project so that by the end of the project the keys should include most commonly occurring species.



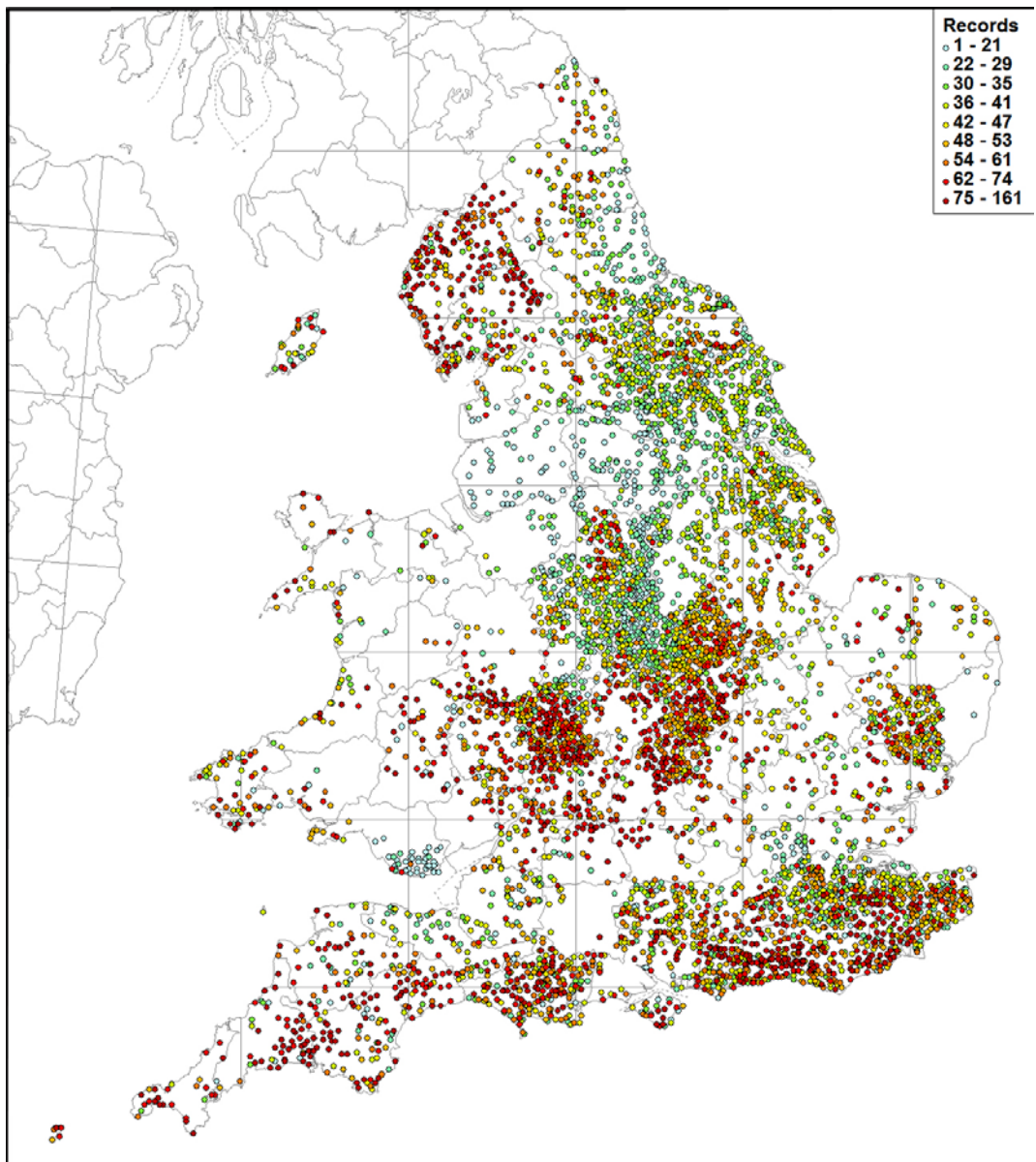
Pat Wolseley identifying lichens at the air quality launch in Chelsea Physic Garden (shown with Chris Howard and Emma Green) : © OPAL.

This all adds up to a huge community project. OPAL has involved a lot of effort and while we might predict our results, we may be in for surprises. By the time this article appears in print we hope to have thousands of results. Shall we find more *Usneas* in Birmingham? Or Manchester? Or Newcastle? Time, and OPAL, may tell.

*Erika Hogan, Barbara Hilton and Pat Wolseley*  
*bphilton@eclipse.co.uk*

## **Churchyard survey records**

For the last six months our efforts in computerising records have been concentrated on the churchyard survey. We have been recording churchyards since the 1960s and there are now some 8,500 paper cards, mostly held by regional recorders. This is a huge dataset for a single habitat, and once fully computerised it should be a valuable resource for studies of lichen distribution and ecology, as well as raising interest in and supporting the conservation of lichens in churchyards. Some of the most important records will be those for revisits to sites that had been surveyed some years before, as these give us an indication of how the lichen flora is changing over time.



Quite a few of the churchyard cards had already been input to BioBase and other systems so the first task was to move all these records into Recorder, so that we had them together in one place. The rest are being input to spreadsheets and imported to the database in the usual way, and we are grateful to Natural England, the Countryside Council for Wales, the National Biodiversity Network and the Welsh Biodiversity Partnership for the funding that is supporting this work. So far this year we have added another 2,000 cards to the database, with a further 1,000 still being worked on and perhaps 300 not yet started. We hope to be finished by the end of the year.

The map shows the distribution of the 320,000 churchyard records now in the database. We still have cards to add for Dorset, Wiltshire, Hampshire, Sussex, Surrey, East Suffolk, Norfolk and Warwickshire.

A large part of the work over the last few months has been what we call “data cleaning”. This involves checking the location name, grid reference and vice county for every card (the error rate is depressingly high), checking that rare species records are not input errors, and removing duplicates. It is a tedious job and takes as long to do as the input, but the result will be a database fit to release on the NBN Gateway.

As well as making the data publicly available we will be able to analyse it ourselves in ways that were not possible before. The first use will be to produce a brief report on churchyard lichens, with suggestions for future survey and research.

So many people have been involved in this project it is not possible to name them all, but we couldn't have done it without them. Funding helps, a lot, but it is the expertise and commitment of our members that really makes things happen.

*Janet Simkin*

*Email [janetsimkin@btinternet.com](mailto:janetsimkin@btinternet.com)*

Here follows a poem written by Professor Keith Jones (formerly Keeper of the Jodrell Laboratory, Royal Botanic Gardens, Kew and a world-renowned plant cytogeneticist) to commemorate the marriage of David Hawksworth to Patricia Taylor on 13 September 2009.

*I am just a lowly lichen you can find me everywhere  
Mostly flat upon the ground or up a tree.  
My parents are not married but that's something I can bear  
For their intimate embrace gives life to me.*

*I know my constitution so I'll tell what I've seen  
As I stand aside and concentrate my sight.  
One half of me is colourless and the other oh so green,  
A poor mixture you may think but its alright*

*For the combination produces what neither can achieve  
Each supplying what the other partner can't  
So together they enjoy a remarkable reprieve  
From the dangers that surround a simple plant.*

*As far as evolution is concerned I've had some million years  
But now faced with man's pollution what must I do?  
Evenso I have no doubt as I put aside my fears  
I'll still be here when we've seen the last of you.*

*In the the BLS Bulletin no. 104 (summer 2009, p.75), an important article was published as the first stage of a development strategy for the British Lichen Society over the next 5-10 years. Here are two of the responses received so far; please do re-read the article and send in your views of the original document and/or your reactions to these pieces. The Society faces many major challenges in this first part of the 21<sup>st</sup> century, and it is up to all of us to ensure that the BLS continues to exist as a healthy and scientifically respected organization.*

## **Progress on a strategy for the Society – some comments**

In response to Peter Lambley's article on BLS's strategy for the future in the *Bulletin* No. 104, I would like to make the following comments.

**1. Encouragement and support of new members.** With existing experts considered as an Endangered Species, this has to be an important aim, but I am not convinced that the three ways proposed to deal with this are likely to be entirely effective. Firstly, providing mentors for beginners on field meetings – a good idea in theory, but there are far too few field meetings, and probably not enough mentors. Also, BLS field meetings tend to be in places known to be or likely to be rich in lichens or particular suites of rarities. These sites are not necessarily the best locations for beginners, who may make better progress in the early stages in less rich areas closer to home, where they could develop confidence in identifying the more common species.

Secondly, running short courses for beginners. Again, good in theory but I think a two-tiered system could be better. Just aiming at complete beginners risks considerable wastage, as there is the likelihood that many of these beginners may swiftly decide lichens are not for them. So in addition to beginners' courses, how about a programme of courses for 'intermediates', those who have shown persistence and dedication in struggling through the beginner stage but who would certainly not consider themselves as experts?

Perhaps there could be more support for intermediates to run local teaching days? The provision by BLS of short power point presentations plus simplified keys for the more commonly encountered species (according to region) might help here; county wildlife trust headquarters could be appropriate venues. I may have further comments to make regarding this, as I have been persuaded to teach the lichen half of a one-day course being held at Sussex Wildlife Trust HQ in October. This is not something I have done before.

Improving the identification skills of intermediates could then relieve the teaching burden of experts, as the intermediates could teach beginners, at least at the local level. Ideally, this would create a robust system whereby a range of people of all ages could work up through different levels of skill without the brunt of the burden increasingly shouldered by a few widely scattered individuals; training up intermediates could mean more mentors for beginners. It could also result in quicker returns to the benefit of lichens, as intermediates have already got past the basics and can be more useful sooner. A fair number of intermediates may be those who are not employed full time, or who are recently retired. These may not be eligible for 'beginner' schemes, but nevertheless **may** be an under-utilised resource. Developing



the intermediate skill base might well help to reduce the risk that as a society we may not be able to meet the needs that schemes such as OPAL might engender.

Thirdly, forming local groups as an important way of developing the society. As a member of the Sussex Lichen Group, I heartily agree that this is an excellent strategy – but again it is one that would benefit from improving the identification skills of intermediates. One problem is that local groups, as is the case with BLS field meetings, tend to focus on recording. This is a very necessary activity but not one that is ideally suited to attracting and keeping novices, who are speedily overwhelmed and lose interest. This means it is difficult to build up a good core of local group members.

**2. Field Studies Council.** Is there anything that could be done about the dwindling availability of FSC lichen courses? There are in 2009 just 5, compared with 15 for bryophytes. These courses are very helpful, although I think that they should be ranked carefully in terms of skill level.

**3. Data and its importance.** I have some concerns about what seems to be the generally accepted method of recording, the end result of which is a straightforward list of those seen plus details of substrate. Although it would probably be unrealistic to follow full-on survey methodology, we could get much more information from our records if the methodology presented in S.3.6.2 of BLS's *Surveying and Report Writing Guidelines for Lichenologists* (Hill, 2006) were followed as far as possible. Lichen community details, simple frequency tables and the DAFOR scale of abundance would enable a much better ecological assessment of sites, climate change and interpretation of lichen floras. Again, if we can boost numbers at the local level by using trained intermediates to teach beginners, this may be feasible, with some producing a good species list and others concentrating on frequency, abundance and community.

**4. Running the Society.** Should the BLS provide information, in the *Bulletin* or on its website, on the duties involved with the vacant positions? Is it possible to split any of these so that the load is spread more thinly?

It should be apparent from the above that, at least as far as lichens in the south are concerned (I'd be a bit of a dunce in Scotland!), I would put myself in the intermediate zone. I progress in fits and starts, but far too slowly for my liking. My opinions will hopefully strike a chord in at least some others who would welcome both being given help with more problematic groups and consequently being able to contribute more to lichen conservation and the BLS. Finally, I think the 104 issue of the *Bulletin* is the best ever, my only complaint is that there are only 2 a year!

## Reference

Hill, D.J. (2006) *Survey and Report Writing for Lichenologists*. British Lichen Society.

*Theresa Greenaway*

*Email [theresa@greenaway1.demon.co.uk](mailto:theresa@greenaway1.demon.co.uk)*

## Thoughts on *Progress on a Strategy for the Society*

### How can we support new members?

I feel that a system of mentoring - and not just at field meetings - is probably the most valuable single thing we could provide. I received much support in my own early days from Chris Hitch, who I had met at one of his Kindrogan field courses. Thereafter he acted (by mail - I lived in Aberdeen, he in England) as a mentor whenever I had a problem or needed help determining something unusual or difficult. Without that help, I wouldn't be working on lichens now.

I think that formally setting up local groups may be too ambitious in most cases, but a local network based around a few mentors and their (for want of a better word) pupils, might in some cases eventually develop into a local group. The Society would need to set up some sort of system whereby people willing to act as mentors and people needing support can be put in contact with each other.

If you see to it that people offering to act as mentors get something nice said about them in the *Bulletin*, it wouldn't do any harm at all.

### Publications

I think it might be a good idea to run a regular series in the *Bulletin* in which a small group of species is looked at closely, from the point of view of someone who is just beginning lichenology. Such articles would be best written by someone with a few years experience (so she knows what she is talking about) but *not* by one of our real experts (who have probably forgotten what problems matter to beginners). Choosing an example entirely at random, the three ciliate species of *Physcia* is the sort of topic that might be suitable: these species are common enough to be worth discussing, there are not many of them so they can be discussed adequately in a couple of pages, and they are fairly easy to confuse if you are just starting work on lichens. A sensible discussion of how to tell them apart, and of potential pitfalls, complete with a few diagrams, would make a nice two or three pages in the *Bulletin*. (Talking of potential pitfalls, I can recall being completely bemused long ago when one of my lichens - I think it was a *Physcia*, though not a ciliate one, perhaps *P. aipolia* - reacted very distinctly K+ green. The books didn't say anything about +green reactions. It took me a long time to work out that the K was making the cortex transparent, so that I could see the algae. I can't be the only beginner to have been caught out by that.)

For a bit of variety, we could include articles - at about the same level, and written by the same sort of people - on how to carry out some simple tasks. How do you collect lichens from soil without ending up with a useless mess? How do you cut a good thin section? If you maintain a small collection of lichens for reference, what is the best way to store and preserve them? How do you determine ascus types? How do you use keys *effectively*? (It's not as obvious as it might seem.) All of these, and others, are matters of real practical interest, yet each of them has several potential pitfalls. Most of us eventually work out our own solutions, but often after making mistakes along the way. (I lost the better part of 6 months collections of Greek lichens, years ago, because they were not adequately curated and the moulds got at them one damp autumn.)

It will be no good asking for volunteers to write these articles. You probably won't get them. A better idea might be to choose (more or less at random) people who have been members for a few years and directly approach them with a request to write something. (A few years ago, when Sandy Coppins needed someone for a fairly large data-processing job she 'volunteered' me. To be more precise, she wrote me such a nice letter asking for assistance that I couldn't say no. I certainly wouldn't have volunteered myself, and I probably wouldn't have responded to a request for help in the Bulletin.) You might need to reassure anyone you approach that, yes, they probably do know enough to write such an article, but I think that you would uncover a surprising amount of hidden talent.

### **Website**

Be careful!! Maintaining software systems can absorb vast amounts of resources, as you recognise. What about using wiki technology to partially sidestep this problem? A BLS version of a lichen-Wikipedia would still need to be set up as a system, but that is probably a more manageable scale of project; as regards the *content*, the members (and Joe Public, if he wanted to contribute) would do most of the work. The relevant software doubtless already exists somewhere. It might even be Open Source.

### **Paying people**

In general, I find the idea distasteful. It reminds me of Margaret Thatcher-ism.

We have over 600 members, most of them intelligent, motivated, highly educated, and with a very wide range of skills between them. Most of them would be prepared to make those skills available free of charge, provided that the demands on their time do not become excessive, *and provided that they are asked*, preferably by a personal approach. (Don't wait for them to volunteer. They won't.)

However, sharing resources is another matter, and perhaps we should be willing to pay for professional services here. One area where I have long felt that what we do is ludicrously inefficient and unprofessional is in processing membership subscriptions. We could get together with other small societies, and centralise this. (Societies with a Natural History flavour are the obvious ones to approach first, but the nature of the Societies isn't really all that important. Administering membership subscriptions is much the same whether the members are concerned with looking at lichens or singing madrigals. Processing a larger volume of subscriptions, through a central function, would also give the scale necessary to make payment by credit card a feasible option. For some foreign members (not me - I have a UK bank account) that would be a substantial increase in convenience. Even if we had to pay a little for a service like this - say 1% of subscriptions - it would probably still make sense.

### **The international aspect**

The world is big, and the BLS is small. We should beware of over-extending ourselves. That said, I think that we could, and probably should, do some work with an international flavour, *provided that we are very selective in what we attempt*.

For example, any attempt to promote the study of lichenology here in Greece would be doomed to failure, for cultural reasons. Greeks in Greece just aren't interested in science. (Nearly everything that has ever been done on Greek lichens

has been done by foreigners. It's the same with vascular plants. Even the 9 volume *Flora Hellenica* project is being run from Copenhagen.)

Perhaps a way forward here is to tackle a series of small projects in other countries, and to get local lichenologists working alongside those from countries with a more established lichenological tradition. The personal contacts might be the most valuable outcomes at first, and are probably crucial to success. Any projects that didn't 'take off' could be quietly dropped. Those that did well could be encouraged and their scope expanded, with a gradual handing over of control to lichenologists in the country concerned.

To give this sort of thing some structure, it might be a good idea to build it around a small number of 'themes'. These themes could be almost anything, but here are the first ones that came into my head: terricolous lichens of arid lands (this, if successful, would lead eventually towards potentially valuable work on soil crusts and prevention of erosion); lichens of tropical Africa (a very under-researched subject); lichens in montane forests of SE Europe (little work has been done, but I know that there is a lot of potential here); preparing and publishing checklists and keys for poorly known countries (this isn't glamorous work, but it provides the essential foundation needed for most other things).

### **Spreading the message**

To avoid being overwhelmed by "hundreds of new members" set this up so that there is a slight *barrier to entry*, to use a bit of economic jargon. Set the bar low, so that anyone genuinely interested will not be discouraged, but high enough to filter out timewasters.

### **Our data**

It should be made much more accessible. Having a fancy database program is fine for people who want to just make a few queries, but it's useless for people who want to 'mine' a large volume of data, or who want to process the data in ways that the database designer didn't provide for. (For example, I happen to want a list of the lichen species recorded for each one of the Orkney Islands, so I can do some work on island biogeography theory. It will probably prove to be very difficult to extract what I want from Biobase, or whatever program we use now. However, if I could access a raw data dump of all British records, I could do the necessary extractions myself fairly easily.)

### **Running the Society**

So long as Officers are obliged to attend numerous meetings in London every year, most people won't - indeed can't - volunteer. It's impractical to make numerous trips to London if you live anywhere other than southern England or the Midlands.

Would it be possible to use internet chat room technology to reduce the number of face-to-face meetings needed? I know that some things can only be done effectively face-to-face, but surely a lot of the Society's business doesn't require that sort of contact.

*Linda in Arcadia*

Email [linda\\_in\\_arcadia@hotmail.com](mailto:linda_in_arcadia@hotmail.com)

# Lichens of Great Britain and Ireland

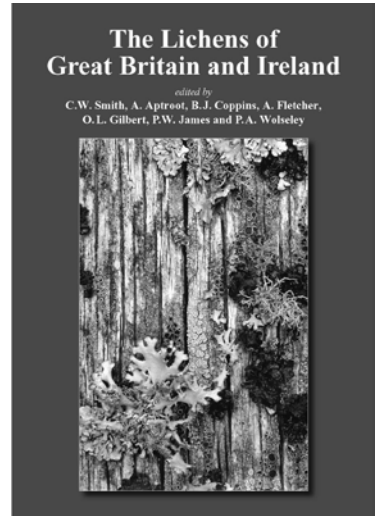
*Here follows the text of a speech given by Tony Fletcher on the occasion of the launch of the new BLS Publication*

Welcome to the launch of the new, definitive account of British lichens.

It has been a long haul since January 2001. As President of this society at that time I was receiving suggestions that the current Flora was becoming out of date and a revision would be welcome. Being President is a busy and stressful occupation so I asked the late Oliver Gilbert to sound out the membership. A crowded, lunchtime meeting between the Society's AGM and Exhibition Meetings revealed overwhelming enthusiasm for a Flora project, with many interesting suggestions over how the work might appear. One I remember was the idea of a plastic-bound copy to fit in a back pocket for field days. The size of our book shows why some ideas couldn't be realised. Also, an initial proposal was for a 'quick and dirty' approach, where the old versions would have new material merely inserted, giving a product within about 2 years. But, because so much new data was to hand, the process actually took 8 years. This is because many entirely new genera needed evaluating and writing-up, and much data on apparently well-known genera and species proved unreliable. Diagnostic keys in particular, needed much attention and testing, and for some a total rewriting. In places then, this new work approaches a monograph in the amount of new research that had to be done. For example, for my own chapters, all species were examined personally, many type specimens were borrowed and herbaria visited.

Cliff Smith came forward, as a computer buff, to trace the files and illustrations for the 1992 Flora, and this and their conversion took much of the year. Armed with these, a second meeting was held in January 2002 to agree a way forward. From the entire list of lichen genera compiled by Cliff, members were invited to revise relevant accounts. By 2004 the first drafts were being submitted but there was still a long way to go. Sadly, in 2005, Oliver Gilbert died and shortly afterwards I was asked by Council to take his place, and was delighted to do so – to finish a job that I felt some responsibility for starting.

Although the book closely resembles the 1992 Flora you will note that it is considerably longer. We have paid close attention for its accessibility to as wide an audience as possible, but of necessity it is not a beginners book. It is also no longer called a 'Flora', an inappropriate title considering its content. It covers every lichen known from the British Isles, is fuller with their details, has many more species and genera than the 1992 version, and the accounts are more consistent. This was achieved by some closely agreed editorial guidelines produced by our Advisory Committee of 16 persons. A small editorial Board guided the whole work,



comprising Cliff Smith, Peter James, Pat Wolseley and myself. We met approximately monthly at Peter's house near Sutton Coldfield, to which he had newly relocated after 50 year's residence in London. Consequently, we became accustomed to sitting among stacks of removals boxes and clutter, augmented by growing columns of draft accounts that Peter couldn't bear to throw away. The project suffered further traumas from bereavements and in its final year; the relocation of our chief editor Cliff Smith to Hawaii and the pressures of my retirement year.

You will notice the list of contributors stands at 50 persons from all over the world who are dedicated and expert in discovering and identifying lichens. Many of these authors, especially those from Britain, are amateurs or retired professionals, but those from other countries seem largely to be employed taxonomists or ecologists. This is a sad reflection on the status of taxonomy in this country – that such vital expertise now resides principally in the amateur sector.

In this brief address, I must acknowledge the assistance of many persons not fully rewarded by being editors or authors of accounts. The British Lichen Society met the preparation costs, with some also from Natural England (then English Nature). Considerable uncosted help, in the form of meetings rooms, access to libraries and use of herbaria came from The Natural History Museum, Royal Botanic Garden Edinburgh, National Museum of Wales and Leicestershire Museums. Mentioned in the introduction are the names of some 20 persons who commented-on and refereed accounts, three illustrators and six persons who proof-read and corrected grammar, namely Ann Allen, Barbara Hilton, Ivan Pedley, Joy Ricketts, the late Conrad Rico Jr and Ishpi Blatchley. There were two weekends for testing keys which were well attended by members. Finally, I must mention the group that saw the volume through the ultimate printing stages in Norfolk, Peter Lambley, Paul Westley and Frank Dobson. We are deeply grateful to all the above for their involvement. I would also like to mention contributors to the book's early stages who passed away and never saw the work in print; Oliver Gilbert of course, Brian Fox, Francis Rose, Tom Chester and Jeremy Gray – who gave us the fine photographs for the covers.

To close, our editorial team discussed many times, the prospect that this may be the last British Lichen Flora to be produced in printed form. Although many of us prefer the convenience of a printed book, a style that has proved itself for some 500 years, times have changed and digital printing and online, screen access are likely modes for the future. Fortunately, the BLS Data Committee is discussing options which could give in future a searchable text, colour illustrations and up-to-date distribution maps, at a fraction of the cost and labour of a printed book. Whatever new technology comes up with I look forward to the next edition.

Finally, on behalf of the Flora Committee, I sincerely hope that you find the book worth buying and that it will entertain and inform you for some years to come.

*Anthony Fletcher*

*Chairman British Lichen Society Flora Advisory Committee.*

## Literature Pertaining to British Lichens - 45

*Lichenologist* **41**(3) was published on 29 May 2009, **41**(4) on 15 July 2009, and **41**(5) on 24 August 2009.

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

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

- ACTON, A. & GRIFFITH, A. 2008. *Lichens of Atlantic Woodlands. Guide 1: Lichens on ash, hazel, willow, rowan and old oak*. Plantlife Scotland: Stirling. ISBN 978-1-904749-42-4. Price c. £3.50. A beautifully illustrated, 8-page, laminated field guide to *Lobaria* macrolichens of the woodlands in western Scotland.
- ACTON, A. & GRIFFITH, A. 2008. *Lichens of Atlantic Woodlands. Guide 2: Lichens on birch, alder and oak*. Plantlife Scotland: Stirling. ISBN 978-1-904749-43-1. Price c. £3.50. A companion, 8-page, laminated field guide to the above, but this one provides a guide to lichens of *Parmelion* communities of more acidic bark.
- ACTON, A. 2009. Lichens of the Celtic rainforest. *Kilmartin House Museum Newsletter* **17**: 2. Popular article.
- ARUP, U. & ÅKELIUS, E. 2009. A taxonomic revision of *Caloplaca herbidella* and *C. furfuracea*. *Lichenologist* **41**: 463–480. The newly described \**Caloplaca coralliza* Arup & Åkelius differs from *C. herbidella* in having an often orange-tinged thallus and thinner isidia, and is reported from Cumbria.
- BLATCHLEY, F.R. ["Ishpi"] 2009. Lichen report 2008. *Annual Report of the Orpington Field Club* **49**: 10–13. Report of finds and observations in the Orpington area of West Kent in SE England, including records from conifers, orchards and gardens.
- COPPINS, B.J. 2009. Something to sit on. In COLEMAN, M. (ed.) *Wych Elm*. Edinburgh: Royal Botanic Garden Edinburgh, pp. 49–54. [ISBN 978-1-906129-21-7 (paperback); ISBN 978-1-906129-25-5 (hardback)]. An illustrated, semi-popular account of the lichens and lichen assemblages occurring on Wych elm (*Ulmus glabra*) in Scotland, with a list of the lichens of conservation concern.
- ELLIS, C. 2008. Using species records in conservation research. *BRISC Recorder News* **70**: 10–11. A short paper illustrating the value of careful observation and field recording in assessing past and predicted future changes of lichen distributions in relation to changes in landscape and climate.
- GUEIDAN, C., SAVIĆ, S., THÜS, H., ROUX, C., KELLER, C., TIBELL, L., PRIETO, M., HEIÐMARSSON, S., BREUSS, O., ORANGE, A., FRÖBERG, L., WYNNS, A.A., NAVARRO-ROSINÉS, P., KRZEWICKA, B., PYKÄLÄ, J., GRUBE, M. & LUTZONI, F. 2009. Generic classification



- of the Verrucariaceae (Ascomycota) based on molecular and morphological evidence: recent progress and remaining challenges. *Taxon* **58**: 184–208. As part of the continuing process of a reclassification of the *Verrucariaceae*, three new genera are described, involving seven British species of *Verrucaria* s. lat.: *Hydropunctaria* C. Keller, Gueidan & Thüs, with *H. maura* (Wahlenb.) C. Keller, Gueidan & Thüs (syn. *V. maura*), *H. rheitrophila* (Zschacke) C. Keller, Gueidan & Thüs (syn. *Verrucaria rheitrophila*), and *H. scabra* (Vězda) C. Keller, Gueidan & Thüs (syn. *V. scabra*); *Parabagliettoa* Gueidan & Cl. Roux, with *P. cyanea* (A. Massal.) Gueidan & Cl. Roux, and *P. dufourii* (DC.) Gueidan & Cl. Roux (syn. *V. dufourii*); and *Wahlenbergiella* Gueidan & Thüs, with *W. mucosa* (Wahlenb.) Gueidan & Thüs (syn. *V. mucosa*), and *W. striatula* (Wahlenb.) Gueidan & Thüs (syn. *V. striatula*).
- HALONEN, P., MYLLYS, L., VELMALA, S. & HYVÄRINEN, H. 2009. *Gowardia* (Parmeliaceae)—a new alectoroid lichen genus with two species. *Bryologist* **112**: 138–146. As a result of the interpretation of phylogenetic data, *Alectoria nigricans* is placed in the new genus *Gowardia* P. Halonen, L. Myllys, S. Velmala & H. Hyvärinen, as *G. nigricans* (Ach.) P. Halonen, L. Myllys, S. Velmala & H. Hyvärinen.
- HITCH, C. [J.B.] & KIRBY, M. 2008. The lichens of bonsai trees. *White Admiral* **71**: 4–7. An account of the lichens growing on 20–30 year old bonsai trees of *Acer campestre*, *A. palmatum*, *Aesculus hippocastanum*, and *Carpinus betulus*, growing in a Suffolk garden. Includes 2 colour plates with 8 photographs.
- JØRGENSEN, P.M. & NORDIN, A. 2009. Lichens known mainly from Norwegian type-specimens. *Graphis Scripta* **21**: 1–20. Among many other notes, *Acarospora impressula* Th. Fr. and *A. verruciformis* H. Magn. are lectotypified, and photographs of these type specimens provided.
- KNUDSEN, K. & KOCOURCKOVÁ, J. 2008. A study of lichenicolous species of *Polysporina*. *Mycotaxon* **105**: 149–164. The lichenicolous species widely known as “*Polysporina lapponica*” is treated with a new combination as *P. subfuscescens* (Nyl.) Knudsen & Kocourk., with *P. dubia* (H. Magn.) Vězda and *P. ferruginea* (Lettau) M. Steiner ex Kantvilas being considered synonyms. The basionym of *P. lapponica* is lectotypified, and the species is treated as *Sarcogyne lapponica* (Ach. ex Schaer.) Knudsen & Kocourk. However, the authors question if *Polysporina* and *Sarcogyne* should be regarded as separate genera. [The implications of this study on the identity of British material of “*P. lapponica*” is awaiting the results of a current investigation.]
- NORDIN, A., TIBELL, L. & OWE-LARSSON, B. 2009. *Endocarpon moenium* belongs in the Acarosporaceae. *Graphis Scripta* **21**: 21–22. Molecular data proves that *Aspicilia moenium* does not belong in the *Megasporaceae*, but rather in the *Acarosporaceae*, and the authors recommend it be known as *Acarospora moenium* (Vain.) Räsänen (1936), at least until its precise position in the family is settled.
- ORANGE, A. 2009. A new species of *Petractis* (*Ostropales* s. lat, lichenized Ascomycota) from Wales. *Lichenologist* **41**: 213–221. The new species *Petractis*

*nodispora* Orange is described. It has *Trentepohlia* as photobiont, and pycnidia producing multi-cellular conidia.

- ORANGE, A. 2009. *Saxicolous Lichen and Bryophyte Communities in Upland Britain*. JNCC Report No. 404. Pp. 324. ISSN 0963-8091. [Available on-line at [www.jncc.gov.uk](http://www.jncc.gov.uk)]. Involves a phytosociological analysis of 1539 relevés in upland Britain from 14 Special Areas of Conservation (SACs), and distinguishes 83 communities, 56 on siliceous rock and 27 on limestone. A key to the communities is provided, and cross-references to the communities treated by James *et al.* (1977) in *Lichen Ecology* are given where appropriate.
- STENROOS, S., HUHTINEN, S., LESONEN, A., PALICE, Z. & PRINTZEN, C. *Puttea*, gen. nov., erected for the enigmatic lichen *Lecidea margaritella*. It is suggested that the recently described *Fellhanera duplex* Coppins & Aptroot may belong to this new genus.
- SPRIBILLE, T., BJÖRK, C.R., EKMAN, S., ELIX, J.A., GOWARD, T., PRINTZEN, C., TØNSBERG, T. & WHEELER, T. 2009. Contributions to an epiphytic lichen flora of northwest North America: I. Eight new species from British Columbia inland rain forests. *Bryologist* **112**: 109–137. Includes the original description of *Biatora ligni-mollis* T. Sprib. & Printen, which has subsequently been realised to occur in Scotland [details to be published in a forthcoming paper in *The Bryologist*]. Also, there is a comparative table for species of *Absconditella* with 3-septate ascospores.
- VAN DEN BOOM, P.P.G., ALONSO, F.L. & EGEEA, J.M. 1996. *Lecania poeltii*, a new lichen species from Portugal and northern Africa. *Lichenologist* **28**: 395–399. Original description and illustrations for a species whose known distribution has recently been extended to SW Ireland.
- ZHURBENKO, M.P. 2009. New and interesting lichenicolous hypocrealean fungi from the Northern Hemisphere. *Sydowia* **61**: 177–188. Includes an illustrated description of *Xenonectriella lutescens* (Arnold) Weese [which has recently been identified from Scotland], and a key to Hypocrealean fungi growing on *Peltigera*.
- ZHURBENKO, M.P. 2009. *Sagediopsis pertusariicola* (Verrucariales), a new lichenicolous ascomycete from the Arctic. *Nova Hedwigia* **88**: 549–555. Includes an illustrated, revised description of *Sagediopsis campsteriana*.

*B.J. Coppins*

Email [lichensEL@btinternet.com](mailto:lichensEL@btinternet.com)

## New, Rare and Interesting Lichens

Contributions to this section are always welcome. Submit entries to Chris Hitch, Orchella Lodge, 14, Hawthorn Close, Knodishall, Saxmundham, Suffolk, IP17 1XW, in the form of species, habitat, locality, VC no, VC name, (from 1997, nomenclature to follow that given in the appendix, see BLS *Bulletin* 79, which is based on the Biological Record Centre for instructions for Recorders, ITE, Monks Wood Experimental Station, Abbots Ripton, PE17 2LS, 1974). Grid Ref (GR) (please add letters for the 100km squares to aid BioBase and Recorder 2000 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@freeuk.com](mailto:cjbh.orchldge@freeuk.com), or if not, then typescript. Copy should reach the subeditor at least a fortnight before the deadline for the *Bulletin*. Please read these instructions carefully.

### New to the British Isles

*Caloplaca coralliza* Arup & Akelius (2009): on ancient *Quercus* avenue in deer park, Levens Park, 7 km south of Kendal, VC 69, Westmorland, GR 34(SD)/50-85-, 1970. Originally determined as *C. herbidella*. Herb. B.J. Coppins, F. Rose & D.L. Hawksworth (----) (E). This material has recently been re-determined by U. Arup, see Arup & Akelius (*Lichenologist* 41(5): 465 – 480, 2009). **BLS no. 2538.**

*Caloplaca vitellinula* (Nyl.) H.Olivier (1897): on sheltered overhung side of Silurian mudstone boulder, Yr Wyloer, Gilfach Farm, near Rhayader, VC 43, Radnorshire, GR 22(SN)/956.717, alt 330 m, January 1998. Determined by U.Arup. Herb. SPC. For comparison with other *C. holocarpa*-group members see Arup in *Lichenologist* 41(2): 111-130 (2009) and **Other Records. BLS no. 2532.** *S.P. Chambers*

*Caloplaca vitellinula*: this entry was written by B.J. Coppins, when it was assumed that the taxon was new to the British Isles, but as S.P. Chambers' record was made 10 years earlier, see above, the details of the entry are included under **Other Records**. However, the notes that were included are thought to be helpful and important and have been retained here, viz "This material conforms with the clarified concept of *C. vitellinula* by U. Arup. Most, if not all, British material earlier given this name belongs to other species with a yellow thallus." *B.J. Coppins*

*Epicladonia simplex* D. Hawksw. (1981): (i) on *Cladonia furcata*, Ferry Wood, Loch Fleet NNR, VC 107, East Sutherland, GR 28(28)/81-96-, October 1988. Herb. B.J. & A.M. Coppins 17879 (E); (ii) on squamules of *Cladonia pocillum*, Ferry Links, Loch Fleet NNR, VC 107, east Sutherland, 28(NH)/81-96-, October 1988. Herb. B.J.

& A.M. Coppins 17902 (E). Distinguished from other members of the genus by its larger, more erumpent pycnidia and wholly, non-septate conidia. For detailed description and illustrations see Hawksworth in *Bull. Brit. Mus. Nat. Hist. Bot.* **9**(1): 1–98 (pp. 15–22). **BLS no. 2547.**  
*B.J. Coppins*

*Xenonectriella lutescens* (Arnold) Weese (1919): (i) on moribund thallus of *Peltigera hymenina* on river shingle, Ballinluig Island, River Tummel, Pitlochry, VC 88, Mid-Perthshire, GR 27(NN)/97-53-, June 1988. Herb. B.J. Coppins (12818) (E); (ii) on *Peltigera collina*, Reraig, west of Lochcarron, VC 105, West Ross, GR 18(NG)/83-36-, February 1997. Herb. B.J. & A.M. Coppins 18226 (E). Recognized by the combination of its yellowish, K+ purple-red perithecial wall (visible in sections), and remarkable ascospores that become fused to form large, irregularly shaped, muriform structures. For detailed description and illustrations see Zhurbenko in *Sydowia* **61**: 177–188 (pp. 182–184). **BLS no. 2548.**  
*B.J. Coppins*

### Other records

*Abrothallus cladoniae*: on *Cladonia arbuscula* subsp. *squarrosa*, Findhorn Dunes, VC 95, Morayshire, GR 38(NJ)/0517.6406, alt 3–10 m, June 2008. Herb. B.J. & A.M. Coppins 22855 (E).  
*B.J. & A.M. Coppins*

*Acarospora umbilicata*: frequent large patches to *c.* 1 dm diameter on slightly proud Pwntan sandstone blockfaces in southeast-facing wall, St John's Church, Betws Ifan, VC 46, Cardiganshire, GR 22(SN)/301.477, alt 150 m, April 2009. Herb. SPC. New to the vice-county.  
*S.P. Chambers*

*Agonimia globulifera*: in dry cliff-top crevice accreting blown shell-sand on coastal headland, Craig-y-Gwbert, VC 46, Cardiganshire, GR 22(SN)/157.501, alt 15 m, June 2009. Herb. SPC. Material from 13 metal mines in 12 tetrads, within 7 hectads, with an altitude range of 90–380m, but mostly >200m, in mid-Wales (VC, 46 Cardiganshire & VC 47, Montgomeryshire), has been checked and is *A. gelatinosa* s. str. New to the vice-county.  
*S.P. Chambers*

*Agonimia repleta*: on horse-scuffed, thinly soil-encrusted lignum, on decorticate base of aged pasture *Quercus*, Wenallt, near Brongest, VC 46, Cardiganshire, GR 22(SN)/313469, alt 80 m, April 2009. Herb. SPC. New to the vice-county.  
*S.P. Chambers*

*Arthonia ilicinella*: on *Corylus* in lowermost part of Allt a' Chàirn Ravine, Dundonnell Woods SSSI, VC 105, West Ross, GR 28(NH)/12-84-, alt 130 m, April 2008. Herb. B.J. Coppins (22524) & P. Aspen (E). Northernmost British locality.  
*B.J. Coppins & P. Aspen*

*Arthonia phaeobaea*: (i) on steep hard rock face in the upper mesic-supralittoral zone on coastal headland, Pen-Peles, east of Mwnt, VC 46, Cardiganshire, GR 22(SN)/219.523, alt 5 m, May 2009. Field record; (ii) on slightly raised rock ridges on sloping platform in the lower mesic-supralittoral zone, west of the Cliff

Hotel, Gwbert, VC 46 Cardiganshire, GR 22(SN)/159.500, alt 5 m, June 2009. Herb. SPC. New to the vice county. *S.P. Chambers*

*Arthonia zwackhii*: parasitic on *Phlyctis argena*, on old *Fraxinus*, within *Fagus* – *Fraxinus* – *Quercus* pasture woodland, Ebernoe Common SSSI, VC 13, West Sussex, GR 41(SU)/9785.2727, September, 2009. Herb. Sanderson 1345. New to Sussex and an eastern extension of known range. *N.A. Sanderson*

*Bacidia assulata*: (i) in wound tracks on two ancient *Fagus*, within *Fagus* – *Quercus* pasture woodland, Pond Hill, Mark Ash Wood, VC 11, South Hampshire, GR 41(SU)/2432.0706, January 2005, N A Sanderson & B. Edwards; (ii) The Knowles, Wood Crates, New Forest SSSI, VC 11, South Hampshire, GR 41(SU)/2634.0892, September 2009, N A Sanderson & A M Cross. Herb. Sanderson 819 & 1340. First records from southern central England and first UK records since 1980. This species should be looked for as red-orange apothecia and looking like a small *Bacidia rubella* but lacking isidia. *N.A. Sanderson*

*Bacidia caligans*: terricolous on the side of *Calluna* hummock, Findhorn Dunes, VC 95, Morayshire, GR 38(NJ)/0559.6432, alt 3–10 m, June 2008, B.J. & A.M. Coppins 22842 (E). New to the vice-county. *B.J. & A.M. Coppins*

*Bacidia carneoglauca*: locally abundant and fertile on shaded rocks near the ‘stack’, north side of river, Dundonnell River ravine, Dundonnell Woods SSSI, VC 105, West Ross, GR 28(NH)/11-84-, alt 60 m, April 2008. Herb. B.J. Coppins (22515) & P. Aspen (E). Northernmost British locality. *B.J. Coppins & P. Aspen*

*Bacidia circumspecta*: in wound track on old suppressed leaning *Fagus*, within *Fagus* – *Ilex* – *Quercus* pasture woodland, Wick Wood, New Forest, VC 11, South Hampshire, GR 41(SU)/2628.0898, August 2009. Herb. Sanderson 1318. Third modern record from the New Forest for this Vulnerable RDB and BAP species. As with several other wound track specialists, this species appears to be maintaining a post Dutch Elm Disease population in the extensive old growth Beech woods of the New Forest. *N.A. Sanderson*

*Bacidia egenula*: on sandstone table tomb, Ardclach Chapel, Findhorn Valley, VC 96, East Inverness-shire, GR 28(NH)/954.450, alt 128 m, September 2008. Herb. B.J. Coppins 22729 (E). New to the vice-county. *B.J. Coppins*

*Bacidia incompta*: in wound tracks on four *Aesculus hippocastanum* and one *Fraxinus*, within Deer Park and Annesleys Plantation respectively, Melbury Park (partly in SSSI), VC 9, Dorset, 31(ST)/56.06 & 31(ST)/56.07, March 2009. Field records. This brings the total recently recorded trees at this site supporting this Vulnerable RDB species up to 12, making Melbury Park one of the largest known extant populations outside the New Forest. The records of this species on *Aesculus* were made on only a small sample of old trees in the park and more colonies certainly exist here. *N.A. Sanderson*

*Bacidia incompta*: a large colony in wound track, on damaged and suppressed *Fagus*, within *Fagus – Ilex* pasture woodland, VC 13, West Sussex, GR 41(SU)/9755.2672, August 2009. Field record. A new site for this Vulnerable RDB species.

N.A. Sanderson

*Bacidia squamosella*: on bryophytes on trunk of young maturing *Fraxinus*, Wolfhopelee Burn, Cragbank & Wolfhopelee SSSI, VC 80, Roxburghshire, GR 36(NT)/592.079, alt 210–260 m, January 2009. B.J. Coppins (22768), A. Acton & A. Griffith (E). New to the vice-county, and second record for the Scottish Borders.

B.J. Coppins, A. Acton & A. Griffith

*Bacidia squamellosa*: over *Hypnum andoi* on young *Quercus* trunk in humid stream ravine woodland, Coed Afon Feinog, east of Mydroilyn, VC 46, Cardiganshire, GR 22(SN)/471.553, alt 200 m, March 2009. Herb. SPC. Confirmed by B.J. Coppins. New to Wales.

S.P. Chambers

*Biatoridium monasteriense*: on bark of dead, mature *Ulmus*, Lower Findhorn Woods SSSI, west side of River Finhorn, north of Blackpark Wood, VC 95, Morayshire, GR 38(NJ)/0027.4829, alt 120 m, September 2009. B.J. & A.M. Coppins (E). New to the vice-county.

B.J. & A.M. Coppins

*Byssoloma leucoblepharum*: covering 40cm on the base of suppressed *Quercus* within relic *Quercus – Ilex – Fagus* pasture woodland, Ebernoe Common SSSI, VC 13, West Sussex, GR 41(SU)/9770.2747, July 2009. Herb. Sanderson 1293. A new county record for this rare but distinctive species and eastern extension of known range.

N.A. Sanderson

*Caloplaca britannica*: locally frequent on dry dusty Ordovician mudstone faces and crevices, west of the Cliff Hotel, Gwbert, VC 46, Cardiganshire, GR 22(SN)/159.501, alt 5 m, June 2009. Herb. SPC. New to the vice-county.

S.P. Chambers

*Caloplaca littorea*: on sheltered overhung Ordovician strata on southwest-facing sea-cliff, Cardigan Island, VC 46, Cardiganshire, GR 22(SN)/157.514, alt c. 10–15 m, June 2009. Herb. SPC. New to the vice-county.

S.P. Chambers

*Caloplaca luteoalba*: on roadside *Ulmus glabra* by B1093 road, near Newton Nursery, VC 95, Morayshire, GR 38(NJ)/1627.6360, alt 25 m, September 2009. Herb. B.J. Coppins (E). New to the vice-county.

B.J. Coppins

*Caloplaca phlogina*: with *C.cerina* & *C.ulcerosa* on well-lit corky bark of large freestanding *Sambucus nigra* on field bank, Penlan, south of Llanon, VC 46, Cardiganshire, GR 22(SN)/509.656, alt 120 m, November 2008. Confirmed by U. Arup. Herb. SPC. New to Wales.

S.P. Chambers

*Caloplaca vitellinula*: (i) on siliceous rock of vertical face of northwest-facing crag, 1.5 km south south-southwest of Meall a' Chairn, Dundonnell Estate, VC 105, West Ross, 28(NH)/146.843, alt 370 m, April 2008, B.J. Coppins [22552] & P. Aspen (E), confirmed by Dr Ulf Arup; (ii) also collected nearby in Allt a' Chàirn Ravine, VC

105 West Ross. GR 28(NH)/15-83-, alt 300–320 m, April 2008. Herb. B.J. Coppins (22556) & P. Aspen (E). See also **New to the British Isles**. *B.J. Coppins & P. Aspen*

*Caloplaca vitellinula* (ii) on perpendicular southwest-facing shale blockface in old estate wall, Ynys-hir, Eglwys-fach, VC46, Cardiganshire, GR22(SN)682961, alt 20m, March 2009. Herb. SPC. See also **New to the British Isles**. *S.P. Chambers*

*Catapyrenium cinereum*: over dry soil in crevice on south-facing Silurian siltstone crag, Fron Rocks, Beacon Hill, VC 43, Radnorshire, GR 32(SO)/186.766, alt 450 m, July 2009. Herb. SPC. New to the vice county. *S.P. Chambers*

*Catinarina neuschildii*: on fallen trunk of *Betula*, Coulmony Woods, Findhorn Valley, VC 96, East Inverness-shire, GR 28(NH)/966.484, alt 145 m, September 2008. Herb. B.J. Coppins (22701) & C.J. Ellis (E). New to Findhorn Valley, and northernmost British locality. *B.J. Coppins & C.J. Ellis*

*Chaenotheca hispidula*: on dry bark of old *Quercus*, within *Quercus* – *Fraxinus* – *Acer campestre* pasture woodland, Ebernoe Common SSSI, VC 13, West Sussex, GR 41(SU)/9863.2776, August 2009. Field record. First record since the 19<sup>th</sup> century for Sussex. *N.A. Sanderson*

*Chaenotheca stemonea*: on trunk of old *Quercus* on north side of road, Lady's Wood, Yester Estate, Gifford, VC 82, East Lothian, GR 36(NT)/53-67-, alt 115 m, July 2008. Herb. B.J. Coppins 22651 (E). New to the vice-county. *B.J. Coppins*

*Chaenotheca stemonea*: on trunk of veteran *Alnus*, Wolfhopelee Burn, Cragbank & Wolfhopelee SSSI, VC 80, Roxburghshire, GR 36(NT)/5948.0793, alt *c.* 250 m, January 2009. Herb. B.J. Coppins (22756), A. Acton & A. Griffith (E). New to the vice-county. *B.J. Coppins, A. Acton & A. Griffith*

*Chaenothecopsis retinens*: parasitising *Schismatomma cretaceum* thalli on old *Quercus*, on wooded stream banks in farmland, Lower Holt Farm & Hazel Farm, Melbury Park (partly in SSSI), VC 9, Dorset, 31(ST)/5656.0859 & 31(ST)/5839.0571, March 2009. Herb. Sanderson 1213. A new county record for this apparently very rare parasite of *Schismatomma cretaceum*. *N.A. Sanderson*

*Chionosphaera coppinsii*: on *Melanelixia subaurifera* on *Betula* in small valley hazel-birch woodland, Bealach Gaoith, Kilmory, Ardnamurchan, VC 97, West Inverness-shire, GR 17(NM)/53-70-, alt *c.* 60 m, May 2009. Herb. B.J. & A.M. Coppins (22784) & J.R. Douglass (E). Second British record. *B.J. & A.M. Coppins & J.R. Douglass*

*Chrysothrix chlorina*: rare in dry underhang on south-facing igneous crag, Clogwyn yr Adar, Blaenau Dolwyddelan, VC 49, Caernarvonshire, GR 23(SH)/692.516, alt 260 m, June 2009. Field record. A rare species in North Wales, apparently reported only once before from a crag near Capel Curig in 23(SH)/7--5--. *S.P. Chambers*

*Cladonia macrophylla*: on sandy ground by path, Findhorn Dunes, VC 95, Morayshire, GR 38(NJ)/0487.6429, alt 3–10 m, June 2008. Herb. B.J. & A.M. Coppins 22839 (E). New to the vice-county, and first find from a coastal site in Scotland. *B.J. & A.M. Coppins*



*Cliostomum flavidulum*: on mildly to strongly acidic *Quercus* and *Alnus*, woodland and parkland, Deer Park, Rag Copse and Lewcombe, all in Melbury Park (partly in SSSI), VC 9, Dorset, 31(ST)/56-05-, 31(ST)/56-06- & 31(ST)/56-07-, March 2009. Field records. Confirmed by Pd + yellow to red reaction. New to Dorset.

N.A. Sanderson

*Collema callopismum* var. *callopismum*: north-facing, on crumbling basaltic rocks behind shore, below Rugged Knowes, North Berwick, VC 82, East Lothian, 36(NT)/5712.8552, alt 5 m, April 2008. Herb. B.J. Coppins (22632) & A. Aptroot (E). New to southeast Scotland.

B.J. Coppins & A. Aptroot

*Collema dichotomum*: at Lower Findhorn Woods SSSI, River Findhorn, Whirling Hole, VC 95, Morayshire, GR 38(NJ)/0057.5244, alt 45 m, September 2009. Herb. B.J. & A.M. Coppins (E). Three small patches seen close to river edge while water level low. Confirms the current presence of this species in the River Findhorn.

B.J. & A.M. Coppins

*Collema dichotomum*: on submerged boulders at edge of river, Lower Auchmill, River Deveron, VC 93, North Aberdeenshire, GR 38(NJ)/5403.4454, alt. 80 m, July 2009. Herb. M. Donald (E). Confirmed by B.J. Coppins. First record from this river.

B.J. Coppins

*Collema dichotomum*: two colonies seen near Bridgefoot in the River Ythan, VC 93, North Aberdeenshire, GR 38(NJ)/9170.3248, July 2009. Herb. J. Lawrie (E). Confirmed by B.J. Coppins. Confirms the current presence of this species in the River Ythan.

B.J. Coppins

*Cryptolechia carneolutea*: on old *Acer campestre* in parkland, Lower Park, Melbury Park SSSI, VC 9, Dorset, 31(ST)/5759.0718, March 2009. Herb. Sanderson 1218. First record from the park since 1979. The thallus was well lit and quite extensive but mainly sterile with only a few apothecia present. The blister like pycnidia, however, were widespread and distinctive, see picture at [www.uklichens.co.uk](http://www.uklichens.co.uk).

N.A. Sanderson

*Dactylospora microspora*: on *Bacidia rubella* on old *Alnus*, east side of River Findhorn, south of Dulsie Bridge, VC 96 East Inverness-shire, GR 28(NH)/928.408, alt 180 m, September 2008. Herb. B.J. Coppins (22743) & C.J. Ellis (E). A new host record for this rarely recorded lichenicolous fungus.

B.J. Coppins & C.J. Ellis

*Diploschistes muscorum*: on *Cladonia squamules* on low sandy bank, Findhorn Dunes, VC 95, Morayshire, GR 38(NJ)/0517.6406, alt 3–10 m, June 2008. Herb. B.J. & A.M. Coppins 22858 (E). New to the vice-county.

B.J. & A.M. Coppins

*Enterographa elaborata*: in rain tracks and colonising the edges of wound tracks on three ancient or suppressed *Fagus*, in open *Fagus* dominated pasture woodland, east of Mark Ash Wood, New Forest SSSI, VC11, South Hampshire, GR 41(SU)/2474.0835, 41(SU)/2524.0818 & 41(SU)/2518.0784 August & September 2009, Field records by N.A. Sanderson & A.M. Cross. These new trees bring the known English population to 20 live trees and one dead tree. Associated with *Cryptolechia carneolutea* on the tree at the third grid reference.

N.A. Sanderson

*Enterographa sorediata*: on dry bark on two ancient *Alnus* pollards, in ancient park, Deer Park, Melbury Park SSSI, VC 9, Dorset, 31(ST)/5713.0566 & 31(ST)/5693.0607, March 2009. Herb. Sanderson 1221. The first records of this species from a tree other than *Quercus* spp. Growing in well developed *Lecanactidetum premneae* communities with *Lecanographa lyncea*, *Cresponea premnea*, and *Schismatomma decolorans*. Fieldwork carried out during a review of the lichen flora of Melbury Park also found this species to be more widespread on veteran *Quercus* than was previously known, with records for 31(ST)/56-05-, 31(ST)/ 57-05- & 31(ST)/56-06-.

N.A. Sanderson

*Eopyrenula grandicula*: on trunk of young maturing *Fraxinus*, Wolfhopelee Burn, Cragbank & Wolfhopelee SSSI, VC 80, Roxburghshire, GR 36(NT)/592.079, alt 210–250 m, January 2009. Herb. B.J. Coppins (22766)], A. Acton & A. Griffith (E). New to the vice-county and Scottish Borders. B.J. Coppins, A. Acton & A. Griffith

*Eopyrenula septemseptata*: on *Corylus*, Leitir Fura, Kinloch & Kyleakin Hills SSSI, Skye, VC 104, North Ebudes, 18(NG)/73-15-, December 2007. Herb. B.J. & A.M. Coppins 22888 (E). New to the vice-county. B.J. & A.M. Coppins

*Epigloea filifera*: on the end of a damp algal-coated splinter-chip, c. 2 x 1cm, of *Picea sitchensis* wood on ground by timber stacking area at edge of forestry track, Esgair Maen, south of Bronbyrfe, VC 46, Cardiganshire, GR 22(SN)/713.519, alt 370 m, June 2009. Herb. SPC. Second British record. S.P. Chambers

*Epilichen scabrosus*: on *Baeomyces rufus* on sand bank, Findhorn Dunes, VC 95, Morayshire, GR 38(NJ)/0485.6430, alt 3–10 m, June 2008. Herb. B.J. & A.M. Coppins 22840 (E). New to the vice-county. B.J. & A.M. Coppins

*Fuscopannaria mediterranea*: with apothecia, on *Corylus* in hazel stand on east-facing slope, west side of River Findhorn, southwest of Daltra, VC 96 East Inverness-shire, 28(NH)/942.436, September 2009. Herb. B.J. Coppins (E). Only the second fertile record of this species in the British Isles [see also *BLS Bulletin* 72: 50 (1993)].

B.J. Coppins

*Gyalecta ulmi*: on trunk of old *Ulmus glabra*, with *Gyalecta flotowii*, in bouldery clearing surrounded by planted conifers, Gleann Liath, Inverfarigaig, VC 96, East Inverness-shire, GR 28(NH)/5259.2305, alt 90 m, April 2008. Herb. S.R. Davey (E), and January 2009, B.J. Coppins 22797 (E). First known British occurrence of this ‘elm lichen’ actually on elm since 1976. B.J. Coppins & S.R. Davey

*Gyalideopsis crenulata*: on flat-topped stone impressed in ground on north-facing edge of upland forestry plantation track, Bwlch Esgair Gelli, Tywi Forest, VC 46, Cardiganshire, GR 22(SN)/790.572, alt 450 m, May 2009. Herb. SPC. The third collection of this recently described species. No obvious metalliferous influence evident in the vicinity, but it is known that some Tywi forestry tracks had spoil incorporated from the Rhandirmwyn lead mines (pers. comm. R.G. Woods).

S.P. Chambers

*Halecania viridescens*: fertile on branch of old *Fraxinus excelsior* in wood-pasture, Doldowlod, VC 42, Breconshire, GR 22(SN)/996.618, alt 180 m, June 2009. Herb. R. G. Woods. Confirmed by B.J. Coppins. New to the vice-county. *S P Chambers*

*Jamesiella scotica*: over moribund bryophytes on rocks, near Randoph's Leap, east side of River Findhorn, Lower Findhorn Woods SSSI, VC 95, Morayshire, GR 38(NJ)/0002.49543, alt 80 m, September 2009. Herb. B.J. Coppins (E). New to the vice-county. *B.J. Coppins*

*Lecanactis latebrarum*: in underhang of north-facing cliff of hill, Dundonnell Woods SSSI, VC 105, West Ross, GR 28(NH)/122.853, alt 200 m, April 2008. Herb. B.J. Coppins (22532) & P. Aspen (E). Northernmost British record. *B.J. Coppins & P. Aspen*

*Lecania chlorotiza*: on *Ulmus* trunk in small ravine, Allt Torr na Moine, Sunart SSSI, Ardnamurchan, VC 97, West Inverness-shire, GR 17(NM)/55-62-, alt c. 40 m, May 2009. Herb. B.J. Coppins (22779) *et al.*. New to the vice-county. *B.J. Coppins*

*Lecania cyrtellina*: in wound track on ancient *Fagus*, within relic *Quercus – Ilex – Fagus* pasture woodland, Ebernoe Common, Ebernoe Common SSSI, VC 13, West Sussex, GR 41(SU)/9768.2761, July 2009. Herb. Sanderson 1294. A new vice-county record for this widespread but under recorded species. *N.A. Sanderson*

*Lecania suavis*: on mortar of garden wall, Dundonnell House, VC 105, West Ross, GR 28(NH)/11-85-, alt 30 m, April 2008. Herb. B.J. & A.M. Coppins (22603) & P. Aspen (E). New to northwest Scotland. *B.J. & A.M. Coppins & P. Aspen*

*Lecanographa grumulosa*: on shaded rocks on downstream side of the 'stack'; with *Dirina massiliense* f. *sorediata*, north side of river, Dundonnell River ravine, Dundonnell Woods SSSI, 28(NH)/11-84-, alt 60 m, April 2008. Herb. B.J. Coppins (22516) & P. Aspen (E). New to northwest Scotland. *B.J. Coppins & P. Aspen*

*Lecanora barkmaniana*: fertile, and closely associated with fertile *Buellia griseovirens*, on trunk of a mature *Fraxinus excelsior* by derelict upland farmstead, between minor road and the Afon Pysgotwr Fawr, Llethr Llwyd, VC46, Cardiganshire, GR22(SN)730520, alt 335m, August 2009. Herb. SPC. New to Wales. *S P Chambers*

*Lecanora campestris* subsp. *dolomitica*: for details, see under *Muellerella pygmaea* var. *athallina*.

*Lecidella viridans*: in good amount on hot, south-southwest-facing Silurian shale outcrop, associated with *Hypotrachyna britannica*, beside the B4353 west of Tre'r-ddôl, VC 46, Cardiganshire, GR 22(SN)/652.923, alt 10 m, August 2009. Herbs. CJBH (H74/A) & SPC. New to the vice-county, though similar collections from mine spoil collected (1992-94), await verification. *S.P. Chambers & C.J.B. Hitch*

*Lecanora subcarnea*: on north-facing vertical rocks in underhang, with *L. swartzii*, north side of Traprain Law, VC 82, East Lothian, GR 36(NT)/5791.7478, alt 130 m, August 2008. Herb. B.J. Coppins (22654) & A. Aptroot (E). New to the vice-county. *B.J. Coppins & A. Aptroot*

*Leptogium coralloideum*: on *Corylus*, Leitir Fura, Kinloch & Kyleakin Hills SSSI, Skye, VC 104, North Ebudes, 18(NG)/73-15-, December 2007. Herb. B.J. & A.M. Coppins 22880 (E). Third Scottish record. *B.J. & A.M. Coppins*

*Leptogium palmatum*: on low sandy bank by path, Findhorn Dunes, VC 95, Morayshire, GR 38(NJ)/0517.6406, alt 3–10 m, June 2008. Herb. B.J. & A.M. Coppins 22854 (E). New to the vice-county. *B.J. & A.M. Coppins*

*Lettauia cladoniicola*: on *Cladonia arbuscula* subsp. *squarrosa*, Findhorn Dunes, VC 95, Morayshire, GR 38(NJ)/0517.6406, alt 3–10 m, June 2008. Herb. B.J. & A.M. Coppins 22856 (E). Fourth British record, and new to the vice-county. *B.J. & A.M. Coppins*

*Lichenochora inconspicua*: on *Lecidea sanguineoatra* on mosses on rock-face at side of shallow ravine, uppermost part of Allt a' Chàirn Ravine, Dundonnell Woods SSSI, VC 105, West Ross, GR 28(NH)/15-83-, alt 300–320 m, April 2008. Herb. B.J. Coppins (22560) & P. Aspen (E). Second British site and a new host (previously known from Ben Lawers on *L. berengeriana*). *B.J. Coppins & P. Aspen*

*Lithothelium phaeosporum*: on *Fraxinus* in woodland strip between road and loch shore, southwest of Wester Erchite, Dores, east side of Loch Ness, VC 96, East Inverness-shire, GR 28(NH)/567.302, alt 25 m, January 2009. Herb. B.J. Coppins 22805 (E). *B.J. Coppins*

*Lobaria amplissima*: locally abundant on *Corylus* in hazel stand on east-facing slope, west side of River Findhorn, southwest of Daltra, VC 96 East Inverness-shire, GR 28(NH)/942.436, September 2009. Herb. B.J. Coppins (E). A rare occurrence of this species so far east. *B.J. Coppins*

*Llimonaea sorediata*: in underhang of cliff on east side of River Isla, Den of Airlie NNR, VC 90, Angus, 37(NO)/29-50-, June 2008. Herb. B.J. Coppins (22987) & J.R. Douglass (E). New to eastern Scotland. *B.J. Coppins & J.R. Douglass*

*Llimonaea sorediata*: on shaded rocks on downstream side of the 'stack', with *Dirina massiliense* f. *sorediata* west end of Dundonnell River ravine, Dundonnell Woods SSSI, VC 105, West Ross, GR 28(NH)/11-84-, alt 60 m, April 2008. Herb. B.J. Coppins (22598) & P. Aspen (E). New to the vice-county, and northernmost British record. *B.J. Coppins & P. Aspen*

*Melanohalea laciniatula*: on *Fagus* bough in parkland, southeast of Yester House, Yester Estate, Gifford, VC 82, East Lothian, GR 36(NT)/54-66-, alt 140 m, July 2008. Herb. B.J. Coppins 22643 (E). New to the vice-county. *B.J. Coppins*

*Melaspilea bagliettoana*: on *Fraxinus*, Pass of Inverfarigaig, VC 96, East Inverness-shire, GR 28(NH)/52-23-, June 2008. Herb. B.J. Coppins (22687)], C.J. Ellis & K. Grundy (E). Second Scottish site and new to the vice-county. *B.J. Coppins, C.J. Ellis & K. Grundy*

*Micarea alabastrites*: on trunk of *Betula*, Coulmony Woods, Findhorn Valley, VC 96, East Inverness-shire, GR 28(NH)/966.484, alt 145 m, September 2008. Herb. B.J. Coppins (22695) & C.J. Ellis (E). A notable eastern locality. *B.J. Coppins & C.J. Ellis*

***Micarea contexta***: on fallen decorticate *Pinus* trunk, Coulmony Woods, Findhorn Valley, VC 96, East Inverness-shire, GR 28(NH)/965.483, alt 145 m, September 2008. Herb. B.J. Coppins (22708) & C.J. Ellis (E). Sixth British record.

*B.J. Coppins & C.J. Ellis*

***Micarea curvata***: on top of sandstone headstone, Logie Old Kirk, VC 87, East Perthshire, GR 26(NS)/815.969, alt 35 m, April 2005. Herb. B.J. Coppins (22829) & K. Watson (E). New to the vice-county and first report of this lichen from a churchyard. An inconspicuous species, and almost passed over on this occasion as a 'pallid *Scoliciosporum umbrinum*'!

*B.J. Coppins & K. Watson*

***Muellerella pygmaea* var. *athallina***: perithecia partially immersed in thallus of *Lecanora campestris* subsp. *dolomitica* on west-facing side of vertical limestone headstone dated 1880 in churchyard, Shiplake, VC 23, Oxfordshire GR 41(SU)/767.782, alt 60 m, May 2009. Herbs. Wearn L112 in **K(M)** and Wearn. Confirmed by B. Aguirre-Hudson (fungus) and J.R. Laundon (lichen). The host lichen is rare outside the northern Midlands in England, so is also a record of note.

*J.A. Wearn*

***Mycoporum antecellens***: on trunk of young maturing *Fraxinus*, Wolfhopelee Burn, Cragbank & Wolfhopelee SSSI, VC 80, Roxburghshire, GR 36(NT)/592.079, alt 210–2650 m, January 2009. Herb. B.J. Coppins (22767), A. Acton & A. Griffith (E). New to the vice-county.

*B.J. Coppins, A. Acton & A. Griffith*

***Normandina acroglypta***: abundant on a *Fraxinus* trunk, Ubley Warren, Charterhouse, The Mendips, VC 6, North Somerset, GR 31(ST)/50-55-, January 2008. Herb. B.J. Coppins 22628 (E). New to the vice-county.

*B.J. Coppins*

***Normandina acroglypta***: in wound track, on old *Fagus*, within *Fagus* – *Ilex* pasture woodland, Ebernoe Common, VC 13, West Sussex, GR 41(SU)/9754.2673, April 2009. Herb. Sanderson 1223. New to Sussex.

*N.A. Sanderson*

***Opegrapha dolomitica***: on north-facing conglomerate outcrop, Freshwater Haven, West Links, Gullane, VC 82, East Lothian, GR 36(NT)/4886.8469, alt 10 m, May 2008. Herb. B.J. Coppins (22675), A.M. Coppins & A. Aptroot (E). Associated with *Sclerococcum griseisporodochium*, and both species new to East Lothian.

*B.J. & A.M. Coppins and A. Aptroot*

***Parmelia discordans***: locally frequent on nutrient-poor Ordovician gritstone outcrops and boulders, Garn Goch Common, near Llandeilo, VC 44, Carmarthenshire, GR 22(SN)/689.242, alt 200-240 m, May 2009. Herb. SPC. New to the vice-county.

*S.P. Chambers*

***Peltigera britannica***: on exposed northeast-facing vertical crag as a single hand-sized patch about 3m above crag base, Swarthbeck Gill, near Howtown, Ullswater VC 69 Westmorland GR 35(NY)/ 456.203 alt *c.* 430 m, August 2009. Herb. DJC and digital photographs. Assumed first record for the vice-county.

*D.J. Clarke*

***Pertusaria pustalata***: on leaning old *Fagus* in glade within *Fagus* – *Ilex* pasture woodland, Ebernoe Common SSSI, VC 13, West Sussex, GR 41(SU)/9746.2653,

September 2009. Herb. Sanderson 1346. First record for the common and county since 1982. The colony on this tree was highly threatened by the spread of *Ilex*, but a management review of the nature reserve is underway after *Ilex* control ceased about a decade ago due to concerns for rare bats. *N.A. Sanderson*

*Platismatia norvegica*: on fallen trunk of *Betula*, Coulmony Woods, Findhorn Valley, VC 96, East Inverness-shire, GR 28(NH)/966.484, alt 145 m, September 2008. Herb. B.J. Coppins (22693) & C.J. Ellis (E). A notably eastern locality.

*B.J. Coppins & C.J. Ellis*

*Protothelenella corrosa*: on pebble in shingle ridge, Findhorn Dunes, VC 95, Morayshire, GR 38(NJ)/0451.6443, alt 3–10 m, June 2008. Herb. B.J. & A.M. Coppins 22841 (E). New to the vice-county. *B.J. & A.M. Coppins*

*Psilolechia clavulifera*: on soil on root plate of fallen *Fagus*, within *Fagus* – *Ilex* pasture woodland, Ebernoe Common SSSI, VC13, West Sussex, GR 41(SU)/9756.2664, September 2009. Herb. Sanderson 1342. New to Sussex. *N.A. Sanderson*

*Pyrenopsis impolita*: on west-facing vertical rocks, in seepage zone, Creag Bheag, Dundonnell Woods SSSI, VC 105, West Ross, GR 28(NH) 11-86-, alt 100–120 m, April 2008. Herb. B.J. Coppins (22540) & P. Aspen (E). Third Scottish record and new to the vice-county. *B.J. Coppins & P. Aspen*

*Pyrenula coryli*: on *Corylus* at edge of woodland, between River Esk and A7 road, southeast of Middleholm, south of Langholm, VC 72, Dumfries-shire, GR 35(NY)/372.820, alt 60 m. Herb. B.J. Coppins 22588 (E). New to southern Scotland. *B.J. Coppins*

*Pyrenula coryli*: on *Corylus* in hazel stand on west-facing slope, east side of River Findhorn, south of Dulsie Bridge, VC 96 East Inverness-shire, GR 28(NH)/929.409, alt 180 m, September 2008. Herb. B.J. Coppins (22732 and 22741) & C.J. Ellis, and R. Yahr (E). New to the vice-county. *B.J. Coppins, C.J. Ellis & R. Yahr*

*Pyrenula occidentalis*: on *Corylus* and *Populus tremula*, west side of River Findhorn, northwest of Glen Ferness House, VC 96 East Inverness-shire, 28(NH)/93-43-, alt 150 m, September 2008. Herb. B.J. Coppins [22710 & 22715] & C.J. Ellis (E). An unusual easterly occurrence for this oceanic species. *B.J. Coppins & C.J. Ellis*

*Ramalina polymorpha*: on headstone to “Alexander Cameron”, Dunlichty Burial Ground, VC 96, East Inverness-shire, GR 28(NH)/659.329, alt 200 m, January 2009. Herb. B.J. Coppins 22810 (E). Colony c. 6 × 6 cm. New to the vice-county, and apparently first British record of this species from a graveyard. *B.J. Coppins*

*Rhizocarpon simillimum*: on west-facing crags, Creag Bheag, Dundonnell Woods SSSI, VC 105, West Ross, GR 28(NH)/11-86-, alt 100–120 m, April 2008. Herb. B.J. Coppins (22536) & P. Aspen (E). New to northwest Scotland. *B.J. Coppins & P. Aspen*

*B.J. Coppins & P. Aspen*

*Rhizocarpon subgeminatum*: on southeast-facing nutrient-enriched mudstone outcrop, Banc Trawsnant, east of Cwmerfyn, VC 46, Cardiganshire, GR 22(SN)/711.826, alt 360 m, September 2009. Herb. SPC. New to the vice-county. *S.P. Chambers*

*Rhizocarpon ochrolechia*: rare on *Ochrolechia parella* on south-facing Silurian (Ludlow Beds) siltstone rockface, Fron Rocks, Beacon Hill, VC 43, Radnorshire, GR 32(SO)/186.766, alt 450 m, July 2009. Herb. SPC. New to Wales. *S.P. Chambers*

*Rhymbocarpus neglectus*: on *Lepraria elobata* on low sandy bank, Findhorn Dunes, VC 95, Morayshire, GR 38(NJ)/0520.6449, alt 3–10 m, June 2008. Herb. B.J. & A.M. Coppins 22860 (E). Fourth British record and new to the vice-county.

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

*Rhymbocarpus pubescens*: on *Lepraria lobificans* on *Betula* and *Fraxinus*, Pass of Inverfarigaig, VC 96, East Inverness-shire, GR 28(NH)/52-23-, June 2008. Herb. B.J. Coppins (22687), C.J. Ellis & K. Grundy (E). Third British record and new to the vice-county.

*B.J. Coppins, C.J. Ellis & K. Grundy*

*Rinodina aspersa*: (i) on granite boulder by track, Laiken Glen, Laikenbuie, VC 96, East Inverness-shire, GR 28(NH)/90-52-, alt 60–70 m, September 2008. Herb. B.J. Coppins 22749 (E); (ii) on at least *three* granitic boulder-like megaliths in stone circle of Moyness Ring Cairn, 28(NH)/9527.5364, alt 100 m, September 2009. Herb. B.J. Coppins (E). New to the vice-county, and notable records being on boulders rather than pebbles.

*B.J. Coppins*

*Rinodina degeliana*: on *Salix* in willow carr, Bogach carr, Torr Alvie SSSI, Aviemore, VC 96 East Inverness-shire, GR 28(NH)/882.098, alt 220 m, September 2008. Herb. B.J. Coppins (22722) & C.J. Ellis (E). Second British record and new to the vice-county.

*B.J. Coppins & C.J. Ellis*

*Roselliniella microthelia*: on *Trapelia glebulosa* on chert boulder, Cross Plain, Mendip Hills, VC 6, North Somerset, GR 31(ST)/4148.5582, alt *c.*140 m, February 2009. Herb. B.J. & A.M. Coppins 22794 (E). New to England.

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

*Ropalospora viridis*: on acid *Populus tremula* and *Fagus*, within *Fagus – Ilex* pasture woodland, Ebernoe Common SSSI, VC 13, West Sussex, GR 41(SU)/9769.2704 & 41(SU)/9748.2673, September 2009. Herb. Sanderson 1315 & 1316. New to Sussex.

*N.A. Sanderson*

*Sarcosagium campestre*: on soil over concrete, under metal chain-link fence at back of railway station platform, Chelmsford, VC 19, North Essex, GR 52(TL)/706.071, October 2009. Herb. **STD**. New to the vice-county.

*P.M. Earland-Bennett*

*Schismatomma graphidioides*: on a single, thick stem of *Corylus* in hazel stand on west-facing slope, east side of River Findhorn, south of Dulsie Bridge, VC 96 East Inverness-shire, GR 28(NH)/929.409, alt 180 m, September 2008. Herb. B.J. Coppins (22738) & C.J. Ellis (E). First record of this species on *Corylus*.

*B.J. Coppins & C.J. Ellis*

*Schismatomma umbrinum*: fertile on rocks just below waterfall, Allt na Tiobairtein, Dundonnell Woods SSSI, VC 105, West Ross, GR 28(NH)/124.853, 200 m, April 2008. Herb. B.J. Coppins (22530) & P. Aspen. Apparently the first British collection with apothecia.

*B.J. & A.M. Coppins & P Aspen*

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



*Scoliciosporum curvatum*: amongst algal scurf on damp *Ilex aquifolium* leaf of tree planted in sheltered position in graveyard, Holy Trinity Church, Taliaris, VC 44, Carmarthenshire, GR 22(SN)/653.282, alt 85 m, May 2009. Herb. SPC. New to the vice-county.  
S.P. Chambers

*Scoliciosporum pruinsum*: on *Alnus*, Wolfhopelee Burn, Cragbank & Wolfhopelee SSSI, VC 80, Roxburghshire, GR 36(NT)/59-08-, alt 200–230 m, January 2009. Herb. B.J. Coppins (22762), A. Acton & A. Griffith (E). New to the vice-county.  
B.J. Coppins, A. Acton & A. Griffith

*Strigula jamesii*: on rain track on old *Acer campestre*, within *Fagus* – *Fraxinus* – *Quercus* pasture woodland, Ebernoe Common SSSI, VC 13, West Sussex, GR 41(SU)/9781.2728, September, 2009. Herb. Sanderson 1344. New to Sussex.  
N.A. Sanderson

*Thelotrema macrosporum*: on *Fraxinus* in woodland strip between road and loch shore, southwest of Wester Erchite, Dores, east side of Loch Ness, VC 96, East Inverness-shire, GR 28(NH)/567.302, alt 25 m, January 2009. Herb. B.J. Coppins 22803 (E). An unusually eastern record of this oceanic species.  
B.J. Coppins

*Tomasellia diffusa*: on *Alnus* by stream, lowermost part of Allt na Tiobairtein, Dundonnell Woods SSSI, VC 105, West Ross, GR 28(NH)/125.852, alt 170 m, April 2008. Herb. B.J. Coppins (22526) & P. Aspen (E). Sixth and most northerly Scottish record.  
B.J. Coppins & P. Aspen

*Tomasellia diffusa*: on branches of *Alnus* by river, Milton Wood, Farr, Strathnairn, VC, East Inverness-shire, GR 28(NH)/67-32-, alt 200 m, January 2009. Herb. B.J. Coppins 22813 (E). Only the seventh record for Scotland, and second for the vice-county.  
B.J. Coppins

*Toninia plumbina*: two records on thalli of *Degelia plumbea* s. str.: (i) on *Populus tremula*, west side of River Findhorn, northwest of Glen Ferness House, VC 96 East Inverness-shire, GR 28(NH)/93-43-, alt 150 m, September 2008. Herb. B.J. Coppins (22717) & C.J. Ellis (E); (ii) on *Corylus* in hazel stand on east-facing slope, west side of River Findhorn, southwest of Daltra, VC 96 East Inverness-shire, GR 28(NH)/942.436, alt 170 m, September 2009. Herb. B.J. Coppins (E). New to the vice-county. So far, all British records of *T. plumbina* are on *D. plumbea* s. str. and not on the recently recognized *D. cyanoloma* (see forthcoming, January 2010 issue of *The Lichenologist*).  
B.J. Coppins

*Usnea esperantiana*: on low *Fagus* branch in sheltered glade, within *Fagus* – *Ilex* – *Quercus* pasture woodland, Busketts Wood, New Forest SSSI, VC 11, South Hampshire, GR 41(SU)/3164.1101, August 2009. Herb. Sanderson 1319, (N A Sanderson & A M Cross). Specimen now at E. First record for Hampshire  
N.A. Sanderson

*Zwackhiomyces lacustris*: on *Ionaspis lacustris* on small loose stone in acid-flush runnel, Garn Fawr Common, near Tregaron, VC 46, Cardiganshire, GR 22(SN)/703574, alt 400 m, August 2009. Herb. SPC. New to the vice-county.  
S.P. Chambers

### *Corrigenda*

I am indebted to Tony Holwell for pointing out two errors that occurred in the last issue of NRI (BLS *Bulletin* **104** p. 45), viz under *Caloplaca ruderum*, Staunton should read Saunton and J. Holwell & M. Putnam should read T. Holwell & M. Putnam.

## **News from the Web: New “Key To Nature” website link**

This is a request to everyone to have a look at all the interesting lichen links and news that has recently been going onto the website.

The latest link to go on is the “Key to Nature” website which Pat Wolseley, in conjunction with Pier Luigi Nimis, has been working on for many weeks (through the “Key to Nature” project based at the NHM). This is an interactive key to c. 70 common lichens designed so that OPAL users can identify other lichens that they find. If you have not yet heard of the OPAL project, this is a project designed to get the general public interested in and recording lichens all over the country. Links and more information can be found on our website ([www.thebls.org.uk](http://www.thebls.org.uk)) concerning both Opal and the Key to Nature on the home page (as well as the links page).

If you follow the link to the Key to Nature you will find a variety of choices: as well as the interactive key you can print out a dichotomous key with pictures to take into the field with you, and there is also a link to a short film called 'More about lichens' which is an attractive and professionally put together slide show that includes how to do the chemical tests. The site is very user friendly and I highly recommend it to beginners and intermediate lichenologists as well as those trying to encourage others to take a closer interest in lichens.

Just a reminder to you all – if you find any interesting links or you have any ideas for the website – please let me know. Also do continue to let me know if there are any mistakes, out of date items or missing information.

Happy browsing ... from Jacqui Middleton (BLS webmaster)

*jacquiandbruce@tiscali.co.uk*

## **International Year of Biodiversity - IYB 2010**

The British Lichen Society is giving support to the global initiative to help raise awareness of the importance of biodiversity over the world.

- The Society supports the Natural History Museum which is coordinating an informal, cross-sector partnership of organisations.
- BLS members are invited to enjoy and explore lichens in their habitats and to share with others the lichens they find in gardens – large and small.

Watch [www.thebls.org](http://www.thebls.org) for more information.

*Biodiversity is life*  
*Biodiversity is lichens*

# The Autumn Field Meeting 2008: Wooler, Northumberland

## Introduction

At first sight Northumberland is not a good place to hold a field meeting. It is the coldest county in England, and the climate is dry except in the hills where it rains frequently and with no regard for the weather forecast. Most of the woodlands were felled long ago, and the effects of past pollution from Tyneside are such that interesting lichen sites are largely restricted to the far north and west of the county. For this meeting we concentrated on the north (VC68), close to the Scottish border and well away from the centres of population. The BLS have visited Wooler before, back in 1970, but that was a serious expedition to tackle the Cheviot summits. Since then there has been little recording in the area, apart from professional surveys of the valley woodlands, and to look for species such as *Collema dichotomum* and *Caloplaca luteoalba*. Records for the area are sparse, especially for the commoner species, so there was plenty of opportunity for everyone to add dots to the map. We only had the weekend and had to restrict ourselves to more accessible sites, but these were selected to reflect the variety of geology and habitats and show participants something of the area.

The Cheviot hills to the west of Wooler are igneous, mainly andesite lavas with a central granite batholith. To the east the rocks are Carboniferous sandstones and gritstones with some limestone, shale and a little coal. The arc of Fell Sandstone that runs north and east of Wooler is notable for its cup and ring marks, still a puzzle to archaeologists as no-one knows who made them or why, but it is coarse and generally poor for lichens. The most dramatic feature is the whin sill, an intrusion of hard quartz dolerite that outcrops in narrow bands throughout much of the county and gives rise to some highly photogenic scenery. Dunstanburgh Castle, Bamburgh Castle, Holy Island castle, and of course Hadrian's Wall are all perched on outcrops of the whin sill. This field meeting coincided with a three year study of the flora and lichens of the whin, so I was keen to get the BLS to one or more of the sites.

Our regular autumn meetings seem to have grown over the last few years. They now start on the Thursday with a round of committee meetings, and this time we also wanted to include a couple of workshop sessions on recording and the database. Fitting these in to an already crowded programme made for some long days, but everyone managed to stay awake for the workshops and they provoked a lot of discussion. Their main purpose was to launch the new spreadsheet recording procedure which now helps us to computerise our records and get them into the BLS database in a standard and relatively painless way.

30 BLS members gathered in Wooler for all this activity. It was good to see several new faces, and to be joined at the weekend by two of the local lichenologists. Our base was the Tankerville Arms, an old coaching inn on the outskirts of Wooler. Most of us stayed there or at the Rycroft Hotel over the road, with a few in Wooler youth hostel and one hardy soul at the campsite. The hotel looked after us very well and adapted to our strange habits with great patience. In the evenings we all gathered in the Tankerville's tiny bar before being ushered in to dinner, much to the relief of the

locals who feared we would drink the bar dry before they could even get served. The food was excellent so we didn't need much encouragement!

### Thursday 2<sup>nd</sup> October

Most of the party arrived during Thursday afternoon. The more energetic quickly set to, dismissing the heavily polluted churchyard in Wooler but gathering some useful records from the town and surrounding area. These included *Lecanora aitema* on wood from Wooler Common (NT9727). Education Committee kept the rest of us occupied until we met for dinner, followed by a brief introduction to the area and the programme for the weekend.

### Friday 3<sup>rd</sup> October

Friday was a day of exploration for about half the party, while Data Committee and Council worked their way through their impressively long agendas and tried not to look longingly out of the window.

#### *Breamish Valley, Cheviots*

Doug McCutcheon led the largest group into the eastern Cheviot hills. The car park and trees round Ingram visitor's centre (NU0116) were a good introduction to the local lichen flora, and produced *Ramalina fastigiata*, *Physcia aipolia* and *Punctelia jeckeri*, all



*Ramalina fastigiata*, Ingram Valley

good records for the county. This was only the second Northumberland record for *P. jeckeri* (although *P. subrudecta* has been recorded a few times) but it has turned up



*Punctelia jeckeri* (formerly known as *P. ulophylla*), Ingram Valley; © Mike Sutcliffe, [www.britishlichens.co.uk](http://www.britishlichens.co.uk)

several times since, even in the centre of Newcastle. Time spent in St Michael and All Angels churchyard (NU019163) added several species to the list made by Don Smith in 1995.

Eventually they did make it to the screes at the foot of Brough Law (NT997166). Most of the saxicolous flora was typical of the Cheviots, but *Lecidea diducens* and *L. plana* were good finds.



These andesite screes are often extensive and only a few have ever been recorded, so they are always worth a look.

#### *Etal and Duddo*

In the morning Ann Allen and Barbara Hilton bravely tackled the unrecorded churchyards north of Wooler. They were disconcerted to find that one was now a private house, but a determined effort achieved respectable species lists from both Etal St. Mary (NT932395) and Duddo All Saints (NT946436).

#### *Etal*

Brian Coppins led the third group to Etal in the afternoon to check up on some of Oliver Gilbert's old records from Etal Gorge in the 1960s. The woodland on the east side of the River Till (NT9240) had a few old trees but may not have been the same place as the gorge deepens further downstream. They found *Lecanora compallens* and *L. persimillis*, both new to Northumberland, *Lecania cyrtellina* new to VC68, and *Chaenotheca hispidula*.



*Anaptychia ciliaris* subsp. *mamillata* on St Cuthbert's Isle, Holy Island (see following page); © Mike Sutcliffe, [www.britishlichens.co.uk](http://www.britishlichens.co.uk)

Fortified by fish and chips and with suitable refreshment from the bar, we settled down after dinner for the first workshop session and worked through some of the issues to do with records and the practicalities of recording. In this we were building on the previous workshops on the use of computers in recording and on lichen surveying. Topics included:

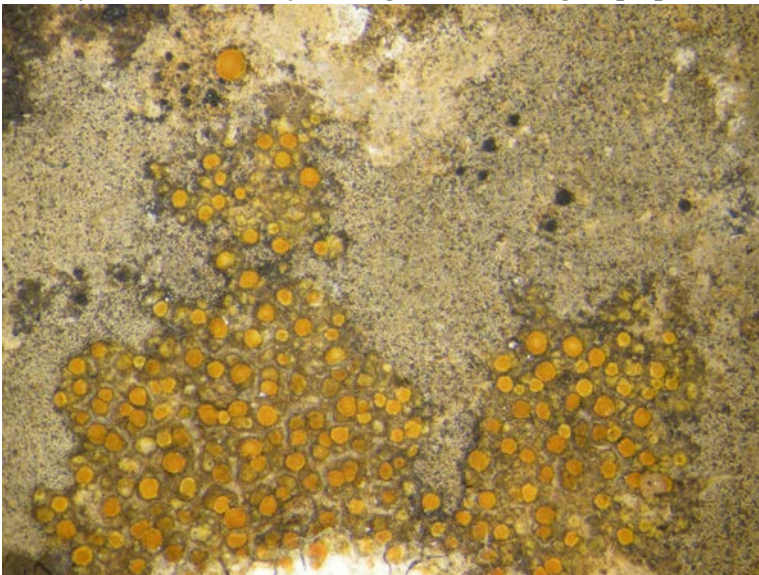
- How to record – cards, lists, voice recorder or palm top? All have their advantages and disadvantages, but a paper card is still valuable in supplementing and supporting the information held in the database.
- What to record – details of the site (location, grid ref, vice county), visit (date, recorders), and species found.
- When to record additional information such as substrate or position – not always, but for anything of conservation or local interest.
- How to record that additional information – the need to standardise codes so they cannot be misinterpreted.
- Nomenclature – using the syn list, when to use species aggregates, and how to handle records not yet determined.
- Using the internet to check grid refs and vice counties.

All this led to a lively discussion of the issues, and some helpful comments and suggestions that have since been incorporated in the procedures.

## Saturday 4<sup>th</sup> October

### *Holy Island*

Saturday's excursion to Holy Island didn't go entirely to plan. It was windy and bitterly cold, not a day to linger. Half the group spent the morning on the Snook



*Caloplaca oasis*, a recently accepted segregate of the *C. holocarpa* group, on a limestone pebble on Holy Island. See Arup et al., *Lichenologist* **41**: 111-130 (2009).

(NU093437), where there have been some interesting records in the past on the small pebbles in the dune slacks. These lived up to their reputation, with amongst other things *Catillaria atomarioides*, *Diplotomma venustum* and *Rinodina bischoffii* (on a shell), and the nationally rare *R. immersa*.

The rest of us went to the village and then picked our way across the mussel bed to St Cuthbert's Isle (NU123415) to

admire the *Anaptychia ciliaris* subsp. *mamillata*, growing alongside *A. runcinata* on a whin outcrop. It has spread considerably since it was found in 1999 and seems to be doing well, despite the hundreds of visitors who climb all over this tiny island every day in the summer.

Ann and Barbara couldn't resist checking out the ruins of Lindisfarne Priory (NU126417), while the rest of the churchyard group were pleased to find *Lecania*



*rabenhorstii* in their native habitat next door (St Mary the Virgin churchyard, NU125418). *Pertusaria lactescens* seems to be common on the local sandstone churches and was found again here, prompting much discussion about identification. Frank Dobson's interpretation of the hatchments in the church had a similar effect, another set of ID characters for us all to learn!

### Ford



Very wet thalli of *Umbilicaria polyphylla*, Ford churchyard

Abandoning the coast, we fled inland and stopped for a quick look at Ford churchyard (St Michael and All Angels, NT944373) on the way back. Although it is only at 65m altitude there were some impressive spreads of *Umbilicaria polyphylla* on the table tombs, and there must be much more still to find in this large yard.

We took advantage of an early finish to have a demonstration of Recorder 6 before dinner. For many people this the first time they had seen the society's database in action,

and it made sense of several things we had discussed the day before. After dinner, served with much ceremony by the chef in all his finery, the final workshop session concentrated on using the BLS spreadsheet to computerise records and send them in to the database. This was a practical session, with laptops available for everyone to try entering a few records. Inevitably some found it easier than others, but no-one gave up and quite a few records for the field meeting were input there and then.

### Sunday 5<sup>th</sup> October

#### Brada

Sunday dawned fine and calm, and we set off for Brada Hill (NU1634). This is one of the series of whin outcrops that runs from Belford to Bamburgh, and the site of an abandoned quarry. The key to the parking area was to be picked up from the landowner on the way, while the rest of the party enjoyed a few minutes peaceful bird-watching on Budle Bay. A minor panic ensued when we couldn't find the house, and another when it became apparent that there was no-one home and the key was not under the mat where it should have been. Undeterred, we somehow managed to park more than twenty cars along the side of a road that is scarcely wide enough to drive along. Both the quarry and the whin crags above proved to be even better than expected, with 127 species recorded on the day. Subsequent visits have got the list up to 141, making this one of the most important saxicolous lichen sites in north-east

England. What with the lichens, and some spectacular views of Bamburgh and the Farne Islands, our cameras were kept busy.

The quarry floor was rich in *Peltigeras*, with *P. canina* and *P. neckeri* amongst the six species found. In places the whinstone chippings were covered by *Lecidea grisella*, a new find for many of us, with occasional *Amandinea lecideina* and *Catillaria atomarioides*. Walking up the hill another *Punctelia jeckeri* was found on a sycamore in secondary woodland.



Frank Dobson demonstrating lichen photography (or maybe lichenological break-dancing?) at Brada Quarry. Thanks (but probably not from Frank) to Peder Apsen for the image.

On the top some of us took the opportunity to get to grips with *Lecideas*, with *L. fuscoatra*, *L. grisella*, *L. plana* and *L. fuliginosa* all growing in close proximity on the glacially scoured upper surface of the whin sill. Others sought, and found, *Ramalina polymorpha* on the crags, the first confirmed population on the Northumberland mainland although it has been recorded before from the Farne Islands. It has since been confirmed from several other whin outcrops in the same area, and seems to be doing well. Other species of interest included *Buellia stellulata*, *Fuscidea praeceptorum* (nationally scarce but not unusual in Northumberland), *Lecanora rupicola* var. *efflorens*, *Miriquidica pycnocarpa* and *Pyrrhospora rubiginans*. This latter is nationally rare and was previously only known from Scotland.



### *Kilham*

Some of the party left us at Brada, but the rest persevered and, after some scenic diversions along the way to find petrol, met up again at Kilham just north of the Cheviots. There we paid due homage to *Caloplaca luteoalba* and *C. ulcerosa* on a roadside tree, and found them again on some old hedgerow trees nearby. The *Bacidia incompta* was less convincing, but we put that down to not having an expert with us to give an authoritative opinion. These sites were found by John Douglas a few years ago and we were grateful for his precise grid references in an area with many similar trees. The field meeting ended with dinner at the Tankerville, a Sunday roast that was vast and very welcome. We felt that we had earned it!



*Caloplaca luteoalba*, Kilham; © John Douglass, [www.britishlichens.co.uk](http://www.britishlichens.co.uk)

### **Participants**

Ann Allen, Peder Aspen, Ishpi Blatchley, Graham Boswell, Brian Carlyle, Paul Cannon, Geoffrey Chaytor, Brian and Sandy Coppins, Robin Crump, Frank Dobson, Peter Lambley, David Hill, Barbara Hilton, Andrew Hodgkiss, Les and Sue Knight, Peter Lambley, Vivyan Lisewski, Doug McCutcheon, Ivan Pedley, Mark Powell, Steve Price, Janet Simkin, John Skinner, Mike Sutcliffe, Stephen Ward, Amanda Waterfield, Pat Wolseley, Chris Young, and locals Mike Cruse and Margaret Rogers.

### **Acknowledgements**

I would like to thank all the landowners and incumbents who kindly allowed us to visit their sites, particularly Ralph Baker-Cresswell, the owner of Brada Quarry. Special thanks are due to the staff of the Tankerville Hotel, especially to Ashley the chef who fed us so well.

### **Apologies**

My apologies if anyone or anything has been left out of this account. I foolishly thought that someone else would be writing it and so neglected to take any notes. Never again!

*Janet Simkin*

*Email [janetsimkin@btinternet.com](mailto:janetsimkin@btinternet.com)*

Species list from Wooler field meeting, October 2008			Wooler Common	Humbleton Hill	Etal	Ingram	Ingram churchyard	Brough Law	Etal churchyard	Duddo churchyard	Holy Island churchyard	Lindisfarne Priory	St Cuthbert's Isle	Holy Island Snook	Ford churchyard	Brada	Kilham
<i>Acarospora</i>	<i>fuscata</i>		•				•				•					•	•
	<i>smaragdula</i>															•	
<i>Acrocordia</i>	<i>conoidea</i>											•					
	<i>salweyi</i>										•						
<i>Agonimia</i>	<i>tristicula</i>															•	
<i>Amandinea</i>	<i>lecideina</i>															•	
	<i>punctata</i>				•	•										•	
<i>Anaptychia</i>	<i>ciliaris</i> subsp. <i>mamillata</i>												•				
	<i>runcinata</i>												•			•	
<i>Anisomeridium</i>	<i>biforme</i>				•												
<i>Arthonia</i>	<i>punctiformis</i>						•										
	<i>radiata</i>				•	•											
	<i>spadicea</i>				•												
	<i>varians</i>															•	
<i>Arthopyrenia</i>	<i>punctiformis</i>				•												
<i>Aspicilia</i>	<i>caesiocinerea</i>		•								•					•	
	<i>calcareae</i>										•					•	
	<i>contorta</i> subsp. <i>contorta</i>															•	
	<i>grisea</i>															•	
<i>Bacidia</i>	<i>incompta</i>																•
<i>Baeomyces</i>	<i>rufus</i>															•	
<i>Bilimbia</i>	<i>sabuletorum</i>										•						
<i>Buellia</i>	<i>aethalea</i>		•				•	•			•			•	•	•	•
	<i>stellulata</i>															•	
<i>Caloplaca</i>	<i>arcis</i>										•						
	<i>citrina</i>		•				•		•	•	•	•			•	•	•
	<i>decipiens</i>											•					
	<i>flavescens</i>		•					•	•	•	•	•		•		•	
	<i>flavocitrina</i>							•	•	•	•	•				•	
	<i>holocarpa</i>		•						•	•	•	•		•		•	•
	<i>lactea</i>													•			
	<i>luteoalba</i>																•
	<i>marina</i>												•				
	<i>microthallina</i>												•				
	<i>obscura</i>				•												
	<i>saxicola</i>		•								•				•		
	<i>thallincola</i>												•				

Species list from Wooler field meeting, October 2008		Wooler Common	Humbleton Hill	Etal	Ingram	Ingram churchyard	Brough Law	Etal churchyard	Duddo churchyard	Holy Island churchyard	Lindisfarne Priory	St Cuthbert's Isle	Holy Island Snook	Ford churchyard	Brada	Kilham
<i>Caloplaca</i>	<i>ulcerosa</i>															•
<i>Candelariella</i>	<i>aurella f. aurella</i>									•	•					•
	<i>coralliza</i>	•												•	•	
	<i>reflexa</i>														•	
	<i>vitellina f. vitellina</i>		•			•		•	•	•	•			•	•	•
<i>Catillaria</i>	<i>atomarioides</i>												•		•	
	<i>chalybeia</i> var. <i>chalybeia</i>								•	•	•				•	
	<i>lenticularis</i>														•	
<i>Chaenotheca</i>	<i>hispidula</i>			•												
<i>Chrysothrix</i>	<i>candelaris</i>			•												
<i>Cladonia</i>	<i>cervicornis</i> subsp. <i>cervicornis</i>														•	
	<i>cervicornis</i> subsp. <i>verticillata</i>					•										
	<i>chlorophaea</i>								•						•	
	<i>ciliata</i> var. <i>tenuis</i>						•									
	<i>coniocraea</i>										•					
	<i>diversa</i>						•									
	<i>fimbriata</i>					•										
	<i>foliacea</i>												•		•	
	<i>furcata</i>						•						•		•	
	<i>humilis</i>														•	
	<i>macilenta</i>						•									
	<i>pocillum</i>												•			
	<i>polydactyla</i> var. <i>polydactyla</i>						•									
	<i>portentosa</i>														•	
	<i>pyxidata</i>														•	
	<i>ramulosa</i>					•										
	<i>rangiformis</i>												•		•	
	<i>scabriuscula</i>														•	
	<i>squamosa</i> var. <i>squamosa</i>						•									
	<i>subulata</i>														•	
<i>Clauzadea</i>	<i>monticola</i>							•					•			
<i>Cliostomum</i>	<i>griffithii</i>			•	•										•	•
<i>Collema</i>	<i>auriforme</i>										•				•	

Species list from Wooler field meeting, October 2008		Wooler Common	Humbleton Hill	Etal	Ingram	Ingram churchyard	Brough Law	Etal churchyard	Duddo churchyard	Holy Island churchyard	Lindisfarne Priory	St Cuthbert's Isle	Holy Island Snook	Ford churchyard	Brada	Kilham
<i>Collema</i>	<i>crispum</i> var. <i>crispum</i>					•		•	•	•						
	<i>tenax</i> var. <i>ceranoides</i>												•		•	
	<i>tenax</i> var. <i>tenax</i>														•	
<i>Collemopsidium</i>	<i>foveolatum</i>											•				
<i>Dibaeis</i>	<i>baeomyces</i>														•	
<i>Diploicia</i>	<i>canescens</i>							•		•	•					
<i>Diploschistes</i>	<i>scruposus</i>					•										
<i>Diplotomma</i>	<i>alboatrum</i>								•	•	•		•			
	<i>venustum</i>												•			
<i>Dirina</i>	<i>massiliensis</i> f. <i>sorediata</i>															
<i>Endococcus</i>	<i>exerrans</i>												•			
<i>Evernia</i>	<i>prunastri</i>	•	•	•	•						•					•
<i>Fuscidea</i>	<i>cyathoides</i> var. <i>cyathoides</i>					•	•									
	<i>lightfootii</i>		•	•	•											•
	<i>praeruptorum</i>															•
<i>Haematomma</i>	<i>ochroleucum</i> var. <i>ochroleucum</i>													•		
<i>Hyperphyscia</i>	<i>adglutinata</i>							•								
<i>Hypocomyce</i>	<i>scalaris</i>				•	•		•								
<i>Hypogymnia</i>	<i>physodes</i>		•		•	•	•	•			•		•	•	•	•
	<i>tubulosa</i>		•		•					•				•	•	•
<i>Hypotrachyna</i>	<i>revoluta</i>				•											•
<i>Illoporiopsis</i>	<i>christiansenii</i>			•												
<i>Lecanactis</i>	<i>abietina</i>			•												
<i>Lecania</i>	<i>cyrtella</i>			•											•	
	<i>cyrtellina</i>			•												
	<i>erysibe</i>							•			•					
	<i>rabenhorstii</i>									•						
	<i>turicensis</i>							•			•					
<i>Lecanora</i>	<i>aitema</i>	•														
	<i>albescens</i>		•						•	•	•		•		•	•
	<i>campestris</i> subsp. <i>campestris</i>		•			•			•		•		•		•	•
	<i>carpineae</i>														•	•
	<i>chlarotera</i>		•	•	•	•									•	•

Species list from Wooler field meeting, October 2008			Wooler Common	Humbleton Hill	Etal	Ingram	Ingram churchyard	Brough Law	Etal churchyard	Duddo churchyard	Holy Island churchyard	Lindisfarne Priory	St Cuthbert's Isle	Holy Island Snook	Ford churchyard	Brada	Kilham
<i>Lecanora</i>	<i>compallens</i>				•												
	<i>conizaeoides</i> f. <i>conizaeoides</i>		•			•	•									•	
	<i>crenulata</i>										•			•			
	<i>dispersa</i>			•					•		•	•			•	•	
	<i>expallens</i>				•	•			•		•					•	
	<i>gangaleoides</i>						•	•			•		•			•	
	<i>helicopis</i>												•				
	<i>intricata</i>		•					•						•	•	•	
	<i>muralis</i>			•					•	•		•				•	
	<i>orosthea</i>			•			•			•	•		•			•	
	<i>persimilis</i>				•												
	<i>polytropa</i>		•	•			•	•		•	•		•	•		•	•
	<i>pulicaris</i>		•														
	<i>rupicola</i> var. <i>efflorens</i>															•	
	<i>rupicola</i> var. <i>rupicola</i>			•						•	•		•	•		•	
	<i>soralifera</i>			•				•								•	
	<i>sulphurea</i>			•			•			•				•	•	•	
	<i>symmicta</i>															•	
	<i>varia</i>		•														
<i>Lecidea</i>	<i>diducens</i>							•									
	<i>fuliginosa</i>															•	
	<i>fuscoatra</i>							•								•	•
	<i>grisella</i>													•		•	
	<i>lithophila</i>							•						•		•	
	<i>plana</i>							•								•	
	<i>pyncocarpa</i> f. <i>pyncocarpa</i>															•	
<i>Lecidella</i>	<i>elaeochroma</i> f. <i>elaeochroma</i>			•	•	•										•	•
	<i>scabra</i>			•			•		•	•	•					•	
	<i>stigmatea</i>						•		•	•	•						
<i>Lepraria</i>	<i>incana</i>				•		•		•	•	•	•			•		
	<i>lobificans</i>				•				•								
<i>Leptogium</i>	<i>gelatinosum</i>									•				•			
<i>Lichenomphalia</i>	<i>umbellifera</i>															•	
<i>Melanelixia</i>	<i>fuliginosa</i> subsp. <i>fuliginosa</i>		•	•			•		•	•	•				•	•	

Species list from Wooller field meeting, October 2008		Wooller Common	Humbleton Hill	Etal	Ingram	Ingram churchyard	Brough Law	Etal churchyard	Duddo churchyard	Holy Island churchyard	Lindisfarne Priory	St Cuthbert's Isle	Holy Island Snook	Ford churchyard	Brada	Kilham
<i>Melanelixia</i>	<i>fuliginosa</i> subsp. <i>glabratula</i>				•	•										•
	<i>subaurifera</i>	•	•	•	•						•				•	
<i>Micarea</i>	<i>denigrata</i>	•					•								•	
	<i>lignaria</i> var. <i>lignaria</i>						•			•					•	
	<i>micrococca</i>	•														
<i>Muellerella</i>	<i>lichenicola</i>												•			
<i>Neofuscelia</i>	<i>loxodes</i>										•				•	
	<i>verruculifera</i>														•	
<i>Ochrolechia</i>	<i>androgyna</i>		•											•		
	<i>parella</i>					•				•	•	•			•	•
<i>Opegrapha</i>	<i>calcareo</i>					•				•	•					
	<i>herbarum</i>			•												
	<i>niveoatra</i>			•												
	<i>vulgata</i>			•	•											
<i>Ophioparma</i>	<i>ventosa</i>						•									
<i>Parmelia</i>	<i>omphalodes</i>						•									
	<i>saxatilis</i>		•		•			•	•	•	•	•		•	•	•
	<i>sulcata</i>	•	•	•	•	•		•	•	•	•			•	•	•
<i>Parmeliopsis</i>	<i>ambigua</i>															•
<i>Peltigera</i>	<i>canina</i>												•		•	
	<i>didactyla</i>														•	
	<i>hymenina</i>	•					•								•	
	<i>membranacea</i>							•					•		•	
	<i>neckeri</i>														•	
	<i>rufescens</i>												•		•	
<i>Pertusaria</i>	<i>albescens</i> var. <i>corallina</i>							•						•		
	<i>amara</i> f. <i>amara</i>				•	•				•						
	<i>aspergilla</i>						•									
	<i>corallina</i>		•		•	•	•									•
	<i>lactescens</i>									•			•			
	<i>leioplaca</i>			•												
<i>Phaeophyscia</i>	<i>orbicularis</i>			•	•	•				•	•			•	•	•
<i>Phlyctis</i>	<i>argena</i>			•	•	•										
<i>Physcia</i>	<i>adscendens</i>		•	•	•	•				•	•				•	•
	<i>aipolia</i>				•											
	<i>caesia</i>		•			•		•		•	•			•	•	
	<i>dubia</i>		•													

Species list from Wooler field meeting, October 2008		Wooler Common	Humbleton Hill	Etal	Ingram	Ingram churchyard	Brough Law	Etal churchyard	Duddo churchyard	Holy Island churchyard	Lindisfarne Priory	St Cuthbert's Isle	Holy Island Snook	Ford churchyard	Brada	Kilham
<i>Physcia</i>	<i>tenella</i> subsp. <i>tenella</i>		•	•	•	•				•	•				•	•
<i>Physconia</i>	<i>enteroxantha</i>														•	
	<i>grisea</i>		•		•			•			•					
<i>Placopsis</i>	<i>lambii</i>														•	
<i>Placynthiella</i>	<i>icmalea</i>		•												•	
<i>Placynthium</i>	<i>nigrum</i>								•							
<i>Platismatia</i>	<i>glauca</i>					•										
<i>Porina</i>	<i>aenea</i>			•											•	
<i>Porpidia</i>	<i>cinereoatra</i>														•	
	<i>crustulata</i>														•	
	<i>macrocarpa</i> f. <i>macrocarpa</i>														•	
	<i>platycarpoides</i>									•					•	
	<i>soredizodes</i>					•									•	
	<i>tuberculosa</i>					•			•					•	•	•
<i>Protoblastenia</i>	<i>rupestris</i>												•		•	
<i>Protoparmelia</i>	<i>badia</i>					•								•		
<i>Pseudevernia</i>	<i>furfuracea</i> var. <i>ceratea</i>					•	•									
<i>Psilolechia</i>	<i>lucida</i>					•	•									
<i>Punctelia</i>	<i>jeckeri</i>					•									•	
	<i>subrudecta</i>					•										
<i>Pyrrhospora</i>	<i>quernea</i>			•						•						
	<i>rubiginans</i>														•	
<i>Ramalina</i>	<i>canariensis</i>		•													
	<i>farinacea</i>	•	•	•	•	•				•					•	•
	<i>fastigiata</i>				•											•
	<i>polymorpha</i>														•	
	<i>siliquosa</i>									•	•	•			•	
	<i>subfarinacea</i>				•	•						•			•	
<i>Rhizocarpon</i>	<i>distinctum</i>												•			
	<i>geographicum</i>		•			•	•			•	•		•	•	•	•
	<i>petraeum</i>									•						
	<i>reductum</i>		•			•	•	•		•	•		•		•	•
	<i>richardii</i>											•				
<i>Rimularia</i>	<i>furvella</i>					•										
<i>Rinodina</i>	<i>bischoffii</i>												•			
	<i>gennarii</i>									•	•			•		
	<i>immersa</i>												•			

Species list from Wooler field meeting, October 2008		Wooler Common	Humbleton Hill	Etal	Ingram	Ingram churchyard	Brough Law	Etal churchyard	Duddo churchyard	Holy Island churchyard	Lindisfarne Priory	St Cuthbert's Isle	Holy Island Snook	Ford churchyard	Brada	Kilham
<i>Rinodina</i>	<i>sophodes</i>			•	•	•										
<i>Sarcogyne</i>	<i>regularis</i>		•					•					•			
<i>Schaereria</i>	<i>fuscocinerea</i> var. <i>fuscocinerea</i>														•	
<i>Sclerococcum</i>	<i>montagnei</i>														•	
<i>Scolicosporum</i>	<i>chlorococcum</i>	•														
	<i>umbrinum</i>												•			
<i>Stereocaulon</i>	<i>dactylophyllum</i> var. <i>dactylophyllum</i>														•	
	<i>pileatum</i>														•	
<i>Strangospora</i>	<i>ochrophora</i>			•												
<i>Syzygospora</i>	<i>physciacearum</i>														•	
<i>Tephromela</i>	<i>atra</i> var. <i>atra</i>		•			•					•		•	•	•	•
	<i>grumosa</i>	•	•							•			•	•	•	•
<i>Toninia</i>	<i>aromatica</i>												•			
<i>Trapelia</i>	<i>coarctata</i>														•	
	<i>glebulosa</i>													•	•	
	<i>obtegens</i>														•	
	<i>placodioides</i>														•	
<i>Trapeliopsis</i>	<i>granulosa</i>														•	
	<i>pseudogranulosa</i>							•								
<i>Tremolecia</i>	<i>atrata</i>							•								
<i>Umbilicaria</i>	<i>polyphylla</i>													•		
<i>Usnea</i>	<i>subfloridana</i>		•													
<i>Verrucaria</i>	<i>fuscella</i>		•													
	<i>macrostoma</i> f. <i>furfuracea</i>								•		•					
	<i>macrostoma</i> f. <i>macrostoma</i>		•													
	<i>maura</i>											•	•			
	<i>mucosa</i>											•				
	<i>muralis</i>														•	
	<i>nigrescens</i>					•		•					•			
	<i>viridula</i>														•	
<i>Xanthoparmelia</i>	<i>conspersa</i>													•	•	
	<i>mougeotii</i>													•		
<i>Xanthoria</i>	<i>candelaria</i>				•	•				•						
	<i>parietina</i>		•	•	•	•		•		•	•	•	•		•	•
	<i>polycarpa</i>		•	•	•	•				•					•	•
	<i>ucrainica</i>		•		•	•				•					•	•



Species list from Wooler field meeting, October 2008		Kilham	
		Brada	
		Ford churchyard	
		Holy Island Snook	
		St Cuthbert's Isle	
		Lindisfarne Priory	
		Holy Island churchyard	
		Duddo churchyard	
		Etal churchyard	
		Brough Law	
		Ingram churchyard	
		Ingram	
		Etal	•
	Humbleton Hill		
	Wooler Common		
<i>Xanthoriicola</i>	<i>physciae</i>		

## BLS Field Meeting in the Burren, Ireland, 18-25 April 2009

Attendees: drivers: Elaine Dromey, Vince Giavarini, Sharon Parr, Steve Price, Neil Sanderson, Jenny Seawright, Mike Simms, Eluned Smith, Terry Thorpe, Stephen Ward, Paul Whelan, Ray Woods.

Grateful passengers: Ishpi Blatchley, Peder Aspen, Lesley & Michael Balfe, Graham Boswell, Annelie Burghause, Heather Colls, Ginnie Copsey, Andy Cross, David Hill, Peter Lambley, Alison Meredith, Tara Mooney + friend Keri, Ivan Pedley.

*“Carboniferous Limestone must be regarded as a neglected habitat as far as lichens are concerned.” (Gilbert 2000)*

---

The days immediately preceding the Burren field meeting were overcast and cold, but the 18<sup>th</sup> dawned sunny and we were blessed with a week of good weather until departure day which was cold and wet. Those arriving via Shannon were treated to a profusion of spring gentians *Gentiana verna* in flower on Commons North. The group was accommodated at Jones’ – two self-catering houses in the township of Carran and partook of our evening meals at Cassidy’s – a long-established local hostelry.



*Stocking up with essential supplies [ the whiskey is already stowed safely!]*

## Geology

The main rock type in the Burren is Carboniferous limestone, exposed as large, fissured platforms and whose geological and glacio-karstic features were described for us by Mike Simms in a talk entitled *Exploring the Limestone Landscapes of Father Ted Country*. Mike is author of an attractive booklet on the area (2006).

Limestone is a very-demanding lichen substrate, being fine-grained, free-draining, dry, sun-scorched and frosted, nutrient-poor, mildly alkaline, snail-grazed, relatively impermeable, but soluble in water! Wet surfaces are also mildly alkaline (pH 7.8) and all these factors combine to inhibit the growth of all but the most robust crustose “calcicole” genera such as *Acrocordia*, *Aspicilia*, *Caloplaca*, *Protoblastenia*, *Verrucaria* and other pyrenocarps. Surprisingly however, large, foliose genera such as *Collema* and *Leptogium* can also cope, perhaps due to their ability rapidly to absorb rain water and fix nitrogen in this depleted environment.



*Solorina saccata*, The Burren © Mike Simms, [www.britishlichens.co.uk](http://www.britishlichens.co.uk)

The solution hollows in the limestone, known as “kamenitzas”, fill with rain water which allows *Collema*, *Lempholemma*, *Leptogium* and *Petractis* species to grow. Damp runnels and overhangs are dominated by *Dermatocarpon miniatum*.

The dissolving limestone leaves behind hard, upstanding flinty horizons of chert and a fine clay residue. The chert supports “calcifuge” species such as *Fuscidia cyathoides* and *Ochrolechia parella*, whilst the clays are washed into cracks and fill the “kamenitzas”, forming tiny fields of soil. The soil is mildly alkaline and supports *Solorina saccata*, *Catapyrenium squamulosum* and *Squamarina cartilaginea*. Mosses soon colonise these tiny fields and eventually *Cladonia* species dominate.

## Sunday 19<sup>th</sup>

As a change from all the travelling the previous day, we left the cars at base and commenced our week of explorations with a route-march of just one mile north from Carran to **Termon**. Neil commented that it made a change from getting bogged down in the car park! On arrival, we split into groups.



*Strigula tagananae*, The Burren © Neil Sanderson,  
[www.britishlichens.co.uk](http://www.britishlichens.co.uk)

One group led by Ivan examined the roofless ruins of **Teampall Chronáin**. Here “shrine tombs” built over several of the graves were notable and, although not contemporary with the church’s foundation were apparently indicative of an early Christian site. These tombs looked like ridge tents or triangular prisms, over a metre high, and were perhaps one and a half metres long. The church itself, with chamfered west door and east window had a flora which reflected that of the surrounding limestone but the dry-stone walls surrounding the church added more habitats in the form of crevices and under-hangs. *Thelidium papulare* f. *papulare* and *Verrucaria caerulea* were recorded from the wall and *Collema polycarpon* nestled in shallow solution holes (a niche that mirrors its chosen habitat on the top of limestone chest tombs in the Midlands). An ash tree to the south supported the tiny crowded apothecia of *Caloplaca cerinella* (asci had consistently

more than 10 spores when checked, whereas *C. cerinelloides* has 8 only)

Another group led by Neil went to look at Atlantic hazel woods. Well-lit older hazel along the base of cliffs supported the *Graphidion* community with *Arthonia graphidicola* and *A. stellaris*. A little of the heavy-spored *Thelotrema lepadinum* occurred. In the Burren this species may be a late coloniser and perhaps its abundance is a guide to the degree of re-establishment of the *Graphidion*. Of particular interest was the occurrence of *Strigula tagananae*, new to southern Ireland. Associated species



included *Graphis scripta*, *Pyrenula macrospora*, *P. laevigata*, *Arthonia cinnabarina*, *Anisomeridium robustum* and *Arthothelium lirellans*.

In the hollows, taller, shadier hazel supported the *Lobarion* community with *Lobaria pulmonaria*, *Nephroma laevigata*, *Sticta fuliginosa*, *S. limbata* and *S. sylvatica*. For those used to western Scotland, *Leptogium cochleatum* was surprisingly widespread. *Degelia plumbea* and *Pannaria rubiginosa* are clearly both rapid colonisers in the Burren.

In the afternoon, Neil's group went north to **Poll na Flaherta** (Rannagh East), a deep wooded doline, containing grazed Atlantic hazel wood on limestone. Clearly older than the wood at Termon, and much more sheltered, there were ancient ash stools several meters across, and hence several hundred years old which, even if flattened during the wood famine, must have regrown. *Biatora britannica* was recorded, along with *Leptogium cochleatum* and *Catinaria atropurpurea*. A significant feature for lichens was provided by the spreading hazels which partially colonised the formerly cultivated doline-bottoms.



*Leptogium cochleatum*, The Burren. © Mike Simms, [www.britishlichens.co.uk](http://www.britishlichens.co.uk)

This was primarily a *Lobarion* site; open-grown hazel with horizontal branches in a formerly cultivated area was very species-rich with *Pseudocyphellaria crocata*, *Lobaria*

*pulmonaria*, *L. scrobiculata*, *L. virens*, *Leptogium cochleatum*, *Peltigera collina*, *Collema subflaccidum*, *Sticta sylvatica* and *S. fuliginosa*.

Well-developed *Graphidion* occurred in better-lit stands of hazel. *Thelotrema lepadinum* was abundant and there was a very large population of *Megalospora tuberculosa*. Other species recorded include *Graphina anguina*, *Leptogium brebissoni*, *L. burgessii*, *Biatora britannica*, and a new species, seen quite widely during the week, which resembles a green *Lecanora jamesii* but is Pd+ orange and probably new to southern Ireland. Canopy gaps were clearly instrumental in creating hot spots of interest within tall sheltered hazel.

Solution hollows in the limestone pavement above the wood had *Lempholemma cladodes* as masses of free round balls.

That evening, **Dr Damian McFerran** outlined the work being undertaken by **Lichen Ireland** to build a comprehensive picture of lichen distribution and to which the week's records would be a valuable contribution.

### Monday 20<sup>th</sup>

Ivan's group visited a disused quarry at Knocknalarabana, a roofless church at Porsoon and the pub – at least, the men did with the excuse of recording the corticolous species from the adjacent horse-chestnut and sycamore. Steve's van was quite safe, since Ishpi had been abandoned to safeguard the shopping.

After the tapestry of grey and brilliant white of the Burren limestone, Knocknalarabana's dark sandstone and shale provided a remarkable contrast, and for those who climbed above the quarry face the countryside of Clare seemed to extend forever in all directions and the sky to no lesser an extent. Quarrying had eaten away into the hill top from all sides leaving the appearance of a citadel and, as with all ancient ruins, there was the mystery of why had it been abandoned, why had the quarry workers walked off site all those years ago?

The shale and sandstone at **Knocknalarabana** presented a very different species assemblage from that of the limestone, with mainly *Porpidia*, *Fuscidea* and *Placopsis* species and also *Caloplaca crenularia*. An unusual horizon of pyrite (FeS<sub>2</sub>) mineralisation in the sandstones showed a metallophyte assembly of *Rhizocarpon oedrei*, *Tremolecia atrata* and *Acarospora sinopica*.

The quarry floor supported a diverse saxicolous flora of acidophiles, including *Fuscidea lygaea*, *Micarea lignaria* var. *lignaria* and *Placopsis lambii* (with a shiny surface and cephalodia spreading out and unlobed). The thin developing acid soil was covered with a wide range of *Cladonia* spp. including *C. pyxidata* with its associated lichenicolous fungus *Lichenocodium pyxidatae*. Other interesting communities also clothed the vertical faces, rearing 15 metres or so, overhead. *Opegrapha gyrocarpa* was frequent and an interesting and extensive pure white crust on the south west corner

(K+ yellow to red) with black discolouration was thought initially to be fertile *Pertusaria pseudocorallina*, but was later determined as being the same species but supporting blackish tufts of the lichenicolous fungus *Sclerococcum sphaerale*. The lack of the characteristic brown-tipped isidia is typical of this lichen when parasitized.

A few trees dwarfed by the constant struggle for moisture and minerals were found in the cracks of the quarry floor. *Caloplaca ferruginea* growing on these trees was of more than general interest, being a species in decline in much of Europe.

In the afternoon the quarry group returned to a site that had attracted interest during the outward journey. Porsoon is a church ruined by time and loss of its congregation. It is roofless but is still impressive from a distance as it draws the eye of the traveller on the main road. Ivy threatens to swamp its walls and a number of headstones set within a modest yard showed signs of chemical cleaning and stood out starkly amongst the remaining memorials that were softened by age and a subdued coloured tapestry of lichens.

With its blend of acid and basic stone memorials the lichen flora was found to be interesting, if not exceptional. The church provided the only site during the week for *Caloplaca lactea*, *Diplotomma alboatrum*, *Porina linearis* and *Verrucaria macrostoma* f. *furfuracea*.

Neil and co first visited **Rockforest**, consisting of patches young hazel and the scattered remains of a 19<sup>th</sup> century Scots pine plantation. The latter has the distinction of being the only wood shown on early 19<sup>th</sup> century maps of the Burren. The hazel had a very poor *Graphidion* community, *Thelotrema lepadinum* was absent on hazel (although on hawthorn and ash) and standard Atlantic species of the area such as *Arthonia ilicina*, *Arthopyrenia carneobrunneola*, *Pyrenula laevigata* and *Pyrenula occidentalis* absent totally. The widespread *Pyrenula macrospora* and *Arthonia cinnabarina* dominated the hazel. The *Lobarion* was absent from the hazel altogether but had a limited representation on a few mature ash, with *Pannaria rubiginosa*, common in the Burren, along with the more interesting *Megalania grossa*, *Gomphillus calycioides*, *Mycobilimbia epixanthoides* and *Mycobilimbia pilularis*. Clearly not all hazel becomes rapidly interesting in the Burren. This area was quite exposed, very open and scrubby, young and potentially distant from existing woods rich in lichens.

They then went on to **Clooncoose**, an old farm in an area of high conservation interest, with much richer hazel. South of the green-road, below a north-facing limestone cliff, was tall but reasonably well-lit hazel woodland and shorter well-lit, but sheltered, hazel. North of the green-road, tall but reasonably well-lit hazel occurred on south-facing rising ground. Most species of interest were on hazel, but willow and ash were locally important, with *Lobarion* in the taller shadier sites and strongly developed *Graphidion* on hazel along the base of the cliff.

The very rich *Lobarion* found on entering the wood south of the green-road included *Degelia atlantica*, *Lobaria pulmonaria*, *L. virens*, *Sticta limbata* and *S. sylvatica*. *Parmeliella testacea* was widespread on hazel and ash and *Pannaria conoplea*, *Biatora britannica*, *Mycobilimbia epixanthoides* and *M. pilularis* were also recorded. A hazel bush against the cliff supported *Strigula tagananae*.

North of road there is again rich *Lobarion* with *Degelia atlantica*, *Lobaria pulmonaria*, *Pannaria conoplea*, *Parmeliella testacea*, *Nephroma laevigata*, *Leptogium cochleatum*, *Sticta limbata*, *S. fuliginosa* and *S. sylvatica*. This significant site reinforced the observation that rich *Lobarion* tended to lie deep within reasonably well-lit areas of woodland, with the best *Graphidion* against cliff faces where hazel was both very sheltered and well-lit.

Meanwhile, Peter, Ray, Graham and Stephen went square-bashing at **Querrin Point** on the Shannon Estuary. Here, Graham fell into conversation with the owner of an extensive and ancient garden with mature trees and an orchard, both containing an interesting range of species including *Ramalina calicaris* and *R. canariensis*,

## Tuesday 21<sup>st</sup>



*Gomphillus calycioides*, The Burren. © Neil Sanderson, [www.britishlichens.co.uk](http://www.britishlichens.co.uk)

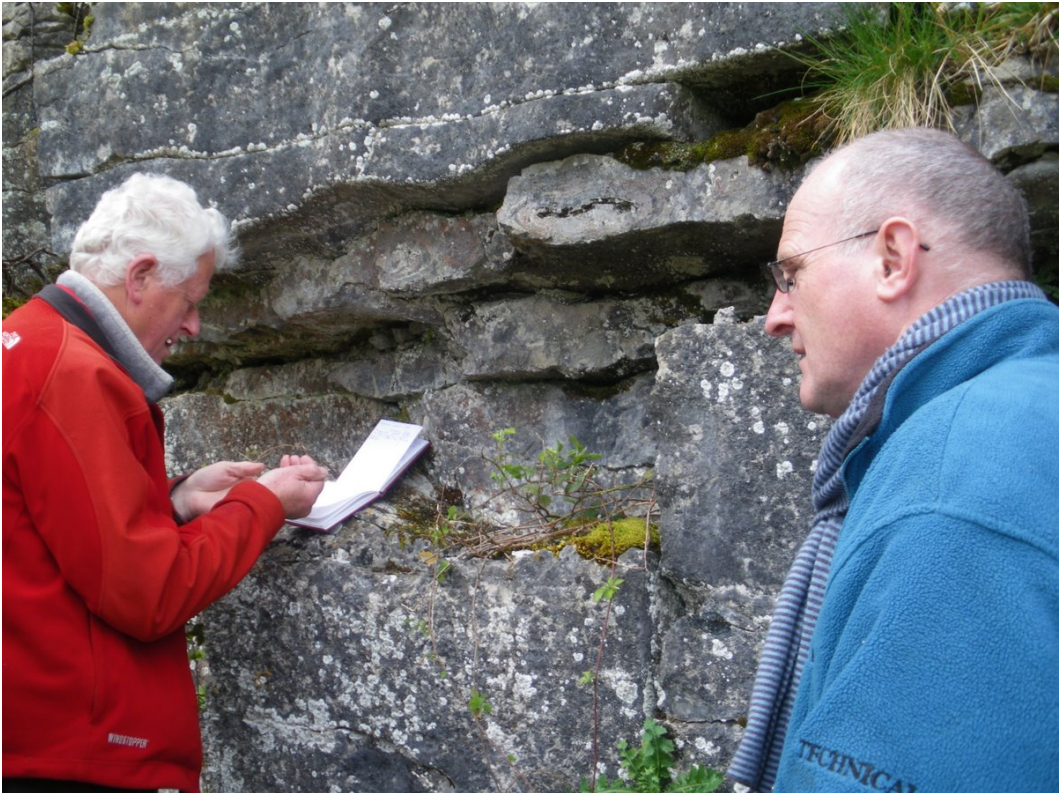
Neil's group visited the hazel wood at the head of **Gleninagh South**, an Atlantic hazel wood on limestone, well grazed with a central grassy glade and plenty of small glades, reminiscent of Scottish grazed hazel woods. Most lichen interest focused on the dominant hazel, but rowan, hawthorn and willow were also of interest. Probably due to its open structure, the *Lobarion* and *Graphidion* were evenly

distributed. In the southern part of the wood, *Sticta sylvatica* was abundant, *S. limbata* occasional and *S. fuliginosa* rare. Other species included *Gomphillus calycioides*, *Leptogium brebissonii*, *Megalospora tuberculosa*, *Nephroma laevigata*, *Lecanora farinaria* and *Degelia atlantica*.



North of the wall further species included *Biatora britannica*, *Leptogium burgessii*, *L. cochleatum*, *L. cyanescens*, *Collema subflaccidum*, *Parmeliella parvula* on hawthorn. There was a big colony of *Parmeliella testacea* on hazel.

This wood had a very rich *Lobarion* and lots of Red Data Book species. Its structure and management were ideal - well grazed with a greater frequency of glades meaning that hot spots of interest were less restricted than in other woods.



Ivan's group visited **Black Head**, where the Burren meets the grey Atlantic. Only a handful of maritime species were recorded—*Caloplaca marina*, *C. thallicola*, *Ramalina siliquosa* and *Xanthoria aureola*. Undeterred the group travelled along the coast and spent a wonderful few hours exploring the limestone pavements above the road. Nothing of great importance was noted but the sunshine, the wide seascapes, the company, and the blue spring gentians made this a particularly pleasing day.

With the sharp eye of the seasoned geologist, Peder picked out a number of distant erratics on the sea's edge and spent the next hour or so picking over them. He returned triumphant with the only records during the week for *Acarospora impressula*, *Xanthoparmelia loxodes* and *Rhizocarpon geographicum*. One large granite erratic examined by David's group was had a 'lawn' of *Ramalina siliquosa*, with occasional rosettes of *Tephromela atra*.

**Christine Grant** of the **National Monument Service** spoke to us in the evening about recent archaeological discoveries in the Burren. She was just as keen to learn from us, as we were to learn from her and the next day she accompanied us in the field.

### **Wednesday 22<sup>nd</sup>**

The map of The Burren reflects an ancient culture of fear. Castles (cashels), fortified houses, defensive circles and ringforts abound. One such structure, close to Carran, stands out for its magnificent location and complex defences. The trivallate fort of **Cathair Chomáin**, set high up on the edge of a ravine, its three enclosing walls relatively complete and, in parts, apparently untouched for centuries, was visited by most of the party, accompanied by Christine.

The saxicolous flora was rich and full of interest. Of the numerous species recorded during our survey a number were particularly interesting, if only for their remarkable beauty. They included *Caloplaca aurantia*, *C. cirrochroa* (surely the most attractive of all the *Caloplaca*?), *Clauzadea chondrodes* and *C. metzleri*, *Lecania cuprea*, *Placynthium subradiatum*, three species of the genus *Protoblastenia*—*calva*, *incrustans* and *rupestris* and *Xanthoria elegans* (its only record for the week)

A detailed lichen survey of this fortification should be carried out and linked with successive documented rebuilds and renovations since it was scientifically excavated in 1934 (the only ringfort in the Burren to have been so to date). Indeed all the anthropogenic structures in the Burren landscape merit survey — the wedge tombs, the burial cairns, the ecclesiastical sites, children's graveyards (killeen's—the burial sites for unbaptised children—for this is also a landscape of sorrow and pathos), as it is easy to forget their lichenological significance. Already damage is occurring to the lichen flora—two of the churchyards visited had the depressing signs of memorial cleaning.

Below the fort lay Atlantic hazel on limestone; much of the woodland was ungrazed but relict fields harboured cattle. Over large areas the canopy was dense and the lichen flora poor. However, the old fields and larger glades with well-lit old hazel bushes were very rich.

The *Lobarion* community was best developed on hazel within old fields not being actively colonised by hazel, which impoverishes old glade edge trees by increasing the shade. Within the gorge was a large glade with a remarkably dense colonisation of *Degelia plumbea*. Other species present include *Lobaria pulmonaria*, *L. virens*, *Leptogium cochleatum*, *Nephroma laevigata*, *N. parile*, *Degelia atlantica*, *Parmeliella testacea* and *Sticta sylvatica*. Fertile *Mycobilimbia epixanthoides* on willow was recorded.

West of the gorge a rich area surrounding a glade had *Biatora britannica* and *Leptogium burgessii*. A spreading hazel had two thalli of *Pseudocyphellaria crocata*. *Pannaria conoplea*, *L. cyanescens* and *Peltigera collina* were also recorded.

A spreading hazel had single thalli both of *Pseudocyphellaria crocata* and *P. intricata*; the latter new to the Burren. This astonishing single tree also had *Collema subflaccidum*, *Degelia atlantica*, *D. plumbea*, *Gomphillus calycioides*, *Leptogium burgessii*, *L. cochleatum*, *L. cyanescens*, *Lobaria pulmonaria*, *Nephroma laevigatum*, *Pannaria rubiginosa*, *Parmeliella testacea*, *Sticta limbata*, *S. fuliginosa* and *S. sylvatica*.

This under-grazed wood demonstrated that even lichens can have problems with too much hazel; dynamic woods do not favour high lichen diversity. Rides to give cattle access to clearings would also favour lichens by leaving old hazel which the lichens could gradually colonise along the edges.

A talk which Sharon gave that evening on *The Burren: Biodiversity and Farming for Conservation* enabled the group to begin putting into context what they had seen of land-use in the Burren. Sharon is the Scientific Coordinator for the BurrenLIFE Farming for Conservation project.

### Thursday 23<sup>rd</sup>

Anyone who has built with natural stone will know the sense of using the largest blocks as footings—a tonne of limestone is easier to lever into position than to lift to head height, even with the help of ramps and rollers. So a visitor to this charming church dedicated to St Mac Duach, with his Holy Well close by, lying within the **Slievecarran NNR**, can only marvel at the effort needed to mason and to lift into place the immense blocks that make up the middle section of the remaining gable end. This evocative ruin, sheltered below the hazel wood of Luaine, has the appearance of a giant's plaything, lost, and now being overwhelmed by the natural world, its broken walls a riot of ferns and saplings. There were signs of a recent tidy-up—scrub had been cut back to expose how little remains of what must have been in the past a beacon of hope to the surrounding population. Whilst its saxicolous lichen flora will improve if kept clear, those species which were recorded added little to the importance of the site. It is the remarkable corticolous flora of the surrounding wood that lifts the lichenologist's interest.

Neil's group visited the Atlantic hazel wood which lies immediately upslope from St Mac Duach's church. At the start the hazel was tall and the lower trunks festooned in thick ruffs of moss; not much in the way of lichens but a magical fairy wood to go with the church and the holy well with its pagan offerings. The hazel higher up was much more open with occasional ancient ash stools. The *Graphidion* was far more strongly oceanic than any other seen to date; it was dominated by *Thelotrema lepadinum*, *Pyrenula laevigata*, *P. occidentalis*, *Arthopyrenia carneobrunneola* and *Arthonia ilicina*. This impressive background community was raised to spectacular levels in discreet areas by the presence of the very rare *Pyrenula hibernica* on c 70, probably more, hazel bushes. The colonies were clearly expanding and strongly suggestive of a relict cliff population spreading back into the wood below. It is possible that this is the largest colony in Ireland and Britain. Also present was the rarely recorded *Pyrenula acutispora*, apparently the second record for Ireland.

Associated species with the *Pyrenula hibernica* were *Arthopyrenia carneo-brunneola*, *Celothelium ischnobelum*, *Cladonia coniocraea*, *Degelia atlantica*, *Graphis scripta*, *Lepraria lobificans*, *Normandina pulchella*, *Pannaria rubiginosa*, *Parmeliella triptophylla*, *Pyrenula acutispora*, *P. laevigata*, *P. macrospora*, *P. occidentalis* and *Thelotrema lepadinum* (with *Skyttea nitschkei*).



*Pyrenula hibernica*, The Burren. © Mike Simms, [www.britishlichens.co.uk](http://www.britishlichens.co.uk)

Peter, Ray & Stephen visited **Bealkelly Wood**, a private nature reserve in East Clare. A species of note recorded here for the first time in Clare was *Graphina pauciloculata*.

That evening, as a thank you to the local community and in a joint lecture with the Burrenbeo Trust, a charity recently formed to promote the conservation and sustainable development of the Burren, Ivan spoke on *Sanctuary, Resurrection and Hope: A Look At Churchyard Lichens*. The talk had been advertised in the local press and drew an audience which included (to Ivan's great delight) a nun, as well as representatives of the National Parks & Wildlife Service and the Irish Wildlife Trust. The series of talks is sponsored by the Heritage Council and Ivan generously donated his fee from them to the Burrenbeo Trust.





*Pyrenula acutispora*, The Burren. © Neil Sanderson, [www.britishlichens.co.uk](http://www.britishlichens.co.uk)

### Friday 24<sup>th</sup>

**Carran Turlough** had been our constant companion throughout the week. Those with a room with a view woke to its presence outside the window every morning, and every evening we sat to dinner in the local hostelry with its beauty spread before us. This was the day to answer its call and discover its secrets. The turlough is an enclosed depression, the water entering from underground chambers and draining via sink-holes. At times of high rainfall it forms a seasonal lake. Carran Turlough is the largest in the Burren, 2 miles by 1 mile, a lovely dish of greenery set at the time of our visit in a circle of low barren hills, but often forming a mirror to the sky – even in summer.

In the event over 100 species were recorded, a number directly related to the variety of ecological niches available which included limestone pavement—with its associated clints, grykes and various solution features (hollows, rills etc)—but also walls, scattered buildings, hedgerows and trees.

A notable species from the pavement was *Farnoldia jurana* (that breaker of cover slips!) but even the common species had their interest. *Verrucaria baldensis* covered large areas but its normal white thallus was here mottled and lined with darker grey flecks. *Lempholemma botryosum* was frequent in kamenitzas close to the north-eastern

wall. The long lengths of dry-stone walling yielded *Caloplaca alociza* and *C. variabilis* with numerous *Collema* and *Leptogium* spp.

Those looking at the trees and hedgerows were rewarded with *Degelia atlantica*, *D. plumbea* and *Pannaria rubiginosa*.

The last two miles were achieved in warm sunshine, on the road—never a good substratum to finish a walk with—and many foot weary members were glad to accept lifts from other groups returning to base. A few stuck it out and, as cars approached and lifts were offered, tried to appear absorbed in the study of gate posts and other uninspiring objects when, in reality, they were more than content to drape themselves over any support for a rest!

A glorious day, with many wonderful memories. An intense week of lectures for the erudition of all was rounded off by Stephen with a tour *From The Burren to the Isle Of Skye: the Limestone Pavements of Ireland & Britain*.

### **Thoughts on the hazel woods**

The Atlantic hazel woods seen during the week provided food for thought. Two features were of particular interest: disturbance history and habitat quality. All available evidence suggests that woodland on the Burren was reduced to a very low point in the years of high population pressure before the famine. One observation made during the visit, was the scattered presence of ancient ash stools in woods not recorded on 19<sup>th</sup> century maps, which suggests that more woodland may have survived as constantly coppiced low scrub than is evident from maps. Such fire-wood scavenged woods, however, will have been poor lichen habitats. Since then hazel woodland has recovered to the extent that its spread is now a threat to the limestone grasslands in some parts of the Burren. The lichen flora has recovered from the past disturbance to become impressively rich in places. This recovery is ongoing; the isolated recent woodland at Rockforest was of very little interest, with an ordinary *Graphidion* and no old woodland species at all and only limited *Lobarion* communities. On the other hand, the massive *Pyrenula hibernica* colony at Slievecarran NNR has every appearance of re-emerging from a cliff refuge and was accompanied by the richest *Graphidion* communities seen during the week. Odd things were missing however: why is there apparently no *Thelotrema macrosporum* or *Thelotrema petractoides* in the Burren? Did these species just not survive on hazel bushes clinging to cliffs while *Pyrenula hibernica* did? The *Lobarion* is more complete but some species such as *Lobaria scrobiculata*, *Pseudocyphellaria crocata* and *P. intricata* appeared to be very rare. As would be expected from western Scottish experience, *Degelia plumbea* and *Pannaria rubiginosa* were in the vanguard of colonisation. In contrast, the frequency of *Leptogium cochleatum* in young hazel woods was a surprise: perhaps the warmer climate suits this species? A systematic study of lichen populations and recolonisation could be very worthwhile here.

Overlying the patterns of recovery from disturbance are current habitat conditions and management. Rich *Lobarion* was typically found in very sheltered reasonably well-lit sites, with spreading hazel bushes in the tiny formerly cultivated fields at the

bases of dolines providing *Lobarion* heaven. The richest *Graphidion*, was found in less damp but still, sheltered situations. The bases of small limestone cliffs, where shelter was provided by the wood below but light spilled in from above, was a typically productive habitat to search for smooth-bark communities. High lichen diversity was clearly dependant on management. Areas where there had been a decline in grazing pressure were occupied by dense hazel. In such situations, moss-covered stems with few epiphytic lichen species predominated. In some parts of the Burren, even the hazel lichens are suffering from too much hazel. The richest woods for lichens, in contrast, had frequent small glades maintained by cattle turned-out in winter and / or feral goats. The under-grazed areas were also those where the spread of hazel is threatening other important Burren habitats. In this situation, there is not going to be too much of a conflict between the conservation of the lichen flora of the woods and works to restore grazing and the balance between open habitats and hazel wood. Increasing grazing pressure and opening-up recently lost open ground and lost glades should be beneficial. The most important factor is to ensure that relict areas of well-lit and lichen-rich hazel are left, in preference to lichen-poor dense or young hazel stands.

### **Dyes**

An added feature of interest during the week arose from Tara's interest in experimenting with lichen dyes. Tara grew up in the Burren and is now studying fabric design in London. Following a meeting with David Hill, whose father had learnt about dyeing with Ethel Mairet (1916, see also Coatts 1983) Tara was inspired to try her hand at dyeing while in the Burren. She brought with her a small piece of fabric she had woven and, with David's assistance, succeeded in dyeing it using *Parmotrema perlatum*. The process requires approximately equal volumes of the loose bulk of lichen to fabric; Tara's sample was about the size of a handkerchief. The resultant colour was a pinkish-brown; with David's advice, she succeeded in also introducing a subtle patterning.

### **Acknowledgements**

The Society, and in particular those members able to visit the Burren, wish to thank Lichen Ireland and through them the National Parks and Wildlife Service, the Northern Ireland Environment Agency and Dr. Damian McFerran of the National Museums of Northern Ireland for sponsoring this field meeting.

### **References**

- Gilbert, Oliver. 2000. *Lichens*. New Naturalist, Harper Collins, London.  
Coatts, Margot. *A Weaver's Life: Ethel Mairet, 1872-1952*. Crafts Council 1983.  
Mairet, Ethel M. *Vegetable Dyes: A Book of Recipes and Information Useful to the Dyer*, first published by Douglas Pepler in 1916, re-issued by Lulu.com 2008.  
Simms, Mike. 2006. *Exploring the Limestone Landscapes of the Burren and the Gort Lowlands: a guide for walkers, cyclists and motorists*. Privately published, Belfast.

*Peder Aspen, Ivan Pedley, Neil Sanderson & Stephen Ward*

<b>Species list:</b> <b>building habitats</b>	Teampall Chronain roofless church M289000	Porsoon roofless church R136926	St Mac Duach's roofless church M328042	Cathair Chomain ancient stone fort R282965
<i>Acrocordia conoidea</i>	•	•	•	•
<i>Acrocordia salweyi</i>		•		•
<i>Agonimia tristicula</i>				•
<i>Aspicilia calcarea</i>	•	•	•	•
<i>Belonia nidarosiensis</i>				•
<i>Bilimbia sabuletorum</i>				•
<i>Botryolepraria lesdainii</i>	•	•	•	•
<i>Buellia aethalea</i>		•		
<i>Catillaria lenticularis</i>				
<i>Caloplaca aurantia</i>				•
<i>Caloplaca cerinella</i>	•			
<i>Caloplaca cirochroa</i>				•
<i>Caloplaca citrina s.str.</i>	•	•	•	•
<i>Caloplaca crenularia</i>		•		
<i>Caloplaca crenulatella</i>				•
<i>Caloplaca flavescens</i>	•	•	•	•
<i>Caloplaca holocarpa</i>	•			
<i>Caloplaca lactea</i>		•		
Cf. <i>Caloplaca oasis</i>	•	•		
<i>Caloplaca ochracea</i>	•			•
<i>Caloplaca teicholyta</i>	•			
<i>Candelariella aurella</i> f. <i>aurella</i>		•		•
<i>Catillaria chalybeia</i> var. <i>chalybeia</i>		•		
<i>Catillaria lenticularis</i>	•	•		•
<i>Cladonia coniocraea</i>	•			
<i>Cladonia pocillum</i>	•			•
<i>Cladonia rangiformis</i>				•
<i>Clauzadea chondroides</i>				•
<i>Clauzadea immersa</i>	•		•	•
<i>Clauzadea metzleri</i>				•
<i>Clauzadea monticola</i>		•		•
<i>Collema auriforme</i>		•	•	•
<i>Collema flaccidum</i>				•
<i>Collema multipartitum</i>			•	•



<b>Species list: building habitats</b>	Teampall Chronain roofless church M289000	Porsoon roofless church R136926	St Mac Duach's roofless church M328042	Cathair Chomain ancient stone fort R282965
<i>Collema polycarpon</i>	•			
<i>Collema tenax</i> var. <i>tenax</i>	•	•		•
<i>Dermatocarpon miniatum</i> v. <i>miniatum</i>	•	•	•	•
<i>Diploicia canescens</i>				•
<i>Diplotomma alboatrum</i>		•		
<i>Graphis scripta</i>	•			
<i>Gyalecta jenensis</i> var. <i>jenensis</i>	•		•	
<i>Lecania cuprea</i>				•
<i>Lecania erysibe</i>		•		
<i>Lecanora albescens</i>	•	•	•	•
<i>Lecanora campestris</i> subsp. <i>campestris</i>		•		
<i>Lecanora chlarotera</i>	•			
<i>Lecanora crenulata</i>	•	•		•
<i>Lecanora dispersa</i>		•		•
<i>Lecanora gangaleoides</i>		•		
<i>Lecanora rupicola</i> var. <i>rupicola</i>		•		
<i>Lecanora sulphurea</i>		•		
<i>Lecidella elaeochroma</i> f. <i>elaeochroma</i>	•			
<i>Lecidella stigmatea</i>		•		
<i>Lepraria lobificans</i>	•			•
<i>Lepraria nivalis</i>			•	
<i>Lepraria vouauxii</i>	•		•	
<i>Leproplaca chrysodeta</i>	•		•	•
<i>Leproplaca xantholyta</i>	•	•		•
<i>Leptogium gelatinosum</i>	•			•
<i>Leptogium schraderi</i>				•
<i>Melanelixia fuliginosa</i> subsp. <i>fuliginosa</i>		•		
<i>Ochrolechia parella</i>		•		
<i>Opegrapha atra</i>	•			
<i>Opegrapha calcarea</i>	•	•		•
<i>Opegrapha gyrocarpa</i>		•		
<i>Opegrapha rupestris</i>	•	•		•
<i>Peltigera membranacea</i>			•	

<b>Species list: building habitats</b>	Teampall Chronain roofless church M289000	Porsoon roofless church R136926	St Mac Duach's roofless church M328042	Cathair Chomain ancient stone fort R282965
<i>Pertusaria hymenea</i>	•			
<i>Pertusaria pseudocorallina</i>		•		
<i>Petractis clausa</i>				•
<i>Placynthium nigrum</i>	•	•		
<i>Placynthium subradiatum</i>			•	•
<i>Porina aenea</i>	•			
<i>Porina chlorotica</i> f. <i>chlorotica</i>	•			
<i>Porina linearis</i>		•		
<i>Porpidia crustulata</i>		•		
<i>Porpidia soresidzodes</i>		•		
<i>Porpidia tuberculosa</i>		•		•
<i>Protoblastenia calva</i>				•
<i>Protoblastenia incrustans</i>	•		•	•
<i>Protoblastenia rupestris</i>	•	•	•	•
<i>Rhizocarpon reductum</i>		•		•
<i>Scoliciosporum umbrinum</i>		•		
<i>Sticta sylvatica</i>				•
<i>Tephromela atra</i> var. <i>atra</i>		•		
<i>Thelidium papulare</i> f. <i>papulare</i>	•			
<i>Toninia aromatica</i>	•	•		
<i>Trapeliopsis flexuosa</i>				•
<i>Verrucaria baldensis</i>	•	•	•	•
<i>Verrucaria caerulea</i>	•			
<i>Verucarria dufourii</i>				•
<i>Verrucaria fuscella</i>	•	•	•	
<i>Verrucaria hochstetteri</i>	•	•	•	•
<i>Verrucaria macrostoma</i> f. <i>furfuracea</i>		•		
<i>Verrucaria macrostoma</i> f. <i>macrostoma</i>		•		
<i>Verrucaria nigrescens</i> f. <i>nigrescens</i>	•	•		•
<i>Verrucaria parmigerella</i>			•	
<i>Verrucaria viridula</i>	•		•	
<i>Xanthoria elegans</i>				•
<i>Xanthoria parietina</i>		•		•

<b>Species list:</b> <b>hazelwood habitats</b>	Dromore NNR calcareous woodland R358863	Slieve Carran NNR hazel wood M328043	Burren Perfumery hazel wood R299999	Cathair Chomain hazel wood R282966	Gleninagh hazel wood M186091	Cloor-coose hazel wood R288952	Rock Forest hazel wood R348952	Rannagh East hazel wood M286011	Termon hazel wood M287008
<i>Abrothallus parmeliarum</i> #				•	•				
<i>Abrothallus welwitschii</i>					•	•			
<i>Acrocordia gemmata</i>			•			•	•	•	
<i>Agonimia tristicula</i>							•		•
<i>Anisomeridium biforme</i>				•					
<i>Anisomeridium polypori</i>			•						
<i>Anisomeridium ranunculosporum</i>				•			•		
<i>Anisomeridium robustum</i>			•					•	
<i>Arthonia cinnabarina</i>	•	•	•	•	•	•	•	•	•
<i>Arthonia didyma</i>									•
<i>Arthonia elegans</i>	•	•		•	•	•			•
<i>Arthonia graphidicola</i> #					•	•	•		
<i>Arthonia ilicina</i>				•	•	•			•
<i>Arthonia punctiformis</i> ##					•		•		•
<i>Arthonia radiata</i>							•		
<i>Arthonia spadicea</i>									•
<i>Arthonia stellaris</i>	•		•						•
<i>Arthopyrenia analepta</i> ##	•						•		•
<i>Arthopyrenia carneobrunneola</i>	•	•			•	•			•
<i>Arthopyrenia cinereopruinosa</i> ##					•	•			•
<i>Arthopyrenia punctiformis</i> ##	•								
<i>Arthopyrenia salicis</i>	•				•	•			•

Species list: hazelwood habitats	Termon hazel wood M287008	Rannagh East hazel wood M286011	Rock Forest hazel wood R348952	Cloon-coose hazel wood R288952	Gleninagh hazel wood M186091	Cathair Chomain hazel wood R282966	Burten Perfumery hazel wood R299999	Slieve Carran NNR hazel wood M328043	Dromore NNR calcareous woodland R358863
<i>Arthothelium lirellans</i> ##	•								
<i>Aspicilia calcarea</i>									•
<i>Bacidia arceutina</i>									•
<i>Bacidia bagliettoana</i>									
<i>Bacidia laurocerasi</i>									•
<i>Bacidia phacodes</i>	•								
<i>Biatora britannica</i>		•		•	•	•		•	
<i>Biatoropsis usnearum</i> #					•				
<i>Bilimbia sabuletorum</i>								•	•
<i>Caloplaca cerina</i> var. <i>cerina</i>			•						•
<i>Caloplaca cerinella</i>							•		
<i>Caloplaca chlorina</i>									•
<i>Caloplaca ferruginea</i>			•		•	•	•		•
<i>Catillaria nigroclavata</i>			•						
<i>Caloplaca flavescens</i>					•		•		•
<i>Candelariella reflexa</i>					•		•		
<i>Catinaria atropurpurea</i>		•		•		•		•	
<i>Celothelium ischnobelum</i>		•		•	•	•		•	
<i>Chrysothrix candelaris</i>									•
<i>Cladonia caespiticia</i>								•	
<i>Cladonia coniocraea</i>		•	•		•	•	•	•	
<i>Cladonia fimbriata</i>						•			
<i>Cladonia ochrochlora</i>									•
<i>Cladonia pocillum</i>			•		•				
<i>Cladonia portentosa</i>			•						
<i>Cladonia pyxidata</i>		•			•	•			

<b>Species list:</b> <b>hazelwood habitats</b>	Dromore NNR calcareous woodland R358863	Slieve Carran NNR hazel wood M328043	Burren Perfumery hazel wood R299999	Cathair Chomain hazel wood R282966	Gleninagh hazel wood M186091	Cloor-coose hazel wood R288952	Rock Forest hazel wood R348952	Rannagh East hazel wood M286011	Termon hazel wood M287008
<i>Cladonia rangiformis</i>									
<i>Clauzadea chondrodes</i>					•				
<i>Clauzadea monticola</i>					•				•
<i>Collema auriforme</i>					•				•
<i>Collema confertum</i>									•
<i>Collema cristatum</i> var. <i>cristatum</i>									•
<i>Collema flaccidum</i>									•
<i>Collema fragile</i>									•
<i>Collema fuscovirens</i>					•				
<i>Collema multipartitum</i>					•				
<i>Collema subflaccidum</i>		•			•	•			
<i>Degelia atlantica</i>		•			•	•			•
<i>Degelia plumbea</i>	•	•			•	•			•
<i>Dermatocarpon miniatum</i> var. <i>miniatum</i>									•
<i>Dimerella lutea</i>	•	•			•	•			•
<i>Dimerella pineti</i>									•
<i>Endocarpon adscendens</i>									•
<i>Enterographa crassa</i>	•	•			•	•			•
<i>Evernia prunastri</i>	•	•			•	•			•
<i>Fellhaneropsis vezdae</i>									•
<i>Flavoparmelia caperata</i>					•	•			•
<i>Fuscidea lightfootii</i>									•
<i>Gomphillus calycioides</i>					•	•	•		•
<i>Graphina anguina</i>	•	•	•		•	•			•
<i>Graphina ruiziana</i>		•							•
<i>Graphis elegans</i>	•				•				•

<b>Species list:</b> <b>hazelwood</b> <b>habitats</b>	Termon hazel wood M287008	Rannagh East hazel wood M286011	Rock Forest hazel wood R348952	Cloor-coose hazel wood R288952	Gleninagh hazel wood M186091	Cathair Chomain hazel wood R282966	Burren Perfumery hazel wood R299999	Slieve Carran NNR hazel wood M328043	Dromore NNR calcareous woodland R358863
<i>Graphis scripta</i>	•	•	•	•	•	•	•	•	•
<i>Gyalecta jenensis</i> var. <i>jenensis</i>					•		•		
<i>Hypogymnia physodes</i>	•		•				•		•
<i>Hypogymnia tubulosa</i>	•		•			•	•		
<i>Hypotrachyna revoluta</i>	•				•		•		•
<i>Hypotrachyna sinuosa</i>						•	•		
<i>Japewiella tavaresiana</i>							•		
<i>Lecania cyrtella</i>							•		
<i>Lecania naegelii</i>									•
<i>Lecanora albescens</i>									•
<i>Lecanora alboflavida</i>			•		•			•	
<i>Lecanora argentata</i>				•					
<i>Lecanora chlarotera</i>	•		•	•	•		•	•	
<i>Lecanora crenulata</i>									•
<i>Lecanora farinaria</i>					•				
<i>Lecanora jamesii</i>							•	•	•
<i>Lecidella elaeochroma</i> f. <i>elaeochroma</i>	•		•	•	•		•	•	•
<i>Lempholemma</i> <i>cladodes</i>		•							
<i>Lempholemma</i> <i>polyanthes</i>									•
<i>Lepraria lobificans</i>		•		•	•	•	•	•	•
<i>Lepraria nivalis</i>					•				
<i>Leptogium brebissonii</i>		•			•		•		
<i>Leptogium burgessii</i>		•			•	•			
<i>Leptogium cochleatum</i>	•	•		•	•	•		•	
<i>Leptogium cyanescens</i>		•			•	•	•	•	
<i>Leptogium</i> <i>gelatinosum</i>					•				•
<i>Leptogium hibernicum</i>						•			

Species list: hazelwood habitats	Termon hazel wood M287008	Rannagh East hazel wood M286011	Rock Forest hazel wood R348952	Cloor-coose hazel wood R288952	Gleninagh hazel wood M186091	Cathair Chomain hazel wood R282966	Burren Perfumery hazel wood R299999	Slieve Carran NNR hazel wood M328043	Dromore NNR calcareous woodland R358863
	<i>Leptogium lichenoides</i>	•			•	•	•		•
<i>Lobaria pulmonaria</i>	•	•		•		•	•	•	
<i>Lobaria scrobiculata</i>		•							
<i>Lobaria virens</i>		•		•		•		•	
<i>Loxospora elatina</i>		•							
<i>Megalaria grossa</i>		•	•	•	•	•	•	•	
<i>Megalaria pulverea</i>		•	•	•	•	•	•	•	•
<i>Megalospora tuberculosa</i>		•			•				
<i>Melanelixia fuliginosa</i> subsp. <i>glabrata</i>					•				•
<i>Melanelixia subaurifera</i>	•				•		•		•
<i>Micarea micrococca</i>									•
<i>Micarea prasina s.lat.</i>			•						
<i>Mycoblastus caesius</i>		•	•		•			•	
<i>Mycoblastus fucatus</i>									•
<i>Mycobilimbia epixanthoides</i>		•	•	•	•	•		•	
<i>Mycobilimbia pilularis</i>			•	•					
<i>Mycomicrothelia confusa</i> ##	•	•		•	•	•		•	
<i>Mycoporum antecellens</i> ##		•			•		•	•	•
<i>Nephroma laevigatum</i>	•	•		•	•	•	•	•	•
<i>Nephroma parile</i>						•		•	
<i>Normandina acroglypta</i>		•		•		•	•	•	
<i>Normandina pulchella</i>	•	•	•	•	•	•	•	•	•
<i>Ochrolechia subviridis</i>			•						
<i>Opegrapha atra</i>			•	•	•	•	•	•	•
<i>Opegrapha niveoatra</i>							•		
<i>Opegrapha rufescens</i>		•							



<b>Species list:</b> <b>hazelwood habitats</b>	Dromore NNR calcareous woodland R358863	Slieve Carran NNR hazel wood M328043	Burren Perfumery hazel wood R299999	Cathair Chomain hazel wood R282966	Gleninagh hazel wood M186091	Cloon-coose hazel wood R288952	Rock Forest hazel wood R348952	Rannagh East hazel wood M286011	Ternon hazel wood M287008
<i>Opegrapha sorediifera</i>	•								
<i>Opegrapha thelotrematis</i> #		•						•	
<i>Opegrapha vermicellifera</i>		•							
<i>Opegrapha vulgata</i>		•		•		•	•	•	•
<i>Pannaria conoplea</i>				•		•			
<i>Pannaria rubiginosa</i>		•	•	•	•	•	•	•	•
<i>Parmelia sulcata</i>			•					•	•
<i>Parmeliella parvula</i>				•					
<i>Parmeliella testacea</i>				•		•			
<i>Parmeliella triptophylla</i>		•		•	•	•		•	
<i>Parmotrema perlatum</i>				•	•	•	•		•
<i>Parmotrema reticulatum</i>									•
<i>Peltigera collina</i>		•		•		•			
<i>Peltigera horizontalis</i>				•					•
<i>Peltigera leucophlebia</i>			•						
<i>Peltigera membranacea</i>				•				•	
<i>Peltigera praetextata</i>		•		•	•	•		•	•
<i>Pertusaria albescens</i> var. <i>albescens</i>		•							•
<i>Pertusaria amara</i> f. <i>amara</i>					•				•
<i>Pertusaria hymenea</i>		•	•	•	•	•		•	•
<i>Pertusaria leioplaca</i>			•	•	•	•	•	•	•
<i>Pertusaria pertusa</i>				•				•	•
<i>Petractis clausa</i>									•
<i>Phaeographis dendritica</i>				•	•		•		•
<i>Phaeographis lyellii</i>									•

Species list: hazelwood habitats	Termon hazel wood M287008		Rannagh East hazel wood M286011		Rock Forest hazel wood R348952		Cloor-coose hazel wood R288952		Gleninagh hazel wood M186091		Cathair Chomain hazel wood R282966		Burten Perfumery hazel wood R299999		Slieve Carran NNR hazel wood M328043		Dromore NNR calcareous woodland R358863	
<i>Phaeographis smithii</i>	•				•		•				•				•			
<i>Phlyctis agelaea</i>													•					•
<i>Phlyctis argena</i>									•				•					•
<i>Physcia adscendens</i>																		•
<i>Physcia aipolia</i>					•								•					•
<i>Physcia leptalea</i>																		•
<i>Physcia tenella</i> subsp. <i>tenella</i>	•												•					
<i>Placynthium nigrum</i>										•								•
<i>Porina aenea</i>																•		
<i>Porina hibernica</i>																		•
<i>Protoblastenia calva</i>										•			•					
<i>Protoblastenia</i> <i>incrustans</i>																		•
<i>Protoblastenia</i> <i>rupestris</i>										•								•
<i>Pseudocyphellaria</i> <i>crocata</i>			•									•						
<i>Pseudocyphellaria</i> <i>intricata</i>												•			•			
<i>Punctelia reddenda</i>										•								•
<i>Punctelia subrudecta</i> s.str.	•												•					
<i>Pyrenidium actinellum</i> (on <i>Lecanora</i> <i>chlarotera</i> )										•								
<i>Pyrenula chlorospila</i>													•					•
<i>Pyrenula hibernica</i>															•			
<i>Pyrenula laevigata</i>	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•
<i>Pyrenula macrospora</i>	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•
<i>Pyrenula acutispora</i>																•		
<i>Pyrenula occidentalis</i>	•	•					•		•	•	•				•			•
<i>Pyrrhospora quercea</i>										•					•			

Species list: hazelwood habitats	Species list:							
	Termon hazel wood M287008	Rannagh East hazel wood M286011	Rock Forest hazel wood R348952	Cloor-coose hazel wood R288952	Gleninagh hazel wood M186091	Cathair Chomain hazel wood R282966	Burren Perfumery hazel wood R299999	Slieve Carran NNR hazel wood M328043
<i>Ramalina calicaris</i>						•	•	•
<i>Ramalina canariensis</i>		•						
<i>Ramalina farinacea</i>	•	•		•		•	•	•
<i>Ramalina fastigiata</i>	•							
<i>Ramalina lacera</i>								•
<i>Skyttea nitschkei</i> #				•			•	
<i>Sticta dufourii</i> ##							•	
<i>Sticta fuliginosa</i>	•	•		•	•	•	•	•
<i>Sticta limbata</i>	•			•	•	•	•	•
<i>Sticta sylvatica</i>	•			•	•	•	•	
<i>Stigmidium microspilum</i> #	•		•	•	•			
<i>Strangospora ochrophora</i>							•	
<i>Strigula tagananae</i>	•			•			•	
<i>Thelotrema lepadinum</i>	•	•	•	•	•	•	•	
<i>Tomasellia gelatinosa</i> ##	•				•		•	
<i>Trapelia corticola</i>							•	
<i>Usnea cornuta</i>		•	•	•	•	•	•	•
<i>Usnea esperantiana</i>	•				•		•	•
<i>Usnea subfloridana</i>								•
<i>Verrucaria baldensis</i>					•		•	•
<i>Verrucaria caerulea</i>					•			•
<i>Verrucaria dufourii</i>						•		•
<i>Verrucaria elaemelaena</i>								•
<i>Verrucaria hochstetteri</i>								•
<i>Verrucaria muralis</i>								•
<i>Verrucaria nigrescens</i> f. <i>nigrescens</i>					•			•
<i>Xanthoria parietina</i>	•						•	

<i>Xanthoria polycarpa</i>									•
<i>Xylographa parallela</i>									•

<b>Species list:</b> <b>limestone habitats</b>	Black Hd limestone pavement M1410, 1511, 1512	Burren Perfumery to Fahee North limestone pavement M302004	Carran limestone cliff R 27762 98701	Carran Turlough R28.98	Teampall Chronain limestone slopes M2900
<i>Acrocordia conoidea</i>	•		•	•	
<i>Acrocordia salweyi</i>	•				
<i>Agonimia tristicula</i>		•	•		•
<i>Arthonia cinnabarina</i>		•			
<i>Arthonia didyma</i>					
<i>Arthonia elegans</i>		•			
<i>Arthonia stellaris</i>		•			
<i>Arthopyrenia carneobrunneola</i>		•			
<i>Aspicilia calcarea</i>	•		•	•	•
<i>Bacidia bagliettoana</i>					•
<i>Bacidia viridifarinosa</i>	•				
<i>Belonia nidarosiensis</i>	•	•	•		
<i>Bilimbia sabuletorum</i>	•	•	•		
<i>Botryolepraria lesdainii</i>		•	•	•	
<i>Buellia aethalea</i>				•	
<i>Caloplaca alociza</i>				•	
<i>Caloplaca aurantia</i>	•		•	•	•
<i>Caloplaca citrina</i> s.st.				•	
<i>Caloplaca dichroa</i>	•	•	•		
<i>Caloplaca cirrochroa</i>			•		
<i>Caloplaca ferruginea</i>				•	
<i>Caloplaca flavescens</i>	•	•	•	•	•
<i>Caloplaca flavocitrina</i>			•	•	
<i>Caloplaca holocarpa</i>	•			•	
<i>Caloplaca marina</i>	•				
<i>Caloplaca ochracea</i>	•			•	•
<i>Caloplaca thallincola</i>	•				

<b>Species list:</b> <b>limestone habitats</b>	Black Hd limestone pavement M1410, 1511, 1512	Burren Perfumery to Fahee North limestone pavement M302004	Carran limestone cliff R 27762 98701	Carran Turlough R28.98	Teampall Chronain limestone slopes M2900
<i>Caloplaca variabilis</i>				•	
<i>Catapyrenium squamulosum</i>	•			•	•
<i>Catillaria lenticularis</i>	•		•		
<i>Cladonia caespiticia</i>		•			
<i>Cladonia chlorophaea</i> s.lat.				•	
<i>Cladonia ciliata</i> var. <i>ciliata</i>				•	
<i>Cladonia ciliata</i> var. <i>tenuis</i>				•	
<i>Cladonia furcata</i>				•	
<i>Cladonia pocillum</i>	•	•		•	•
<i>Cladonia pyxidata</i>	•				
<i>Cladonia rangiformis</i>	•	•		•	•
<i>Clauzadea chondrodes</i>		•			
<i>Clauzadea immersa</i>	•	•	•	•	
<i>Clauzadea metzleri</i>	•				
<i>Clauzadea monticola</i>			•	•	
<i>Collema auriforme</i>	•	•	•	•	
<i>Collema crispum</i> var. <i>crispum</i>				•	
<i>Collema cristatum</i> var. <i>cristatum</i>		•	•		•
<i>Collema fragile</i>	•	•	•		
<i>Collema multipartitum</i>	•	•			
<i>Collema polycarpon</i>	•			•	
<i>Collema tenax</i> var. <i>tenax</i>	•	•			
<i>Collema tenax</i> var. <i>vulgare</i>				•	
<i>Degelia atlantica</i>		•		•	
<i>Degelia plumbea</i>		•		•	•
<i>Dermatocarpon miniatum</i> var. <i>miniatum</i>	•	•	•	•	
<i>Dimerella lutea</i>		•			
<i>Evernia prunastri</i>		•		•	
<i>Farnoldia jurana</i>		•		•	
<i>Flavoparmelia caperata</i>				•	

<b>Species list:</b> <b>limestone habitats</b>	Black Hd limestone pavement M1410, 1511, 1512	Burren Perfumery to Fahee North limestone pavement M302004	Carran limestone cliff R 27762 98701	Carran Turlough R28.98	Teampall Chronain limestone slopes M2900
<i>Fuscidea lightfootii</i>				•	
<i>Fuscidea kochiana</i>	•				
<i>Gomphillus calycioides</i>		•			
<i>Graphina ruiziana</i>				•	
<i>Graphis scripta</i>		•		•	
<i>Gyalecta jenensis</i> var. <i>jenensis</i>	•	•		•	•
<i>Hypogymnia physodes</i>				•	
<i>Lecania hutchinsiae</i>			•		
<i>Lecanora albescens</i>	•			•	
<i>Lecanora campestris</i> subsp. <i>campestris</i>				•	
<i>Lecanora chlarotera</i>				•	
<i>Lecanora crenulata</i>	•			•	
<i>Lecanora dispersa</i>	•			•	
<i>Lecanora expallens</i>				•	
<i>Lecanora jamesii</i>				•	
<i>Lecidea fuscoatra</i>	•				
<i>Lecidea hypnorum</i>				•	
<i>Lecidea lithophila</i>				•	
<i>Lecidea obhuridata</i>		•			
<i>Lecidella elaeochroma</i> f. <i>elaeochroma</i>				•	
<i>Lecidella stigmatea</i>				•	
<i>Lempholemma botryosum</i>				•	
<i>Lepraria incana</i> s. str.				•	
<i>Lepraria lobificans</i>				•	
<i>Lepraria nivalis</i>		•	•	•	
<i>Lepraria vouauxii</i>				•	
<i>Leproplaca chrysodeta</i>				•	
<i>Leproplaca xantholyta</i>				•	
<i>Leptogium brebissonii</i>		•			
<i>Leptogium burgessii</i>		•			
<i>Leptogium cochleatum</i>		•			

<b>Species list:</b> <b>limestone habitats</b>	Black Hd limestone pavement M1410, 1511, 1512	Burren Perfumery to Fahee North limestone pavement M302004	Carran limestone cliff R 27762 98701	Carran Turlough R28.98	Teampall Chronain limestone slopes M2900
<i>Leptogium cyanescens</i>		•			
<i>Leptogium diffractum</i>		•	•	•	
<i>Leptogium gelatinosum</i>	•	•	•	•	
<i>Leptogium lichenoides</i>		•			
<i>Leptogium plicatile</i>	•				
<i>Leptogium schraderi</i>	•				
<i>Lobaria pulmonaria</i>		•			
<i>Lobaria virens</i>		•			
<i>Megalaria pulverea</i>		•			
<i>Melanelixia fuliginosa</i> subsp. <i>glabratula</i>				•	
<i>Melanelixia subaurifera</i>				•	
<i>Nephroma laevigatum</i>		•			•
<i>Normandina pulchella</i>		•		•	•
<i>Opegrapha atra</i>				•	
<i>Opegrapha calcarea</i>	•		•	•	
<i>Opegrapha dolomitica</i>	•			•	
<i>Opegrapha rupestris</i> #	•			•	
<i>Opegrapha saxigena</i>			•		
<i>Pannaria hookeri</i>		•			
<i>Pannaria rubiginosa</i>		•		•	
<i>Parmelia sulcata</i>				•	
<i>Parmeliella testacea</i>		•			
<i>Parmeliella triptophylla</i>		•			
<i>Parmotrema perlatum</i>		•		•	
<i>Peltigera canina</i>	•				
<i>Peltigera collina</i>		•			
<i>Peltigera hymenina</i>		•		•	
<i>Peltigera leucophlebia</i>		•			
<i>Peltigera membranacea</i>		•		•	
<i>Peltigera praetextata</i>		•			
<i>Pertusaria pertusa</i>				•	
<i>Petractis clausa</i>			•	•	•



<b>Species list:</b> <b>limestone habitats</b>	Black Hd limestone pavement M1410, 1511, 1512	Burren Perfumery to Fahee North limestone pavement M302004	Carran limestone cliff R 27762 98701	Carran Turlough R28.98	Teampall Chronain limestone slopes M2900
<i>Phlyctis argena</i>				•	
<i>Physcia adscendens</i>	•			•	
<i>Physcia aipolia</i>				•	
<i>Physcia tenella</i> subsp. <i>tenella</i>				•	
<i>Placynthium nigrum</i>	•			•	
<i>Placynthium subradiatum</i>	•		•	•	
<i>Porina linearis</i>				•	
<i>Porpidia tuberculosa</i>	•			•	
<i>Protoblastenia calva</i>	•	•		•	•
<i>Protoblastenia incrustans</i>	•	•		•	•
<i>Protoblastenia rupestris</i>	•	•		•	•
<i>Punctelia subrudecta</i> s.str.				•	
<i>Pyrenula laevigata</i>		•			
<i>Pyrenula macrospora</i>				•	
<i>Solenopsora holophaea</i>	•				
<i>Ramalina farinacea</i>		•		•	
<i>Ramalina fastigiata</i>				•	
<i>Rhizocarpon reductum</i>				•	
<i>Romjularia lurida</i>		•		•	•
<i>Sarcogyne regularis</i>					
<i>Solorina saccata</i>			•		
<i>Squamarina cartilaginea</i> <i>var. cartilaginea</i>	•			•	
<i>Sticta fuliginosa</i>		•			
<i>Sticta limbata</i>				•	
<i>Sticta sylvatica</i>		•			
<i>Thelidium papulare</i> f. <i>papulare</i>				•	
<i>Toninia aromatica</i>	•			•	
<i>Toninia sedifolia</i>	•				
<i>Tremolecia atrata</i>				•	
<i>Usnea cornuta</i>		•			
<i>Verrucaria baldensis</i>	•	•	•	•	•

<b>Species list:</b> <b>limestone habitats</b>	Black Hd limestone pavement M1410, 1511, 1512	Burren Perfumery to Fahee North limestone pavement M302004	Carran limestone cliff R 27762 98701	Carran Turlough R28.98	Teampall Chronain limestone slopes M2900
<i>Verrucaria caerulea</i>		•	•	•	
<i>Verrucaria dufourii</i>	•			•	•
<i>Verrucaria fuscella</i>		•		•	•
<i>Verrucaria hochstetteri</i>				•	•
<i>Verrucaria maura</i>	•				
<i>Verrucaria macrostoma</i> f. <i>macrostoma</i>				•	
<i>Verrucaria muralis</i>				•	
<i>Verrucaria nigrescens</i> f. <i>nigrescens</i>		•	•	•	
<i>Verrucaria parmigerella</i>		•			
<i>Verrucaria viridula</i>				•	•
<i>Xanthoria aureola</i>	•				
<i>Xanthoria parietina</i>	•			•	

<b>Species list:</b> <b>other habitats</b>	Black Hd glacial erratic M14470 11262	Knocknalrabana sandstone quarry R082945	Vaughan's Bar, Kilfenora: <i>Acer</i> & <i>Aesculus</i> R182939	Querrin Pt sea wall, garden & orchard Q925540	Creagh roadsides etc R06	Bealkelly deciduous wood R668828
<i>Acarospora fuscata</i>		•				
<i>Acarospora impressula</i>	•					
<i>Acarospora smaragdula</i>		•				
<i>Acrocordia gemmata</i>				•	•	
<i>Anisomeridium biforme</i>				•		
<i>Arthonia cinnabarina</i>						•
<i>Arthonia radiata</i>		•			•	
<i>Aspicilia calcarea</i>				•		

<b>Species list:</b>						
<b>other habitats</b>	Black Hd glacial erratic M14470 11262	Knocknalarabana sandstone quarry R082945	Vaughan's Bar, Kilfenora: <i>Acer</i> & <i>Asculus</i> R182939	Querrin Pt sea wall, garden & orchard Q925540	Creagh roadsides etc R06	Bealkelly deciduous wood R668828
<i>Baeomyces rufus</i>		•				
<i>Bilimbia sabuletorum</i>				•		
<i>Botryolepraria lesdainii</i>				•		
<i>Buellia aethalea</i>	•	•				
<i>Buellia ocellata</i>		•		•		
<i>Buellia stellulata</i>				•		
<i>Caloplaca citrina</i> s.lat.				•	•	
<i>Caloplaca crenularia</i>	•	•				
<i>Caloplaca ferruginea</i>		•	•			
<i>Caloplaca holocarpa</i>				•		
<i>Caloplaca littorea</i>				•		
<i>Caloplaca marina</i>				•		
<i>Caloplaca thallincola</i>				•		
<i>Candelariella coralliza</i>		•				
<i>Candelariella vitellina</i> f. <i>vitellina</i>		•		•		
<i>Catillaria chalybeia</i> var. <i>chalybeia</i>		•				
<i>Cladonia chlorophaea</i> s.str. ##		•				
<i>Cladonia ciliata</i> var. <i>ciliata</i>		•				
<i>Cladonia coniocraea</i>						•
<i>Cladonia fimbriata</i>						•
<i>Cladonia furcata</i>		•				
<i>Cladonia macilenta</i>		•				•
<i>Cladonia portentosa</i>		•				
<i>Cladonia pyxidata</i>		•				
<i>Cladonia rangiformis</i>						
<i>Cladonia squamosa</i> s.lat.						•
<i>Collema auriforme</i>				•		
<i>Collema crispum</i> var. <i>crispum</i>				•		
<i>Dimerella lutea</i>						•

Species list: other habitats	Black Hd glacial erratic M14470 11262	Knocknalarabana sandstone quarry R082945	Vaughan's Bar, Kilfenora: <i>Acer</i> & <i>Asculus</i> R182939	Querrin Pt sea wall, garden & orchard Q925540	Creagh roadsides etc R06	Bealkelly deciduous wood R668828
<i>Dimerella pineti</i>						•
<i>Diploicia canescens</i>				•		
<i>Enterographa crassa</i>				•	•	•
<i>Evermia prunastri</i>				•		•
<i>Flavoparmelia caperata</i>				•	•	•
<i>Fuscidea cyathoides</i> var. <i>cyathoides</i>	•	•				
<i>Fuscidea lygaea</i>		•				
<i>Graphina anguina</i>			•			
<i>Graphina pauciloculata</i>						•
<i>Graphina ruiziana</i>			•		•	•
<i>Graphis scripta</i>				•	•	•
<i>Hypogymnia physodes</i>						•
<i>Hypogymnia tubulosa</i>					•	•
<i>Hypotrachyna revoluta</i>						•
<i>Hypotrachyna sinuosa</i>						•
<i>Ionaspis lacustris</i>		•				
<i>Lecanora albescens</i>				•	•	
<i>Lecanora campestris</i> subsp. <i>campestris</i>				•		
<i>Lecanora chlarotera</i>			•	•	•	•
<i>Lecanora crenulata</i>				•		
<i>Lecanora expallens</i>				•		•
<i>Lecanora gangaleoides</i>	•					
<i>Lecanora helicopis</i>				•		
<i>Lecanora jamesii</i>						•
<i>Lecanora rupicola</i> var. <i>rupicola</i>		•				
<i>Lecidella elaeochroma</i> f. <i>elaeochroma</i>		•		•	•	•
<i>Lepraria caesioalba</i>		•				
<i>Lepraria incana</i> s. lat.			•			•
<i>Lepraria incana</i> s. str.		•			•	

Species list: other habitats	Black Hd glacial erratic M14470 11262	Knocknalrabana sandstone quarry R082945	Vaughan's Bar, Kilfenora: <i>Acer</i> & <i>Asculus</i> R182939	Querrin Pt sea wall, garden & orchard Q925540	Creagh roadsides etc R06	Bealkelly deciduous wood R668828
<i>Lepraria lobificans</i>		•				
<i>Leptogium gelatinosum</i>				•		
<i>Lichenocodium pyxidatae</i> (on <i>Cladonia rangiformis</i> )		•				
<i>Megalaria pulvereae</i>						•
<i>Melanelixia fuliginosa</i> subsp. <i>fuliginosa</i>	•					
<i>Melanelixia fuliginosa</i> subsp. <i>glabratula</i>				•		•
<i>Melanelixia subaurifera</i>			•	•		•
<i>Micarea lignaria</i> var. <i>lignaria</i>		•				
<i>Mycoblastus caesius</i>						•
<i>Normandina pulchella</i>					•	•
<i>Ochrolechia parella</i>		•				
<i>Opegrapha atra</i>		•	•	•	•	
<i>Opegrapha gyrocarpa</i>		•				
<i>Opegrapha vulgata</i>					•	•
<i>Pannaria conoplea</i>						•
<i>Parmelia saxatilis</i>		•				
<i>Parmelia sulcata</i>		•		•		•
<i>Parmotrema perlatum</i>		•	•	•	•	•
<i>Pertusaria albescens</i> var. <i>albescens</i>						•
<i>Pertusaria amara</i> f. <i>amara</i>						•
<i>Pertusaria hymenea</i>			•	•		•
<i>Pertusaria leioplaca</i>			•	•	•	•
<i>Pertusaria pertusa</i>			•	•		•
<i>Pertusaria pseudocorallina</i>	•	•				
<i>Phaeophyscia orbicularis</i>			•			
<i>Phlyctis agelaea</i>						•
<i>Phlyctis argena</i>				•		•
<i>Physcia adscendens</i>	•					

Species list: other habitats	Black Hd glacial erratic M14470 11262	Knocknalara bana sandstone quarry R082945	Vaughan's Bar, Kilfenora: <i>Acer</i> & <i>Asculus</i> R182939	Querrin Pt sea wall, garden & orchard Q925540	Creagh roadsides etc R06	Bealkelly deciduous wood R668828
<i>Physcia aipolia</i>		•		•		•
<i>Physcia leptalea</i>				•		
<i>Physcia tenella</i> subsp. <i>tenella</i>		•	•	•	•	•
<i>Physconia distorta</i>			•	•		
<i>Placopsis lambii</i>		•				
<i>Placynthium nigrum</i>				•		
<i>Porpidia cinereoatra</i>		•				
<i>Porpidia macrocarpa</i> f. <i>macrocarpa</i>		•				
<i>Porpidia tuberculosa</i>		•				
<i>Protoblastenia rupestris</i>		•		•	•	
<i>Punctelia subrudecta</i> s.str.				•		•
<i>Pyrenula chlorospila</i>				•	•	•
<i>Pyrenula macrospora</i>			•	•	•	•
<i>Pyrrhospora quercea</i>				•		
<i>Racodium rupestre</i>				•		
<i>Ramalina calicaris</i>				•		•
<i>Ramalina canariensis</i>				•	•	
<i>Ramalina farinacea</i>		•	•	•	•	•
<i>Ramalina fastigiata</i>		•	•	•		•
<i>Ramalina fraxinea</i>			•			
<i>Ramalina siliquosa</i>	•					
<i>Rhizocarpon geographicum</i>	•					
<i>Rhizocarpon oederi</i>		•				
<i>Rhizocarpon petraeum</i>				•		
<i>Rhizocarpon reductum</i>	•	•				
<i>Schismatomma decolorans</i>				•		
<i>Sclerococcum sphaerale</i>		•				
<i>Sticta limbata</i>						•
<i>Tephromela atra</i> var. <i>atra</i>	•	•		•		
<i>Thelotrema lepadinum</i>						•

Species list: other habitats	Black Hd glacial erratic M14470 11262	Knocknalarabana sandstone quarry R082945	Vaughan's Bar, Kilfenora: <i>Acer</i> & <i>Asculus</i> R182939	Querrin Pt sea wall, garden & orchard Q925540	Creagh roadsides etc R06	Bealkelly deciduous wood R668828
<i>Trapelia placodioides</i>		•				
<i>Tremolecia atrata</i>		•				
<i>Toninia aromatica</i>				•		
<i>Usnea cornuta</i>						•
<i>Usnea esperantiana</i>				•		•
<i>Usnea subfloridana</i>				•		
<i>Verrucaria fuscella</i>				•		
<i>Verrucaria macrostoma</i> f. <i>macrostoma</i>				•		
<i>Verrucaria maura</i>				•		
<i>Xanthoparmelia loxodes</i>	•					
<i>Xanthoria aureola</i>	•					
<i>Xanthoria parietina</i>		•	•	•	•	

## British Lichen Society Library

With the retirement of Tony Fletcher from the Leicestershire Heritage Service, we needed to find a new home for the BLS Library. We're delighted to announce that the National Botanic Garden of Wales has agreed to house the collection for us, alongside an important library of fungal publications recently donated by the Welsh (but Canadian resident) mycologist Stan Hughes. One a fine day last May, a large van was hired and packed to the gunwales with books, journals and reprints, and driven rather gingerly over to Carmarthen where it was unpacked the following day in its new home. Ray Woods has been doing a great job since then helping the volunteer librarians at NBGW make sense of the collection. We hope to be able to announce the appointment of a new Librarian for the Society shortly, and to finalize access details for BLS members. Many thanks to Ivan Pedley, Peter Lambley, Dave Minter, Tony Fletcher (and myself!) for facilitating the move.

In autumn 2010 we are planning a field meeting in the Carmarthenshire area during which we hope to host a formal inauguration ceremony for the library along with NBGW. We're most grateful to both hosting organizations (past and present) for their support of the BLS and lichenology in these isles, and of course to Tony for his sterling work as BLS Librarian alongside all his other occupations.



## **BLS Field Meetings & Workshops Programme 2010**

*note: all BLS Field Meetings are open to all members of whatever level of experience. The fact that some meetings are associated with BLS Council meetings or the AGM should not put any member off from attending. Participants are welcome to join the meeting for part of the programme if their other duties/ interests preclude attendance for the whole event .*

### **Norfolk**

#### **Sun 17 & Mon 18 January 2010**

local organiser - Peter Lambley.

These field trips are associated with the BLS AGM. For details see the notice for AGM elsewhere in this Bulletin.

### **Bristol Course in Lichenology:**

#### **Lichens on Limestone – 2, 28 February 2010**

Following the success of the previous running of this course, and due to popular demand, we are proud to announce a further weekend course tutored by Drs B.J. Coppins and D.J. Hill to be held at Bristol University Botanic Garden from 7.30pm on Friday 26 February to 4.30pm on Sunday 28 February 2010. The University Botanic Garden is located in Stoke Bishop where there is plenty of nearby parking.

The course will help lichenologists who want to get to know the lichen flora of limestone areas better and become more confident at finding the species present and identifying them reliably. The emphasis will be on linking an ecological understanding to the habitats in the field with laboratory work with material collected. The programme will start with an introduction to sites we will visit in the field, probably in the Mendips. Then we will consider how the habitats can be divided up into niches and their ecological characteristics with examples of the key species to be found. In the field we will learn how to approach these habitats in practice with the provisional identification of characteristic species that occur in these niches. In the field, we will learn how to collect small samples for laboratory study back for the purpose of confirming identities of field determinations or complete identification of unknowns. We will be using the new *Lichens of Great Britain and Ireland* book and learning the new features of this work. The Laboratory work will include training in microscopic examination and where appropriate any other methods such as those for lichen substances. The intention is a theme of developing specific skills rather than a general field meeting.

Fee: £25.00 (excluding any board and lodging and catering)

Come and hone your identification skills. Please contact David as soon as possible as the numbers will be strictly limited to 15 places. If you have been on it already, you are very welcome to come again!

If you are interested please contact [D.J.Hill@bris.ac.uk](mailto:D.J.Hill@bris.ac.uk), tel 01761 221576. Fuller details (with costs and will be sent out to all those expressing an interest.

(For other lichen courses held at the Botanic Garden see  
*<http://www.bristol.ac.uk/Depts/BotanicGardens/about/education.htm>*)  
local organiser - David Hill

## **Isle of Man**

**Fri 23 to Mon 26 April 2010 (plus extension days)**

localorganiser - Professor Mark Seaward

The Spring 2010 BLS field meeting will be held on the Isle of Man from Friday 23 to Monday 26 April, with an option for individuals to extend their stay, hopefully to do more lichenology, beyond the 26th. Appropriate accommodation is being negotiated and local transport facilities investigated. Site visits are currently being arranged, such as those to The Ayres National Nature Reserve, Dhoon Glen, Poilvaish coast, Snaefell (via the railway to its summit) and the old mine working at Laxey (reached by the old electric railway). Although the lichen flora for much of the island is reasonably well known, particularly as a result of the sterling work by Peter Earland-Bennett in the 1970s, there has been no subsequent detailed work, other than the churchyard studies by Stella Thrower in the 1990s, so there should be plenty of scope for rewarding lichenology. It is envisaged that short introductory lectures on various aspects of the island's natural history, etc. will take place on the Friday evening. Cheap flights to the Isle of Man are currently available from numerous airports in Britain and Ireland for those using advance/on-line booking facilities, and ferries travel from Belfast, Liverpool and Heysham.

It is essential that those interested in attending should contact Professor Mark Seaward, Dept. of Archaeological, Geographical & Environmental Sciences, University of Bradford, Bradford BD7 1DP or e-mail: [m.r.d.seaward@bradford.ac.uk](mailto:m.r.d.seaward@bradford.ac.uk) as soon as possible.

Note that by early September, over 20 likely participants had already registered a potential interest! These potential attendees and all others who express an interest will be provided with more detailed information by e-mail or post where necessary, subsequent to Professor Seaward's visit to the Isle of Man in late October when he will assess the various possibilities and finalize certain arrangements. These details will also be posted onto the Society's web-site.

## **IAL pre-conference field meeting: Lichens on the Atlantic West Coast of Scotland, 24-31 July 2010**

There may still be one or two places left on this field meeting, organized by the International Association for Lichenology in association with the 9<sup>th</sup> International Mycological Congress, to be held in Edinburgh the following week. For more details please see BLS Bulletin no. 104.

## **Moray**

**Saturday 14 - Saturday 21 August 2010**

local organisers - Heather Paul & Clare Scanlon (assisted by Sandy Coppins)

Based in Findhorn, this meeting plans to visit some exciting sites including the famous lichen heaths of Culbin Sands, the shingle at the mouth of the Spey and the woods of the lower Findhorn River. The windblown heaths of the Findhorn Dunes are within walking distance of our meeting base. If you want to get clued up on the terricolous Cladonias this is the meeting for you!

The BLS has booked (and paid a deposit for) five luxury self-contained caravans offering up to 24 bed-spaces in 7 twin and 5 double bedrooms at Findhorn Holiday Park (grid ref. NJ 053 635). Each caravan has toilets, showers, TV's, and fully equipped kitchens. Bed linen is provided, but bring your own towels.

Breakfast will have to be self-catered, there are food shops on-site, in Findhorn (2km away) and in Kinloss (3km away). Other meals can also be self-catered but there are pubs serving food in both Findhorn village and Kinloss. There is a café on-site. A secure room on-site has been reserved for the week this will provide some room for microscope use, and for displaying specimens, maps and books.

The cost of bed and laboratory accommodation will be in the region of £110 per person for the week. This amount depends upon all the bed spaces being used (in this respect couples are encouraged to request the double bedrooms). The maximum cost should not exceed £130 per person. These figures do not include the cost of any food. Other types of accommodation can be found by searching the web with 'Moray accommodation' or similar. There is a medium-sized campsite on the Holiday Park, however they do not accept reservations, so there is no guarantee of spaces. Members not staying in the arranged accommodation will be asked to contribute to the cost of hiring the laboratory rooms.

The nearest rail station in Forres, is 7km from the meeting base and is on the line between Inverness (30 min journey) and Aberdeen (1hr 45 min journey). Overnight sleeper services serve both Inverness and Aberdeen. There are regional airports at Inverness and Aberdeen.

Please book with the Field Meetings Secretary, Steve Price (email: [lichenrecords@sorby.org.uk](mailto:lichenrecords@sorby.org.uk)) and also advise the local organiser Heather Paul (email: [george.paul@btinternet.com](mailto:george.paul@btinternet.com)) if you plan to attend. Bookings will be taken on a first-come first-served basis, and a booking is secured on receipt of a deposit of £30 per person. As places are limited, please ensure your place by early booking. Cheques made payable to the BLS, please, should be sent to Steve Price, the Field Meetings Secretary, Woodlands, Combs Road, Combs, High Peak, Derbyshire SK23 9UP

Heather Paul and Clare Scanlon (with the support of Sandy Coppins) will be arranging the details of the sites to be visited and more information will be sent out to attendees as plans develop.

## **Carmarthen**

**Thurs 7 to Mon 11 October 2010 (to include BLS Council meeting)**

local organiser - Ray Woods

The autumn meeting will visit Dinefwr Park and castle and some inland limestone sites in this area of west Wales. The meeting base will be Glynhir Mansion, Llandybie near the National Botanic Garden of Wales. The National Botanic Garden now hosts the BLS Library.

Members interested in attending should contact the local organiser, Ray Woods (email: [raygwoods@aol.com](mailto:raygwoods@aol.com)), and the Field Meetings Secretary, Steve Price, Woodlands, Combs Road, Combs, High Peak, Derbyshire SK23 9UP or by email at [lichenrecords@sorby.org.uk](mailto:lichenrecords@sorby.org.uk) and further details of how to book etc will be sent out when available. These details will also be put onto the BLS website.

## Lichen courses at Field Studies Centres, 2010

Please see <http://www.field-studies-council.org/index.aspx> or phone 0845 3454071 for more details.

<i>Centre</i>	<i>Course title</i>	<i>Tutor</i>	<i>Start Date</i>
<b>Flatford Mill</b>	<b>Identifying Lichens</b>	John Skinner	19-21 March 2010
This course introduces the identification and ecology of lichens, concentrating on their growth forms, reproductive strategies and habitat requirements. A combination of field excursions, microscope work and use of keys will help you to develop confidence in essential identification skills. John Skinner is Senior Keeper of Natural History at Southend Museum and has extensive experience recording the lichens of the region.			
<b>Kindrogan</b>	<b>Lichen Identification</b>	Rebecca Yahr	5-12 April 2010
Most people who know something about them think that lichens are fascinating, but many feel fearful about starting to look at them, because of their reputation for being 'difficult'. This course lasts for an entire week, so even if you are a complete beginner, you will have time and opportunity to feel comfortable and gain confidence looking at lichens both in the field and the laboratory. Rebecca Yahr has been studying lichens for 15 years, including evolution, ecology, and conservation and currently at the Royal Botanic Garden Edinburgh.			
<b>Orielton</b>	<b>Maritime Lichens of Pembrokeshire</b>	Pat Wolseley	7-13 April 2010
Pembrokeshire offers a wealth of maritime habitats from rocky coasts to ancient woodlands containing rich lichen communities with many common and some nationally rare species. An island visit is planned, weather permitting, boat and landing fees not included. Daily field excursions are followed by evening sessions with the aid of an easy-to-use handbook and microscopes at Orielton. Beginners are welcome. Pat Wolseley is a Lichenologist at the Natural History Museum and previous President of the British Lichen Society.			

<b>Slapton Ley</b>	<b>Lichens and Lichenicolous Fungi</b>	David Hawksworth	20-22 August 2010
A workshop-style course covering identification of lichens and also the fungi that are obligately associated with them both, in the field and under the microscope. Ideal for those with enthusiasm and a little knowledge wishing to increase their confidence and learn more. Advantage will be taken of the rich material of lichens and lichenicolous fungi present in Slapton and in its vicinity. David Hawksworth is a former President of the British Lichen Society and author of numerous articles on lichens and associated fungi.			
<b>Flatford Mill</b>	<b>Identifying Lichens: Intermediate Level Workshop</b>	John Skinner	10-12 September 2010
This course is an intermediate level workshop on lichen identification for anyone who would like to take their interest several stages further. There will be a combination of field excursions, microscope work and use of keys to help you with the identification of scarcer lichens.			
<b>Malham Tarn</b>	<b>Lichens in the Dales: An Introductory Course</b>	Allan Pentecost	1-3 October 2010
The Malham Tarn area is rich in lichen species, occurring on rocks, trees and soil, allowing the beginner to form a useful and informative collection of material. Methods of collection and examination will be explained and specimens from the field will be examined further at the Centre. Gain confidence in using simple identification keys and chemical tests and obtain an understanding of their biology and impact on the landscape. A course for beginners or those with little experience with lichens, though the more experienced are also welcome. Allan Pentecost, an experienced tutor, has published many research papers on lichens including Malham Tarn Lichen Flora. He has been visiting and collecting in the area for over 30 years.			

## **British Lichen Society Meeting and Annual General Meeting, 15-17 January 2010**

### **NORWICH**

#### *Orientating yourself*

To identify the locations of the three venues see [www.multimap.com](http://www.multimap.com), or [www.streetmap.co.uk](http://www.streetmap.co.uk): the post codes are as follows Castle Museum NR1 3JU, (for the AGM); Norfolk Wildlife Trust Office NR1 1RY, (for Committee and Council meetings) and Oaklands Hotel NR7 0HH (for the Friday evening event).

The Castle Museum is set on a hill in the centre of Norwich and most buses stop at Castle Meadow at the foot of the Mound. Parking is possible in the underground car park in the Castle Mall shopping complex adjacent to the Castle and other city centre car parks, but is not cheap for a day and the other option of park

and ride is recommended. The Castle is about 10 minutes walk from the station. The offices of the Norfolk Wildlife Trust for the committee and council meetings are within a minutes walk of the station on Thorpe Road. The Oaklands Hotel for the Friday night reception is about a mile further out from the station on the Yarmouth Road. This road initially Thorpe Road runs past the railway station.

### *Travel*

To get to Norwich there is a half hourly train service from London Liverpool Street, an hourly one from Cambridge. There are also services from the midlands and north via Peterborough and Ely. There are cheap flights to Norwich airport from a number of places including Edinburgh, Aberdeen, Exeter, Manchester and Amsterdam. Stanstead Airport is about 90 minutes away by car. The main road routes to Norwich are the A47 from King's Lynn, A11 from Newmarket and A140 from Ipswich.

### *Accommodation*

It is possible to stay at the Oaklands Hotel for a special rate of £35 for a single room and £49 for a double (including breakfast). Address The Oaklands Hotel, 89 Yarmouth Road, Norwich, NR7 0HH (See [www.oaklands-hotel.com](http://www.oaklands-hotel.com) (tel. 01603 434471) for further details.). For details of other accommodation see [www.visitnorwich.co.uk](http://www.visitnorwich.co.uk) , or contact me (Peter Lambley – [plambley@aol.com](mailto:plambley@aol.com)) for a list.

## **The Meetings**

### *Nominations*

Nominations for Officers for 2010 and three members of Council for the period 2010-2013 should be sent by e-mail or in writing to the Secretary, c/o Peter Lambley (Peter Lambley MBE, The Cottage, Elsing Road, Lyng, Norwich, NR9 5RR at least 2 weeks before the AGM. No person may be nominated without their consent. Heidi Döring, Mike Sutcliffe and Ray Woods retire from Council and are not eligible for re-election as Council members.

### *Committee meetings*

Meetings of the Education & Promotions Committee and Data committees will take place in the afternoon of Thursday 14<sup>th</sup> January (times to be confirmed) and that of the Conservation Committee on 9.30 Friday 15<sup>th</sup> January. These are all at the offices of Norfolk Wildlife Trust, Bewick House, 22 Thorpe Road, Norwich, NR1 1RY.

### *Council Meeting*

Council will meet at **13.30 on Friday 15th January 2010** at the offices of Norfolk Wildlife Trust, Bewick House, 22 Thorpe Road, Norwich, NR1 1RY. (This is only a minutes walk from the station, parking is available in the multistorey opposite the station). Please let the Minutes Secretary, (Stephen Ward), have any items you wish Council to discuss by 15<sup>th</sup> December, 2009.

### *Exhibition*

There will be opportunities to put up posters at the Castle Museum lecture theatre on the Saturday morning at 10.00. However because of difficulties in parking on the Castle Mound small portable exhibits would be preferred. It is essential to contact me (Peter Lambley) by January 6th to make detailed arrangements.

## **The programme**

### **Friday evening**

The evening event will be held at The Oaklands Hotel, 89 Yarmouth Road, Norwich. This is situated about a mile from the station and about 5 minutes in a taxi. There is ample parking. See [www.oaklands-hotel.com](http://www.oaklands-hotel.com) (tel. 01603 434471) for further details. The event begins at 18.30. There will be a hot fork buffet which will cost £12.95. This does not include drinks, but there will be a manned bar in the room where they can be obtained. **If you wish to attend please complete the flier and return with a cheque payable to The BLS** to Peter Lambley, The Cottage, Elsing Road, Lyng, Norwich NR9 5RR by the 20<sup>th</sup> December.

After the buffet there will be a series of short presentations from a number of speakers on a variety of subjects relating to lichens.

## **Annual General Meeting/Exhibitions/Lecture Meeting**

### **Saturday, 16th January, 2010**

The Annual General Meeting will be held in the Lecture Theatre at The Castle Museum, Norwich NR1 3JU.

10.00      Coffee will be served in the Museum cafe  
10.30      Annual General Meeting

### **AGENDA**

1. Apologies for absence
2. Minutes of the Annual General Meeting January 2009
3. Matters arising
4. Officers and Committee Chair Reports
5. Field Meetings 2010
6. Election of Officers and three members of Council including the vacant positions of Vice President, Secretary, Field Meetings Secretary, Membership Secretary, Chair of Education & Promotions Committee and Librarian.



7. Any other business
8. Date and place of next AGM

12.45 Lunch to be taken in the Museum café or in the Castle Mall where there are many eating places close by.

## **14.00 Lecture Meeting: Lichens of coastal and inland sand and shingle**

*Chair Stephen Ward*

14.05 – 14.35

### **Peter Lambley: Change and stability – dilemmas in coastal conservation**

Shingle and sand dune systems are some of the most important habitats for terricolous lichens in East Anglia and were the subject of early studies on lichen ecology. The lichen communities of Blakeney Point, Orfordness and a number of other sites will be described particularly in relation to their geomorphology. Past and present conservation issues affecting these sites will be discussed especially in relation to disturbance or the lack of it and a comparison made with situations in Somerset and Cornwall. This will be set in the context of changing attitudes to coastal management of dynamic sites within the conservation community as a response to predicted sea level rise.

14.35 – 15.05

### **Laurens Sparrius: Vegetation succession in lichen-rich inland dunes in the Netherlands**

Inland dunes are semi-natural landscapes characterised by drift sand soils originating from glacial cover sands. Over the last 100 years, most inland dunes have been planted with pine trees. Open inland dunes are now rare and protected under the EU Habitats Directive. Inland dunes need management to preserve their open sand and lichen-rich *Corynephorus*-grasslands. Within open inland dunes several vegetation types can be found from open sand with sparse grasses to *Cladonia*-rich grasslands and lichen-rich *Calluna*-heathland. The major threat of inland dunes is nitrogen deposition. The bryophyte *Campylopus introflexus* becomes dominant in high nitrogen deposition areas, wiping out most of the lichen vegetation. These processes will be illustrated with results of experiments and a remote sensing survey. The niche of individual lichen species within the inland dune system is discussed.

15.05 - 15.45 Tea

15.45 – 16.15

### **Christopher Ellis: Lichens in a dynamic shingle system – Culbin Bar**

Culbin Bar is one of the most natural and undisturbed shingle systems in the British Isles. The Bar is a linear shingle feature, and is subject to a range of geomorphologic processes – physical erosion at the proximal (eastern) end scavenges shingle, which is transported via longshore drift, resulting in the growth and accretion of the shingle

system at the distal (western) end. The seaward front of the Bar is subject to severe exposure, while the landward shoreline is sheltered and receives deposits of wind-blown sand. This creates a range of environmental gradients to which the vegetation responds. This talk will explore the dynamics of the lichen communities with respect to the coastal geomorphology of Culbin Bar. Of particular interest is the extent to which lichen community dynamics are consistent with the well worked-out process of vascular plant succession. I will argue that our existing understanding and application of vegetation succession neglects a number of important aspects relevant to lichen conservation.

16.15 – 16.45

### **Janet Simkin – From contamination to conservation: Lichens of the North Pennine River Shingles**

Lead mining in the North Pennines led to gross contamination of the rivers draining the moors to the north, and the accumulation of metal-rich sediments along their length. These rivers are prone to flooding and the gravel bars thrown up by historic floods have developed a unique plant community that is rich in lichens. The saxicolous species are usually nothing special, but areas of bare soil are dominated by impressive stands of *Cladonia* and *Peltigera*, including some interesting species. Less easy to see, but more important to the ecology of these early successional communities, are the terricolous crusts. Comparison with historic records and long term monitoring are now revealing how these lichen communities are changing rapidly over time, and raising concerns over their long term future.

### **Saturday evening**

There are no formal events in the evening but if there is sufficient interest arrangements can be made for a reservation at a restaurant or pub for an evening meal.

Please let me know by email ([plambley@aol.com](mailto:plambley@aol.com)) if you wish to do this.

### **Sunday 17 January**

**Field Excursion to Winterton Dunes National Nature Reserve.** This site is about 16 miles north-east of Norwich and about 4 miles north of Great Yarmouth. These dunes are acid with lichen communities dominated by *Cladonia* species. They demonstrate a number of conservation issues including sea defences and impacts of visitor pressure. People intending to go on the excursion should meet in the car park at the Oaklands Hotel at 9.30am.

Lunch will be taken in a local pub. In the afternoon it is intended to visit a church before returning to Norwich for 16.30 at the latest.

### **Monday 18 January**

There will be a field trip to Holkham National Nature Reserve on the North Norfolk coast where the dunes are more calcareous and they will be opportunities to see *Usnea articulata* in its only eastern locality and the endemic species *Caloplaca suaedae*,

together with lichens on timber posts in saltmarsh. Detailed arrangements of this visit will be announced at the meeting.

## Report of the President – 2009

After the fiftieth celebrations of the Society at Nettlecombe in 2008, it might have been natural for the Society to relax a little. In fact the pace of activity, if anything, appears to have increased. We can be proud of our achievements over the last two years, notably the publication of *The Lichens of Great Britain and Ireland* this May. This is an impressive publication and a much enlarged revision of the earlier *Lichen Flora of Great Britain and Ireland*. It has been a very fine team effort. For this we have to thank Tony Fletcher as Chair of the Flora Committee and Clifford Smith whose determination to get it published was crucial together with the other Editors, Andre Aptroot, Brian Coppins, Peter James and Pat Wolseley. To this we must also remember the sound foundations laid by Oliver Gilbert. In addition many professional and amateurs contributed accounts of genera and others were involved in proof reading, checking through the keys and taking it to final publication. It is particularly satisfying that by publishing it ourselves we have been able to sell it to our members at a comparatively low price making it as accessible as possible.

This year has also seen the launch of OPAL and the use of lichens as air pollution indicators. Much hard work has gone into the preparation of the packs, website and the back up keys and I would particularly like to thank Barbara Hilton, Pat Wolseley and Linda Davies for their efforts. We even made the Today programme although it was Party conference time and it was a delight to hear Barbara raising the profile to the movers and shakers who listen to this programme. We now look forward to receiving and analysing the results.

Another pre-occupation of the Society in the last few years has been in getting the site based records from England and Wales onto the Recorder system and in due course the NBN. In the last two years we have made significant progress on this largely thanks to Janet Simkin and David Hill we have secured funding from Natural England and The Countryside Council of Wales. We have still away to go but I think the momentum is now there to complete the task though we do need to secure more funding.

Our publications continue to set high standards. *The Lichenologist* is regarded as the journal to publish lichen papers. Coming out six times a year requires a huge commitment from the Editor and his assistants and I would particularly like to thank Peter Crittenden for producing a high quality publication which gives us credence as a scientific society. Paul Cannon has set new very high standards with *The Bulletin* which serves as an important link with our membership, particularly for those who find *The Lichenologist* a challenge.

Field meetings are a very important and pleasurable activity of the Society, which introduces members to some beautiful parts of both this country and

elsewhere. They help to build up friendships and spread field identification skills to a wider group of members. All the field meetings held during the last two years were well attended and have covered the length and breadth of Great Britain and Ireland from The Burren in western Ireland to Norfolk in the east and the Orkneys and Raasay in the north to Falmouth in the south. In addition there have been meetings in Derbyshire and Northumberland. It has been good that we have been able to welcome a number of overseas members on some of these meetings. The tradition of workshops has continued with one each on microscopical techniques and recording. I would like to thank all the organisers of these meetings and Ivan Pedley, for standing in as Acting Field Secretary with all his enthusiasm and efficiency.

We had to move the library this spring, with the retirement of Tony Fletcher from Leicestershire Museums, and we were fortunate to find a new home in the National Botanic Gardens of Wales in Carmarthen. Whilst I appreciate it may seem, a little out of the way, we hope to remedy this by getting the catalogue updated and in due course some of the key papers accessible as PDFs on line. We are also arranging for a field meeting to be held in the vicinity next October when members will have a chance to inspect it first hand. Ray Woods proved invaluable in making the necessary contacts for this to happen and he, along with Paul Cannon, moved it in a major operation filling a transit van.

Our finances remain in good hands though the work of our Treasurer, John Skinner and although we paid out to get the Flora published we are now beginning to reap the benefits of an income which will benefit the Society. Don Chapman is retiring as Membership Secretary and I do want to thank him for all his work in often being the first contact with members and in dealing with membership subscriptions. This is not an easy task and I am extremely grateful for having someone who has been so helpful and proficient in this task. I would also like to thank Brian Green and Don Palmer who have been responsible for handling member's and trade requests respectively. This is a largely unsung but important service for members and the wider public. Brian Green is retiring from this role and I would also like to thank him for doing this so well and efficiently.

One sad note was the death of Jeremy Gray in March (see obituary in *Bulletin* no. 104). Jeremy exemplified was a charming man and exemplified all that is best in the Society. He did everything to a very high standard but with a lovely touch of enthusiasm. He revolutionised the post of Assistant Treasurer with his IT skills and contributed in so many ways to the working of the Society. It is fitting that one of his very fine photographs should be chosen as the cover of the new lichen flora.

At the IAL meeting in Aslimar, California in 2008 we were pleased to be able to include our overseas members in our 50<sup>th</sup> anniversary celebrations with a hosted reception where we were ably represented by Peter Crittenden, Mark Seaward and Pat Wolseley. Our overseas members are very important to us and whilst we realise that they often cannot attend our meetings we know they value *The Lichenologist* and *Bulletin*. We hope welcome some of them at the International Mycological Congress in Edinburgh in this coming year.

This year saw the retirement of two leading lichenologists - Brian Coppins and Tony Fletcher and this strengthened our concerns about the future of taxonomy in UK museums and lichenology in universities. Through the work of Tony Fletcher we

made representations last year to the House of Lords committee on taxonomy, one of very few small specialist societies to do so. It was good in this respect that the Chair of the Committee, Lord Selborne attended the launch of the Flora. The House of Lords published the report in August 2008 (for a summary see *Bulletin* 103). The government response this year largely accepted the findings, but could not promise any targeted funding. The view was that there was a need to raise the profile of systematics and taxonomy and change perceptions. As a response the Education and Promotion Committee will be convening a taxonomy working group to look at ways that The BLS might play apart in this. However there is some good news on this front as we are pleased that the Natural History Museum has recently appointed a new lichen researcher, Cecile Gudain and we welcome her to this position.

Bryan Edwards as chair of our conservation committee has enabled us to deal with a number of controversial issues including the introduction of European beavers in Scotland where we made strong representations against the proposal. We are regularly consulted by the conservation agencies especially in relation to BAP delivery and in understanding pollution issues. It is important that we continue to respond to these requests as it is one route for us to tap into potential funding and keep a raised profile as a respected scientific society. I am therefore very pleased that I will be handing over the office of President to Stephen Ward, who has had considerable experience and success when he was working for Scottish Natural Heritage. I also believe that living in the Republic of Ireland will allow him to have a different perspective on the Society.

We are not sitting on our achievements but continue to look to the future and during this year we started to look at a strategy for the future so that we can adapt and thrive in a changing environment. An account of a meeting is given in the summer *Bulletin*. We hope that you will fill in the questionnaire which has been sent with this *Bulletin* and let us know what you think and in particular, what skills you may be able to offer the Society.

As you will be aware The AGM will be in Norwich in January. It is a fitting place for the Society to meet as Norfolk has a long history of botanists interested in cryptogams including Dawson Turner, William Jackson Hooker and James Edward Smith founder of the Linnaean Society. I am therefore pleased that the Society is meeting here for the first time and I hope to welcome as many of you as possible to the AGM in this fine city.

*Peter Lambley*  
*plambley@aol.com*

## **Report of the Data Committee - 2009**

It seems that we have been reporting progress of the Data Committee year after year and a considerable amount of money has been spent and members of the BLS may rightly think that we have not yet seen much to show for the work. But that is the nature of data projects. Until all the data is 'mobilised' from cards and other paper documents into electronic form and consolidated into one database, there is not a lot

you can do with it. So we have to wait a little longer before we can see what the data for England and Wales, and hence for the whole of Britain, can tell us about our lichens and what research projects it can contribute to. The Scottish data has already been used at an early stage by Chris Ellis (Binder and Ellis 2008) as a source of distributional data to predict the effects of environmental change for lichen conservation. But further research will take a few years to be funded, done and published. The Scottish database is now being accessed about 2000 times a month! Soon we will be putting the BLS Mapping Scheme data of lichens by 10x10km squares onto the National Biodiversity Network Gateway so that you can access this too from your computer at home using the URL [www.data.nbn.org.uk](http://www.data.nbn.org.uk). You will be able to obtain maps for each species and lists for each 10x10km square.

### *The BLS Database and the project for England and Wales*

Janet our Data Manager has been working hard, adding more and more records to the database in Recorder 6. This is the culmination of much effort by people going through piles of record cards and lists, deciphering names, keying them into spreadsheets, checking them and sending them in to Janet. The total now in the BLS database is over 1.4m records which is an astonishing number. This includes the Scottish project (c. 290k records) and a copy of Mark Seaward's Mapping Scheme (c. 495k records), together with about half the records we hope eventually to hold for England and Wales. So when the whole project is completed we should have about 2m records in all. The Recorder 6 software which deals with the records continues to be upgraded, providing improved facilities for importing records, reporting and mapping.

The churchyard data the BLS holds amounts to about 8,500 paper cards, and we now have nearly 7,500, a third of a million records, in the database. At least 800 of these are return visits so we are starting to have enough data to be able to see how churchyard lichens are changing with time. The rest of the cards are being worked on and we hope to have them finished by the end of the year. We are also progressing well with importing records from Wales. Here CCW has previously sent most of their records to Local Record Centres and we are the process of obtaining agreements to transfer these datasets to our own database.

The first phase of the England and Wales project, with £68k funds provided by BLS, Countryside Council for Wales, Natural England, National Biodiversity Network, the Welsh Biodiversity Partnership and the Biological Records Centre, is about half complete. After that, the remaining records for England and Wales will be included in the second phase for which we still need funding. The amount we need to complete this second part appears to be a little less than previously thought but it will still be about £80-100k. We hope to apply for this shortly but money for this kind of project is very scarce. All involved are doing everything in their power to find this support to complete our nationally important and heroic effort to get all the lichen records for Britain into our database. Then will we be able to see the full value of the unique power lichens have in monitoring the environment for human health, pollution control, development planning and wildlife conservation. And of course we will be able to answer some of the novel questions about lichen distribution, floristic change and ecology which lichenologists can think up! In this project the BLS is

leading the way which it is hoped the other smaller societies hope to follow. Being the vanguard can create difficulties but can also enhance the profile and reputation of the BLS hugely if successful.

### *Fascicles*

In the longer term we hope and expect that the distribution data of British lichens on the BLS database will be available on the BLS website, using a link to the NBN Gateway to show distribution maps together with tiles of photos, synonyms, and biological and ecological information for each species. This will, in effect, replace the need to publish fascicles for each species and it will be possible to keep the information more up-to-date as new records are added and as names change etc. However, as this will not be possible for a while yet, some more fascicles for *Usnea*, *Ramalina* and the lirellate lichens will be published. These accounts are nearly ready and the 10x10km dot maps are being prepared as usual by Mark Seaward and they should be available in 2010.

### *Reference*

Binder, M.D. and Ellis, C.J. (2008). Conservation of the rare British lichen *Vulpicida pinastri*: changing climate, habitat loss and strategies for mitigation. *Lichenologist* **40**: 63-79.

*David J Hill*

*Chairman of the Data Committee*

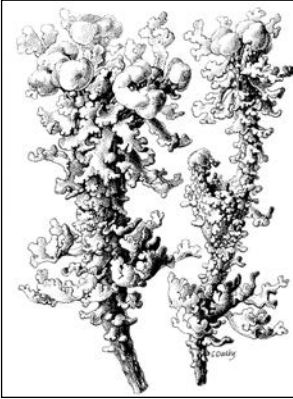
## **New publication**

### **Saxicolous lichen and bryophyte communities in upland Britain**

By Alan Orange, 2009. JNCC Report no. 404, available for download free from <http://www.jncc.gov.uk/page-4759>. See the first paragraph of this important new work...

Phytosociological data were collected to describe the terrestrial lichen and bryophyte vegetation of rock or saxicolous habitats within 14 Special Areas of Conservation (SAC) within upland Britain, with special reference to four saxicolous habitats listed in Annex I of the EU Habitats Directive. Additional data were available from other surveys within upland Britain, giving a total of 1539 relevés available for analysis. Data were analysed using TWINSPAN, combined with manual sorting. A total of 83 communities were distinguished, including 56 on siliceous rock and 27 on limestone. A description and floristic table is provided for each community, along with a key for the placement of individual relevés is provided. As is commonly experienced in phytosociological work, delimitation of communities was not straightforward; this was attributed to the existence of variation in composition of vegetation in response to many independent environmental variables, precluding a simple system of classification. Despite these problems, the classification proposed is a major advance on earlier phytosociological knowledge of the lower plant communities of the British uplands.

## CLAIRE DALBY, LICHEN GREETINGS CARDS FOR SALE



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

## PUBLICATIONS AND OTHER ITEMS FOR SALE

(Subject to availability)

For publications and other items please send orders to:

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

**Brian is hoping to retire from his duties as BLS shopkeeper after long and faithful service! If you would be interested to take on this not-very-onerous task, he would be very pleased to hear from you.**

## PUBLICATIONS

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

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

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

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

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

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



- Identification of *Parmelia* Ach.** [UK species] on CD-Rom - ISBN 0 9523049 4 5.  
Members £8.00; non-members £13.00; multiple users at one site £24.00.
- Microchemical Methods for the identification of Lichens.** Members £8.00; non-members £11.00 (Airmail, additional at cost).
- Lichens & Air Pollution** (James): 28 page Booklet; £1.50.
- Key to Lichens and Air Pollution** (Dobson): £2.00.
- Lichens on Rocky Shores.** A1 Dalby 'Wallchart' £6.00; A4 laminated Dalby 'Wallchart' £1.50.
- Key to Lichens on Rocky Shores** (Dobson): £2.00.
- Taxonomy, Evolution and Classification of Lichens and related Fungi** Proceedings of the symposium, London 10-11 January 1998 (reprinted from *The Lichenologist* Vol. 30): members £8.00; non-members £13.00.
- Bibliographic Guide to the Lichen Floras of the World** (Edn 2; Hawksworth & Ahti (reprint from *The Lichenologist* Vol. 22 Part 1): £2.00.
- Checklist of British Lichen-forming, Lichenicolous and Allied Fungi** (Hawksworth, James & Coppins, 1980): £2.00.
- Checklist of Lichens of Great Britain and Ireland** (Coppins, 2002): members £7.00; non-members £9.00.
- Lichen Habitat Management Handbook:** members £10; non-members £15.00.
- Surveying and report writing for Lichenologists** (Guidelines for surveyors, consultants and commissioning agencies): members £10.00; non-members £15.00.
- The Lichen Hunters** (Gilbert, 2004): £8.50.
- Horizons in Lichenology** (Dalby, Hawksworth & Jury, 1988): £3.50.
- Aide Mémoire: *Usnea*** (James): members £3.90; non-members £5.90.
- A Field Key to Common Churchyard Lichens** (Dobson): members £7.00; non-members £8.00.
- A Guide to common churchyard Lichens** (Dobson): £2.50.
- A Conservation Evaluation of British Lichens** (Woods & Coppins): members £4.00; non-members £6.00.
- Indices of Ecological Continuity for Woodland Epiphytic Lichen Habitats Of the British Isles** (Coppins & Coppins): members £3.50; non-members £6.00.
- Lichen Photography** (Dobson, 1977): £1.00 [Photocopies of A4 sheets].
- Mapping Cards:** General, Churchyard, Woodland, Mines, Coastal, Urban, Chalk and Limestone, Moorland: free.
- BLS leaflets:** Churchyard lichens - Lichens on man-made surfaces (encouragement and removal): free.
- Lichen Society Postcards:** Lichens in full colour in assorted packs of 16. £3.00 [Orders for more than five packs are available at a reduced rate.]
- British Lichen Society Car Sticker:** 5 colour 4" diam. self-adhesive plastic: £1.50

## OTHER ITEMS

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

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

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

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

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

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

### Hand lenses

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

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

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

**NEW FOR LOAN:** For UK members only

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

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

### BACK NUMBERS OF *THE LICHENOLOGIST*

Cambridge University are pleased to announce that from 2006 all BLS members will be able to purchase back numbers of the Lichenologist (ISSN 0024-2829) at £10.00 per back issue and back volumes at £40.00. Cambridge holds issues back to and including Volume 33 (2001).

Contact:

Tel. 0044 1 233 326070

Fax 0044 1 223 325150

E-mail: [journals@cambridge.org](mailto:journals@cambridge.org)

Back stock is also held at SWETS. For details see:

<http://backsets.swets.com/web/show/id=47067/dbid=16908/typeofpage=47001>

A complete volume from SWETS costs 200 euros.

## Membership Matters

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

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

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

Account name is "British Lichen Society"

Sort code 40-52-40

Account number 00012363

Payment to be made annually on 1 January

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

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

<b>Membership Type</b>	<b>Rate</b>
Ordinary Membership – 2009	£30
Associate Membership – 2009	£22
Senior Associate Membership – 2009	£10
Junior Associate Membership – 2009	£5
Family Membership - 2009	£5

## SUBMISSION DEADLINE

Please would intending contributors to the Summer 2010 issue of the *Bulletin* submit their copy to the Editor by 21 April. These can be sent by e-mail to [p.cannon@cabi.org](mailto:p.cannon@cabi.org) as an attachment. This should be in MS Word. Alternatively they can be sent on a CD to the Editor (for address see inside front cover). It is helpful to have hard copies of tables and other diagrams. For the style of references see past *Bulletins*.

## **BRITISH LICHEN SOCIETY - 2009 MEMBERSHIP DETAILS**

**Applications for membership** should be made to The Membership Secretary, The British Lichen Society, c/o 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, c/o Dr Heidi Döring 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 2009: **£30 / \$60 / €52.50** Three year rate for 2009-2011: **£85 / \$170 / €148**

**Life Membership** is available to persons over 60 years of age at **£300 / \$600 / €525**. Life Members have the same entitlement as Ordinary Members.

All three categories of **Associate Member** listed below are entitled to all the facilities of the Society, including the *Bulletin*, but excluding *The Lichenologist*.

**Associate Membership**. Rate for 2009: **£22 / \$44 / €38.50**

**Senior Associate Membership**, for persons over 60 years of age. Rate for 2009: **£10 / \$20 / €17.50**

**Junior Associate Membership**, for persons under 18 years of age, or full-time students. Rate for 2009: **£5 / \$10 / €8.75**

**Family Membership** is available for persons living in the same household as a Member. They are entitled to all the facilities of the Society, but receive no publications and have no voting rights. Rate for 2009: **£5 / \$10 / €8.75**

**Bulletin only subscriptions** are available to institutions only. Rate for 2009: **£22**

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

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

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

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

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

---

### **British Lichen Society Bulletin no. 105, Winter 2009**

**ISSN 0300 4562**

Issued by the British Lichen Society (Registered Charity 228850), c/o Department of Botany, Natural History Museum, Cromwell Road, London SW7 5BD. Edited by Paul Cannon, CABI Europe UK Centre, Bakeham Lane, Egham, Surrey TW20 9TY. The views of contributors are not necessarily those held by the British Lichen Society.



# British Lichen Society Bulletin no. 105

## Winter 2009

### Index

*Page*

***Features and letters***

The distribution of chemotypes of <i>Cetrelia olivetorum</i> in England, Scotland and Wales	Paul Harrold, Katy Grundy, Brian Coppins & Christopher Ellis	3
Historic lichen communities in Wiltshire	Rebecca Yahr, Brian Coppins & Christopher Ellis	10
Deception on Dun Caan, Raasay: <i>Ephebe</i> and other look-alikes	Sue & Les Knight	17
Country Diary: Lough Coumshingaun, Comeragh Mountains, Co. Waterford	Vince Giavarini	19
Lichens in environmental education in the Carpathians	Anna Guttova	21
The Field Outings and other Lichenological Sortés Subgroup	G. Feshie-Bothy	23
OPAL Air Quality: Initial trends – and <i>Usnea</i> discovered in central Birmingham	Erika Hogan, Barbara Hilton and Pat Wolseley	23
Churchyard survey records	Janet Simkin	27
Poem	Keith Jones	29
Progress on a strategy for the Society – some comments	Theresa Greenaway	30
Thoughts on <i>Progress on a Strategy for the Society</i>	<i>Linda in Arcadia</i>	32
Lichens of Great Britain & Ireland – launch speech	Tony Fletcher	35

***Regular articles***

Literature pertaining to British lichens – 45	Brian Coppins	37
New, rare and interesting lichens	Chris Hitch	40
News from the Web	Jacqui Middleton	53

***Field meeting reports***

The Autumn Field Meeting 2008: Wooler, Northumberland	Janet Simkin	54
BLS Field Meeting in the Burren, Ireland, 18-25 April 2009	Peder Aspen, Ivan Pedley, Neil Sanderson & Stephen Ward	69

British Lichen Society Library – notice		104
---	--	-----

<b><i>Future meetings 2010</i></b>		105
------------------------------------	--	-----

***Notice of Annual General Meeting 2010***

Report of the President – 2009	Peter Lambley	109
Report of the Data Committee – 2009	David Hill	114

New publications		118
------------------	--	-----

<b><i>Articles for Sale etc.</i></b>		119
--------------------------------------	--	-----

