

# British Lichen Society Bulletin

Number 96 Summer 2005



*Edited by P W Lambley*

## BRITISH LICHEN SOCIETY - 2005 MEMBERSHIP DETAILS

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

**Queries on membership matters and subscription payments** should be sent to: The Assistant Treasurer, 29 Limerick Road, Redland, Bristol BS6 7DY, United Kingdom.

E-mail: [BLSmembers@blueyonder.co.uk](mailto:BLSmembers@blueyonder.co.uk)

**Changes of address** should be notified to the Assistant Treasurer at least six weeks in advance.

### 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 2005: **£30 / \$60 / €52.50** Three year rate for 2005-2007: **£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 2005: **£22 / \$44 / €38.50**

**Senior Associate Membership**, for persons over 60 years of age. Rate for 2005: **£10 / \$20 / €17.50**

**Junior Associate Membership**, for persons under 18 years of age, or full-time students. Rate for 2005: **£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 2005: **£5 / \$10 / €8.75**

**Bulletin only subscriptions** are available to institutions only. Rate for 2005: **£15**

**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.

(NOT CURRENTLY AVAILABLE) **Internet payments using PayPal:** When this service is introduced towards the end of 2005, the Society's website will give full details: <http://www.theBLS.org.uk/>

**Euro payments:** Members in Germany may pay by bank transfer to: **Kontonummer 1802239444, Bankleitzahl 860 555 92, Sparkasse Leipzig Kontoinhaber; 'P. Scholz im Auftrag British Lichen Society'.**

Members in other countries may pay in euros by bank transfer to:

**International Bank Account No: DE92 8605 5592 1802 2394 44. The BIC (Bank Identifier Code) is WELADE8LXX, Sparkasse Leipzig, 'Peter Scholz on behalf of the British Lichen Society'.**

**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.

Cover Art work *Cladonia cariosa* by A Orange

## OLIVER LATHE GILBERT

7 SEPTEMBER 1936 – 15 MAY 2005

**The funeral service for Oliver was held in Sheffield on the 20<sup>th</sup> May. Moving eulogies and personal reminiscences of his life were given by his brother, Richard and by William Purvis and are published below. A full obituary will appear in *The Lichenologist* in due course.**

“One hour and ten minutes. That was the narrow margin that made Oliver the senior of the three Gilbert boys. Yet it was enough to make Oliver the leader and the trend setter over his twin brother Christopher and myself. Oliver was always the first to take the plunge into the icy sea, the first in races and the highest tree climber.

At the age of 4, during the war years when we were evacuated to Borth y Gest in North Wales, he would collect furry caterpillars and butterflies to identify and he always carried a large vasculum for plant collection.

At St Georges School in Harpenden his talent as a runner became evident, winning the school junior and senior X country races year after year and breaking the athletics records. St Georges did not offer ‘A’ level Biology so my parents sent him to Watford Grammar School, one hour each way on the 321 bus. This was a big boy’s grammar school, intimidating for a new 16 year old, but his X country prowess and success in the South of England School’s championship soon earned him respect.

At Exeter University he formed a mountaineering club and began rock climbing. By now we were living in Corbridge, Northumberland and Oliver took Christopher and me climbing on the lovely Northumbria crags of the Wanneys and Crag Lough as well as to the Lake District and Skye. Oliver got his name in the Western Mail for climbing the 700ft high TV mast of North Hessory Tor on Dartmoor and unfurling the University rag flag. A foolhardy display of nerve.

Exeter was followed by Imperial College London for an MA in plant pathology and then employment at Malham Tarn Field Centre. This period was one of the happiest of his life and gave him a deep love of the Yorkshire Dales. After work he would go rock climbing or run effortlessly for hours over the fells. He joined Bingley Harriers Athletics Club and in 1961 was in their small team of 3 runners which won the Yorkshire Three Peaks Race, Oliver’s time was an astonishing 3 hours 9 minutes. His winners medal hangs on a nail in Winterscales Fold.

Oliver, Christopher and I limbed happily together on countless occasions but Oliver always had the edge. In the late 1950s he led Kipling Groove on Gimmer Crag in Langdale, one of the Lakeland's most exposed and notorious climbs, so called because it was ruddy'ard. Another year he went on a memorable and bold expedition to the Hindu Kush well before the Afghan troubles started.

Trisha and I met up with Oliver on Skye in the early 1960s and found him camped high up by a remote lochan, to avoid the midges, and frying brown trout which he had caught that evening. This typifies hundreds of remote wild camps which Oliver so enjoyed. One of Oliver's ambitions was to traverse the Cuillin Ridge of Skye in a single day. As a young man he had failed on several occasions but well into his 50's as dialysis was approaching he had a final attempt with friends from the Sheffield Mountaineering Club. He embarked on a punishing fitness programme and one morning, from Winterscales, he traversed Dentedale and Garsdale and ascended Wild Boar Fell above Mallerstang before returning, a distance of 36 miles. Happily two weeks later he and his friends succeeded on the Skye ridge, the greatest single day's mountaineering available in these islands.

Back to his career. A PhD at Newcastle was followed by a lectureship at the University and a growing interest in lichens. A few years later he accepted a post as lecturer in the Department of Landscape Architecture at Sheffield University.

As we all know, to be with Oliver was tremendous fun. He was one of the most generous and unstuffy men I have ever known. He was amazingly non-judgemental and one could relax entirely in his company. As a brother I have leaned heavily on him all my life and received nothing but support and sound advice. To go for a country or mountain walk with Oliver was an education for he had such a remarkable knowledge of the natural world. Walking companions were likely to find their rucksacks filled with lichen specimens still attached to their parent boulders! His knowledge of Britain and Ireland was second to none, from the Cornish cliffs, Dorset coast and Stonehenge to the Gower, Snowdonia, Norfolk marshes, disused airfields of Lincolnshire, Peak and Pennines, Lakeland, Cheviots, Donegal, the Burren and Brandon Mountain. Scotland was a particular favourite from the corries of Ben Alder, Ben Lawers and Caernlochan, to the summit of Ben Nevis, the Cairngorm plateau and the snow patches of Braeriach. He has visited and worked on most of the Hebridean Islands, Rum, St Kilda, The Flannans and North Rona. He failed to get on to Rockall, but not without trying, so there is a project for Oliver's many lichenological friends. I remember one particular weekend when he spent Saturday doing a lichen survey around Fort William to assess the fluoride pollution from the aluminium smelter, and on Sunday we climbed Agag's Groove and Clachaig Gully, two of Glen Coe's classic rock climbs.

He would explain ecology at every level to suit his audience and that is what made him such a popular teacher and lecturer. His lichen book for the Collins New Naturalists Series was a great success and sold out within months. However, his latest book gave him more pleasure and I reckon that working on it kept him alive following his aortic and cerebral aneurisms which would have killed anyone with a less strong constitution. I know Oliver went off lichen hunting and attending meetings all over Britain, but until I read *Lichen Hunters* I did not know what he was really up to. For those of you who don't know the book is a compelling read and you don't need to know anything about lichens. A recent review in an Australian Scientific Journal described Oliver as 'a gifted and enthralling writer. An author who has the ability and erudition to present a dazzling array of facts in a lively readable and often memorable form. Oliver himself had the last word on lichen hunting. "You go to look for lichens and find in addition familiarity, beauty, companionship, laughter and the warmth of friends"'.

But lichens were not Oliver's number one passion. That slot was held by his three beautiful daughters of whom he was immensely proud. To their credit I am convinced that their constant love and attention and presence during those three dark weeks in the intensive care unit kept him alive. I spoke with Oliver a few hours before he died and he was peaceful and in control and just wanted the end to come quickly. I am so glad that Tasha, Emma and Kate were by his side. Oliver dealt with his nine and a half years on dialysis with uncomplaining courage and has been an inspiration to me. In spite of his brother Christopher's disastrous failed kidney transplant Oliver looked to his with optimism although his two aneurisms did not bode well. But as we know a succession of four horrendous operations left him gravely ill and he could take no more. I shall never forget the smile on his face when he realised that by refusing dialysis he had a way out. A route not normally available to most terminally ill patients.

Finally, let us not remember Oliver as lying exhausted and in pain on a hospital bed as he has been forced to do over much of the last two years. Let us think of him kneeling on the coarse grass on the remote rock of North Rona, glasses pushed up onto his forehead, studying a specimen through a hand lens. Whilst North Atlantic breakers crash on the rocks below sending spray high into the air with seals playing in the surf and gannets from Sula Sgeir diving for fish. That was the real Oliver. "

Richard Gilbert

"I first heard about Oliver or 'Olly' as he was affectionately known to many of his friends, from a nature warden at a field study course I attended in Northumberland as a school boy. Further chats with a university friend convinced me Sheffield University was the place to study botany! I remember meeting Oliver for the first time in his office in the Department of Landscape Architecture, shelved from floor to ceiling and filled with books, files with research papers and manuscripts and shoe boxes overflowing with packets of lichens. We soon became friends. On occasions when he wasn't lecturing and I wasn't attending lectures, we would hunt for lichens in Derbyshire Peak District or in the urban woodlands in Rivelin Valley close to his home. We would also meet up with fellow enthusiasts and once visited Rievaulx Abbey where we searched for lichens growing on its ancient ruins. One Easter, after a delightful overnight stay with his parents in Corbridge, we scoured the wind-swept beaches of Holy Island off the Northumbrian Coast, mostly on our hands and knees peering through hand lenses. Back in Sheffield, in the evenings, Oliver taught me how to identify lichens long into the night. His home was a second home to me. I particularly enjoyed reading stories to his delightful 3 young daughters, especially those written by Oliver's mother, Ruth Ainsworth. 'Rufty Tufty' springs to mind. Oliver gave me far better advice than any career's advisory service ever did. He made one phone call to the Natural History Museum and my career was made! Those were happy days at Sheffield which I will cherish for the rest of my life, and were the foundation of a friendship that continued to grow over the years to include my wife and family. In time it was Oliver who read stories to my children!

Oliver Gilbert was a pioneer, an outstanding field botanist and inspirational scientist in the broad fields of urban and lichen ecology. The first research he carried out was during his PhD on *Biological Indicators of Air Pollution* at Newcastle University. He lectured at the first ever European Congress on the Influence of Air Pollution on Plants and Animals held in Wageningen in 1968 and immediately became world famous. When I was a young student at Sheffield he told me 'People wrote to me from all over the world!' and that was in the days of pen and paper. His immensely practical research stimulated and helped scientists across the globe and this certainly continues today. But Oliver also really enjoyed encouraging amateurs and children. For instance, he devised a simple lichen scale which school children successfully used throughout Britain in a National Survey to map our 'mucky air'. During the school holidays, at the time of the British Lichen Society Annual General Meeting, he would encourage my children to observe nature by counting how many different flowers we could find in bloom on our walks. Simple observations of Nature were his delight which others often missed.

Oliver Gilbert contributed hugely to our knowledge of the ecology and taxonomy of British lichens. He could find rare and interesting lichens in the most unlikely places such as beneath metal pylons, in abandoned air fields and in derelict urban wasteland. He discovered over 45 species new to Britain, several new to Science. Oliver was justifiably proud that he had led more field meetings for the British Lichen Society than anyone else. He particularly enjoyed organising small groups of 'Adventure lichenologists', employing 'expedition tactics' to explore new or remote sites. He once arranged for a helicopter to drop a team on the top of Ben Nevis. Field meetings with Oliver were always fun and memorable. His research output was prodigious. The book 'Lichens' he wrote for the New Naturalist series published in 2000 has been favourably compared to Sir Arthur Tansley's classic work on higher plants, a fitting tribute to 35 years of pioneering, quality, ecological field study. His final book, 'Lichen Hunters', almost an autobiography, was published last year. His enthusiasm for lichens, field work and love of life shines through every page.

Everyone regarded Oliver as an exceptionally kind and considerate man. He was an eternal optimist. Even the most simple things in life gave him exquisite pleasure, like taking a hot bath after an exhausting, but exhilarating day in the field. He inspired confidence and was the life and soul of many a social gathering. Although he will be deeply missed, I am sure his wonderful books and papers, the valuable collections he deposited in both local and national herbaria, and the inspiration he has given us all, will continue to enrich all our lives in so many different ways."

William Purvis

### Editors Note

Ivan Pedley visited Oliver a few days before his death. Whilst giving him an account of the Pembrokeshire meeting, Oliver interrupted him to say that he had some records for the Rare and Interesting lichens. This was typical of his enthusiasm and his always active mind. These records are published below.

*Sagiolechia protruberans*: on limestone scree Coombs Dale NNR, VC57, Derbyshire, GR(SK)/223743, Oct 2003. First County Record. O L Gilbert

*Trapelia corticola*: on mossy pine stump in coniferous plantation, West End Clough, Derwent, Reservoir, VC57, Derbyshire, GR(SK)/14-93-, Oct 2004. First County Record O L Gilbert

## JANUARY MEETINGS 2005

### BRITISH LICHEN SOCIETY ANNUAL GENERAL MEETING – 8<sup>th</sup> January 2005

The Annual General Meeting for 2005 was held in the Flett Theatre of the Natural History Museum, London at 10.30 a.m. Present; David Hill (president in the chair), and 47 members of the Society.

**1. Apologies for absence:** Peter Earland Bennet, Albert Henderson, Clifford Smith, Francis Rose and Janet Simkin.

**2. Minutes of the Annual General Meeting 10<sup>th</sup> January 2004.** Proposed as a correct record of the meeting by David Richardson, seconded by Ivan Pedley. Signed by David Hill.

**3. Matters arising:** none

#### **4. Officers and Committee chair reports**

**Treasurers report:** The Society has now changed bankers to CAF – a bank designed for charities. The profits from the Lichenologist have dropped this year due to a change in publisher. Gift Aid is now acceptable to charities commission and could bring in a considerable income to the society, but members would have to declare tax paid as only people paying tax are eligible. Douglas Oliver was warmly thanked for all his years of auditing the societies accounts and his retirement will necessitate the society finding another auditor. Will Stevens is in contact with a chartered accountant who specialises in charities.

The accounts were proposed by Brian Green, seconded by Simon Davey and approved by a majority.

Douglas Oliver reported that he had enjoyed being part of the society for 18 years during which time he had watched it grow from a very small income to over £20,000. He requested that he remain on the mailing list of the Bulletin for the time being and this was agreed by all.

**Assistant Treasurer and Membership Secretary.** Although not elected yet Will Stevens gave a presentation of the society's position re membership and subscriptions. Despite the increase in subscriptions they were still less than 20 years ago in real terms! He welcomed the increase in standing orders and had now redeveloped the society's computer system so that it was easier to run. He could tell us that 47% of the membership were from overseas, but as no age is given on the computer he could not tell us the age structure of the society. We established that no junior members were

present at the AGM! The announcement about Gift Aid would come to all members by post in the near future. A more assertive regime was planned over subscriptions but the introduction of payments on internet by PayPal would enable people abroad to pay more easily. This would be available to anyone who had an e-mail address and a debit or credit card. Several queries arose out of this presentation concerning the inclusion of Gift Aid on your tax return (Mary Hickmott), the possibility of booksellers acquiring publications using a credit card (Don Palmer) and a query concerning the future of Gift Aid (Dennis Brown).

**The Website manager** Clifford Smith was not present due to fallen trees preventing him getting to the station.

**Secretary's report** in Summer Bulletin. Opportunity for everyone to meet overseas members Peter Scholz and Andre Aptroot, and new member and curator at NHM, Scott La Greca. No other new members present.

**Senior Editor's report.** Peter Crittenden reported that the transition to CUP had gone very smoothly and thanked the editorial board and proof readers Alan Orange, Barbara Benfield and Brian Coppins for their input to the Lichenologist. He also thanked his assistant editor Tony Braithwaite for the hard work that he put into the journal.

**Bulletin Editor.** Peter Lambley thanked authors for their contributions and asked them to continue sending articles. For the first time a Bulletin had exceeded 100 pages this year, due to field accounts expanding and to the growth of New Rare and Interesting Lichens from 8 pages in the winter issue 10 years ago to 24 pages in the last winter issue! Chris Hitch was thanked for all his work on this section, Brian and Sandy Coppins, and Pat Wolseley for their continuing support. Dennis Brown pointed out that the website address needs to be in a conspicuous place in the Bulletin.

**Librarian** Tony Fletcher thanked Joy Ricketts and all assistants who were helping to complete the catalogue. He hoped to be able to put the catalogue on the website when converted to a PDF file. The BioSciences Federation had been very active in the last year involving much correspondence and the production of c. 20 reports. He stressed that despite the BLS being small fry compared to bigger societies that it was very active within the Federation and given high priority.

**Conservation officer** Bryan Edwards had reported in winter Bulletin, but added that the year had been very busy due to the review of the BAP species priority list for JNCC.

**Data committee.** Frank Dobson reported that there were now several Fascicles in progress and some nearing completion: Lirelliform lichens in May, *Usnea* and *Ramalina* in October. Ancient woodlands in early 2006, and in the near future Maritime Lichens and Lichens on Lignum. Other plans for fascicles included metalliferous and terricolous lichens. The revised churchyard recording card would be available soon.

Although Janet Simkin was unable to be at the AGM, problems over data entry were discussed. It was established that the majority of members present had a computer and that c. 12 people were happy to contribute to data entry if it was possible in EXCEL. Barbara Benfield asked if you could transfer data to D map. Sandy Coppins suggested that there is a confusion over what data is entered and what it can be used for. It was agreed that an overview of how to record, who records and where data goes (e.g. NBN) was urgently needed but that the legislation is very complicated e.g. permission of landowner required. David Richardson expressed a concern about data quality and Frank Dobson assured him that verified information was a major consideration to the data committee.

**Mapping recorder.** Mark Seaward reported that the Bradford database contained 40 years of validated information and that maps were supplied to anyone who asked for them. There were 2500 taxa on the database including lichenicolous fungi. He asked that recorders used the species numbers as well as names to avoid confusion over name changes. Bradford University had given him a further 3 year contract David Hill expressed thanks to Mark Seaward for his contribution to the Society.

Flora Revision. Oliver Gilbert reported that by October he had 59% of the Flora in draft. *Cladonia*, *Lecanora* and *Pertusaria* almost finished, which include 10% of the Flora. The deadline is 30<sup>th</sup> June 2005, the printer is yet to be decided but it is hoped that it can be available in 2006. There are only c.40-50 copies left of the First edition but if we print 2000 copies there is a problem of storage.

**Education and promotions** – Barbara Hilton thanked committee members and participants for their support. The report from the successful applicant for the summer vacation scholarship with Peter Crittenden had now been received (see p. 28). The scholarship will be continued next year and then reviewed. The committee were also proposing to make an award for coursework on lichens available to students. The committee were building on making lichen information available at popular venues such as National Trust sites and Chelsea Physic Garden.

The importance of field courses was discussed and David Richardson suggested that the BLS should consider making a scholarship to attend field courses available. Although £50 is available from the BLS this is not sufficient for field courses which

are now very expensive for students. This will be further discussed in Council meetings, including whether it is only open to BLS members.

**5. The Ursula Duncan Award** was presented to Frank Dobson for his contribution to British Lichenology – address by Sandy Coppins (see p22), and to Brian Coppins for his contribution to British and International lichenology – address by Oliver Gilbert (to follow in future *Bulletin*).

**6. Field meetings 2005-6** – Simon Davey outlined the successful meetings in 2004 and thanked Kok van Herk and Andre Aptroot for the meeting in the Netherlands and Tony Fletcher for the maritime meeting in Bangor and Nottingham. In 2006 there is a spring meeting at Orielson, Pembrokeshire, a summer workshop on *Collema* and *Leptogium* at the Kingcombe centre in Dorset and an autumn meeting at Ashburnham Park in Sussex. In 2006 David Hawksworth has proposed a meeting in the Sierra de Guadarrama in collaboration with members of the Societe Espagnol Lichenologica, Alan Orange will run a workshop on Pyrenocarpous lichens of streams probably at Inchnadamph in Sutherland and Chris Ellis had offered an autumn field meeting in the Shetlands. Members were asked if this was acceptable in view of the distance and c. 12 people responded positively.

David Richardson mentioned that the Tuckerman Society had 2 field meetings a year and that in autumn 2005 there was a meeting in Nova Scotia.

#### **7. Election of officers and members of Council**

Will Stevens was proposed as Assistant membership secretary by Ivan Pedley, seconded by Jeremy Gray and agreed by a majority.

Re- election of other officers of the society was proposed en bloc by Jeremy Gray, seconded by Ishpi Blatchley and agreed by a majority.

New members of Council proposed include Gill Stevens – UK biodiversity coordinator for cryptogams at the NHM proposed by Pat Wolseley, seconded by Bob Finch; Scott LaGreca – curator of the lichen herbarium at the NHM proposed by William Purvis, seconded by Joy Ricketts; Alan Orange – cryptogamist at the National Museum of Wales – proposed by Sandy Coppins, seconded by Chris Hitch; John Skinner - proposed by Tony Fletcher, seconded by Bryan Edwards.

David Hill announced that we were still one member short and that if there were offers from the floor we could co-opt a person onto Council.

**Date and place of next AGM.** The next AGM will be held at the National Museum of Wales in Cardiff on the 14<sup>th</sup> January.

## Afternoon lectures on the theme of monitoring

### Priority Woodland Lichens – Is there life after BAP

Brian & Sandy Coppins [presented by Brian]

Brian began by explaining some of the recent acronyms used in conservation, such as BAP (Biodiversity Action Plan), SAP (Species Action Plan), HAP (Habitat Action Plan) and LBAP (Local Biodiversity Action Plan), and the history of the UK BAP process so far.

Of the 1880 British lichens (and related fungi) that have been evaluated, 656 have a Red Data Book (RDB) status of Near Threatened (NT) or above, and 207 of these occur in woodland habitats. For evaluations of RDB Vulnerable (VU) the respective figures are 209 and 69. The total number of lichens that have received Species Action Plans (SAPs) is 37, 13 of which occur in woodlands, with two additional species, *Caloplaca luteoalba* and *Thelenella modesta* being confined to wayside or parkland trees. Clearly the 209 British lichens of highest conservation concern are much under-represented. However, if many more lichens were to have been selected since the onset of the UK BAP process in 1994, it is unlikely that they could have all have been given sufficient study because of the shortage of available lichenologists with the knowledge and experience required to carry out the work. Therefore, we have to review what benefits the BAP process has provided and look forward to how best we can proceed in the future.

One of the big problems with carrying out BAP work is field identification. Some lichens are quite easy to determine in the field, such as the fruticose *Alectoria sarmentosa* [not a BAP species, but perhaps should be], the foliose *Pseudocyphellaria norvegica* and the crustose *Caloplaca luteoalba*. However, just as ornithologists have their LBJs ('little brown jobs') such as warblers, lichenologists have their 'little black jobs'. The two BAP lichens, *Arthothelium dictyosporum* and *A. macounii* are exceedingly difficult to distinguish in the field from far commoner look-alikes, such as *Arthonia ilicina* and *Arthothelium orbiliferum*.

Table 1 lists the 'bakers dozen' of BAP woodland lichens. Taken together, they could be considered also a 'curates egg' – some are worthy, some not so worthy, and the current SAP selection is lacking many more deserving species.

For 10 of the 13 woodland BAP species, detailed species dossiers have been prepared, commissioned by the country agencies (SNH, EN and CCW), but for most species little in the way of further action (at least of a 'gardening' kind) has taken place, or is

indeed appropriate. An exception is *Catapyrenium psoromoides*, currently known only from a single ash tree in East Perthshire, an old ash and an old oak in Dorset, and on limestone outcrops at a single site in Devon. At the Scottish locality, the host tree has had its upper boughs lopped so as to stabilize it, and the *Catapyrenium* population has been monitored using point quadrats and acetate overlays. Since 1988, transplants have been made on to nearby ash trees and onto the adjacent, calcareous conglomerate outcrop. Although most of the transplants survive and remain intact, the lichen has so far refused to spread onto the adjacent substrata. The "cat" of *Catapyrenium* is perhaps trying to tell us something!

For most species, such 'gardening' actions are either not appropriate or not practicable. We have seen the problems with field identification regarding the *Arthothelium* species. There are also those lichens that are additionally 'size-impaired', such as *Biatoridium monasteriense*, whose minute pale brown apothecia are currently known from just one elm in Merioneth and an ash in East Perthshire. All that can be practically done for such critical or minute species is to promote management strategies and actions that ensure that suitable woodland habitats are available for these lichens to survive and colonize new trees in the future.

So, perhaps lichenologists should be approaching the BAP process more on a habitat basis rather than merely considering individual species. Indeed, it is quite common to find two or more rare or threatened at the same locality or even on the same tree. It would be much more efficient and efficacious, therefore, to carry out field studies on all the species at the same time.

We have attempted to fit the current BAP woodland lichens into the priority Habitat Action Plans (HAPs), and this has presented a few problems – not least, the understanding of what is precisely meant by the HAP habitat categories. This has been a problem for those involved in carrying out the HAPs. For example, a consensual definition of 'Wood Pasture' has been exercising the minds of woodland ecologists for several years! Also, the Atlantic Hazelwoods are currently squeezed (and lost) into the 'Upland Mixed Ashwoods' HAP – but they certainly do not comfortably fit there, and their management considerations are usually very different. These Atlantic Hazelwoods are of international importance for many lichens, including the globally rare *Graphis alboscripta* (endemic to Scotland), and preferably should have their own HAP. Then there are the, often hazel-dominated, wooded ravines of the western Highlands and islands, stuffed full of nationally or globally rare lichens and bryophytes, as well as midges! Lichen rarities include *Pyrenula hibernica* (*Parmentaria chilensis* auct.) and the undescribed *P.* "aff. *microtheca*", but the habitats in which they occur do not fit readily into any HAP category.

Also, if we approach matters from the HAP perspective, most of the current selection of BAP lichens are pretty useless in promoting and carrying out the HAPs. This is because most of the species (*Pseudocyphellaria norvegica* being a notable exception) are either so rare, or so inconspicuous and/or difficult of field identification. There are many, many other lichens that are better indicators of habitat quality and ecological continuity, and are more amenable to monitoring.

The BAP process can be justifiably criticized, especially concerning its organization, funding, and the selection of species. However, it does have its plus points. Firstly, it has greatly raised the profile lichens in conservation matters generally. Secondly, the discipline of producing species dossiers, and the experience gained during the related fieldwork, has resulted in a greater understanding of the habitat requirements and 'niche peculiarities' of some of our rare and threatened species.

An example is *Schismatomma graphidioides*, which, prior to BAP-related activities, was recognizable to only one or two lichenologists in Britain, and poorly understood as to its habitat requirements. We now have a much better 'handle' on this species, and new records from new sites are steadily coming in. This leads us on to some big questions – once commissioned Species Dossiers have been prepared, what do we do with the accruing new information? How is the information to be gathered, checked, collated, and then disseminated to interested parties? Who is to do these jobs, and who is to pay for it?

Funding is always a problem, but a more serious, though not unrelated, problem is that of the 'human resource': there is little point in securing funding if there's not enough suitable trained and experienced persons available to carry out the work. Although there is a wide appreciation of the importance of lichens among conservationists and ecologists, there is the fundamental difficulty that lichens remain a low interest group, with the current British BLS membership at about 330. If every member of the BLS were actively involved in observing and studying the 209 RDB (Vulnerable or above) species, that would equate to 1.58 persons per species. At the other extreme, the 40 RDB birds, where the British membership of the RSPB and other specialist bird societies is close on 1 million, would have 25,000 persons per species! The approximate number of full-time or contract ecologists and naturalists available to do fieldwork on BAP and RDB species of lichens is only about 10, but is as many as 1000 for birds, giving respective coverages of 0.05 (a twentieth) of a person and 25 persons.

With regard to future involvement in the UK BAP process, and conservation in general, there are many things for us lichenologists to do – and to mention just a few:

1. Gather site and species data together in a more readily accessible manner.
2. Identify key species and relate relevant information as to their habitat requirements to those involved in priority HAPs.
3. Select additional lichens for SAPs – but concentrating more on groups of species that fit closely with the priority HAPs, or with potentially new HAPs.
4. Continue to address the skills shortage through workshops and 'lichen apprenticeship' schemes.
5. Lobby Government ministers and their agencies for funding of support for full-time secretariat to collate past and in-coming data, and disseminate to interested parties [e.g. HAP lead partners and LBAP officers].
6. Lobby Government ministers and their agencies for increased funding of 'core' taxonomists to provide a supporting role to such a secretariat, plus fieldworkers and other researchers.

Actions have already made are or are on-going on many of these. The BLS already runs an annual workshop concentrating on species groups or special habitats, such as the 'Native Pinewoods' and '*Graphidion*' workshops, and the forthcoming '*Collema* and *Leptogium*' workshop. The compilation of 'habitat' groups of RDB and other notable lichens is currently in progress by some members of the BLS Conservation Committee. So, maybe in the future we will be dealing with 'GAPs' (group action plans), covering habitats and species (from all groups, not just lichens) associated with particular habitats. This approach promises to be more widely applicable to not just specialist lichenologists, but also to LBAP workers, site managers and general naturalists.

In Scotland, SNH has provided a major grant to support the BLS in compiling a site-based Database for Scottish Lichens, and talks are in progress with JNCC towards the establishment of a Threatened Lichens Database. The SNH grant also has provision for awareness events and more significantly for the training of 'lichen apprentices', most of whom have been actively involved in Site Condition Monitoring on behalf of SNH.

The past and current President, as well as some other officers of the BLS, have been active in lobbying Government ministers or their agencies, but more is required. Only by securing sustainable, long-term funding for BAP and related activities can our up and coming, young, dedicated lichenologists (such as the 'apprentices') fulfil their destiny as our hope for the future.

**Table 1. The 'Baker's Dozen' of Woodland BAP species**

[In column 2: E = England; S = Scotland; W = Wales]

<i>Arthothelium dictyosporum</i>	Upland oceanic woodland (S-west)
<i>Arthothelium macounii</i>	Atlantic hazelwoods (S-west)
<i>Bacidia incompta</i>	Deciduous woodlands (E, S)
<i>Biatoridium monasteriense</i>	Deciduous woodlands (S, W)
<i>Bryoria smithii</i>	Oakwoods (E-southwest)
<i>Catapyrenium psoromoides</i>	Pasture woodland (E, S) & calcareous rocks (E-southwest)
<i>Chaenotheca phaeocephala</i>	Oakwood (W-?extinct) & worked timber (E-extinct)
<i>Cladonia botrytes</i>	Pinewoods (S-east)
<i>Enterographa elaborata</i>	Oak pasture woods (E-south)
<i>Enterographa sorediata</i>	Oak pasture woods (E-south)
<i>Graphina pauciloculata</i>	Oakwoods (E-southwest)
<i>Pseudocyphellaria norvegica</i>	Atlantic woodlands (S-west, W-very rare, E-southwest but extinct)
<i>Schismatomma graphidioides</i>	Pasture woodland (E-southwest, W, S)

**Lichens and global warming:**

André Aptroot

Lichens are well known as indicators of pollutant levels, and lichen monitoring has become a common part of air quality evaluations. In some parts of Europe, the use of lichens to monitor environmental changes has been aided by long-term attention paid to these organisms, so that accurate data extends back for some decades. In the Netherlands, a detailed analysis was carried out of the changes in epiphytic lichen flora which has occurred in the province of Utrecht in the central part of the country, using data which has been gathered since 1979 at five-year intervals as part of an intensive monitoring programme. At the same time the trend of all epiphytic and terricolous lichens in the country as a whole was determined. Major changes are linked to changes in pollutant levels, and appear significant for all separate five-year intervals. But recently other major changes which have been detected appear to be independent of pollution: warm-temperate species like *Candelaria concolor*, *Lecidella flavosorediata*, *Punctelia borreri* and *Flavoparmelia soredians* show a strong increase

which cannot be explained only by changed pollution levels. On the other hand, many species with a mainly boreo-montane/arctic-alpine distribution decreased or disappeared. This data strongly suggests that global warming has affected the lichen populations (Van Herk et al. 2002). When the Ellenberg-values are attributed to the various species, the regression coefficients with both temperature and nutrient demand over the last five year period are highly significant, while no significant correlation is attributable any more to toxitolerance (i.e. SO<sub>2</sub>).

Not all areas or habitats are equally influenced. The observed changes seem to be strongest in open habitats, like along roads on wayside trees or especially in parks on lowland Western Europe. More oceanic or continental or mountainous regions, like Scotland, the Vosges and the Eifel show few if any changes of this kind, at most some increase of *Fellhanera* species. Comparison of data from forested regions suggests that here some changes will be attributable to global warming as well. The increasing species in forests are a different set of taxa, e.g. *Anisomeridium polypori*, *Arthonia spadicea*, *Dimerella pineti* and most *Oppegapha* species. They have (apart from having their main distribution in the subtropics) one character in common, viz. their *Trentepohlia* photobiont. Further research is needed to find out whether the increase of these taxonomically unrelated lichens is in fact facilitated by the increase of their photobiont.

About a dozen species that are rapidly spreading since the 1980's appeared to be undescribed and had to be described as new to science, on the basis of material from the Netherlands, Belgium and/or Britain. Some of them are becoming so common, that it could be safely predicted that we would encounter some on next day's excursion to Kew Gardens, although they were not as yet known from the park. Indeed, *Bacidia adastrae* and *B. neosquamulosa* were found to be common on a variety of trees at Kew, including *Fraxinus* and *Magnolia*, and *Lecanora compallens* was also observed.

The following gives the species found on one single tree at Kew which was investigated in 1998 and in 2005. Please note that, as would be expected, *Bacidia adastrae* established itself on this tree between 1998 and 2005 (judging from the small extent of the thallus probably quite recently), but that many species appear (*Usnea hirta*!) or disappear (*Evernia prunastri*) that belong to similar ecological groups. There is apparently quite some turn-over.

Slanting *Fraxinus angustifolia* tree number 134-53.13403 BERL. 453

<i>Amandinea punctata</i>	1998	2005
<i>Bacidia adastrae</i>		2005

<i>B. arnoldiana</i>	1998	2005
<i>B. delicata</i>	1998	2005
<i>Buellia griseovirens</i>	1998	
<i>Caloplaca flavocitrina</i>		2005
<i>C. obscurella</i>		2005
<i>Candelariella reflexa</i>	1998	2005
<i>Catillaria chalybeia</i>		2005
<i>Cladonia coniocraea</i>	1998	
<i>Evernia prunastri</i>	1998	
<i>Flavoparmelia caperata</i>	1998	2005
<i>Hypotrachyna revoluta</i>		2005
<i>Lecania cyrtella</i>		2005
<i>Lecanora conizaeoides</i>	1998	2005
<i>L. dispersa</i>	1998	2005
<i>L. expallens</i>	1998	2005
<i>Lepraria incana</i>	1998	2005
<i>Melanelia glabratula</i>		2005
<i>M. subaurifera</i>	1998	2005
<i>Parmelia saxatilis</i>		2005
<i>P. sulcata</i>	1998	2005
<i>Parmotrema perlatum</i>	1998	2005
<i>Phaeophyscia orbicularis</i>	1998	2005
<i>Physcia adscendens</i>		2005
<i>P. caesia</i>	1998	
<i>P. tenella</i>	1998	2005
<i>Punctelia subrudecta</i>	1998	2005
<i>P. ulophylla</i>	?	2005
<i>Ramalina farinacea</i>		2005
<i>Rinodina gennarii</i>	1998	
<i>R. pityrea</i>	1998	
<i>Usnea hirta</i>		2005
<i>Xanthoria parietina</i>	1998	2005
<i>X. polycarpa</i>	1998	
Total number of species	23	28

## Reference

Herk, C.M. van, A. Aptroot and H.F. van Dobben. (2002). Long-term monitoring in the Netherlands suggests that lichens respond to global warming. *Lichenologist* 34: 141-154.

## Field visit to Royal Botanic Gardens Kew

Around 25 people met at the gates to the herbarium of the Royal Botanic Gardens Kew on Sunday 9<sup>th</sup> January, where we were met by mycologists Brian Spooner, Alick Henrici and Begoña Aguirre-Hudson who joined us on this visit. Our party included a number of other 'experts' who were familiar with Kew including Andre Aptroot, David Hawksworth and Frank Dobson. We were lucky that it was such a beautiful day and that we could spend time on leisurely investigations of buildings, rocks, pavements and trees and of course garden furniture where *Cyphelium notarisii* has been known since 1998. This important heritage site illustrates the diversity of habitats in a historic garden from woodlands and river margins to open parkland containing a diversity of epiphytic and saxicolous substrata. It also provides a very interesting example of changes following the closure of the nearby Brentford power station in 1964 and the subsequent drop in SO<sub>2</sub> levels. There were very few species at the turn of the century (Darbishire, 1906) but recently there has been an extraordinary increase in diversity both of lichen species that require a nutrient-poor substrate and those that require a nutrient enriched one.

The garden benches provide a special habitat at Kew where lignin is exposed to a variety of conditions providing a habitat that would otherwise be scarce for a number of lichen species including the Red data book species *Cyphelium notarisii*. This occurs in beautiful yellow patches over an increasing number of benches around the Palm house, its patches matching precisely where people sit or rest their arms! The numerous benches at Kew support a fascinating mixture of species growing together including acidophytes with remnant patches of *Lecanora conizaeoides* - a reminder of the days when SO<sub>2</sub> was still a major air pollutant, and an increasing number of nitrophytes such as *Xanthoria parietina* and species of *Physcia*, including *P. caesia*, which is now appearing as an epiphyte in Britain. Other interesting nitrophytes that are recently recorded at Kew include *Candelaria concolor* and species that are newly described from Holland *Bacidia adastrata* and *B. neosquamulosa* that were pointed out by André. Two species that were formerly more Mediterranean in distribution, *Flavoparmelia soredians* and *Punctelia borreri*, are now occurring rather frequently at Kew and are currently expanding their range northwards across Britain.

Some of the most interesting changes were observed on the ash trees in the centre of the gardens in particular on one that Andre visited in 1998 (See P 15 Table 1.). This reflects the puzzling nature of the return of lichens to London, where additional species recorded on this tree included those preferring acid bark such as *Parmelia saxatilis* and *Usnea hirta* as well as those preferring basic bark including *Bacidia delicata* (also found in several other locations in Kew), *Caloplaca obscurella* and *Physcia adscendens*. In 2005 the party also observed the loss on this tree of *Evernia prunastri*, *Cladonia coniocraea*, *Physcia caesia* and *Xanthoria polycarpa!*

Another interesting area which we had been asked to look at, and which we managed to reach before dusk, was the newly planted DEFRA biodiversity garden in the NE corner of the garden. This small garden was formed around large slate slabs placed rather like a prehistoric circle around a water garden and rough area with native species of *Corylus avellana*, *Fraxinus*, *Sorbus aucuparia* and *Alnus incana*. The garden is designed by Mary Reynolds and the trees were imported from northern Ireland in 2003. Many of the epiphytic species that were recorded are new records for Kew, having been introduced on the young smooth bark of these trees from more oceanic conditions in Ireland. These include *Graphis scripta*, *Phaeographis dendritica*, *Pertusaria hymenea* and *P. leioplaca*, *Pyrenula chlorospila* and *Lecanora pulicaris*. These species are all dispersed sexually illustrating how lichens can be introduced and, in favourable conditions, become established in a newly available environment. In the present low SO<sub>2</sub> conditions at Kew these species may become established elsewhere in the garden. Watch this spot!

The saxicolous sites had not been well recorded previously, so that this visit gave us an opportunity to add many new records to the site, some of which may have been previously overlooked including *Opegrapha gyrocarpa*, *Rhizocarpon petraeum*, *R. reductum*. *Hymenelia prevostii* recorded by Andre in 1998 was refound in the rock garden. *Leptogium turgidum* was found at the edge of a small pool in the secluded garden. In the same area two granite boulders provided several new records including two species of *Acarospora* *A. fuscata* and *A. smaragdula*, *Stereocaulon dactylophyllum*, *Trapelia placodioides* and *Xanthoparmelia mougeotii*.

Altogether 105 species of lichen were recorded on this visit of which 39 were new records (table 2.) with an additional 2 new records of lichenicolous fungi. The total species list for Kew before the visit was 127 (Henrici, 2005), but as we only managed to visit a few sites within the garden it suggests that there is more to find. Kew Gardens is now a heritage site and these results confirm the importance of its contribution to lichen diversity in the London area and in providing an example of environmental changes that are currently going on in the vicinity of urban sites in SE England. We owe a special thank you to Sandra Bell who made all the arrangements for us to visit Kew, to Alick Henrici who provided a list of all previous lichen records

and proof read this article and to Begoña Aguirre-Hudson for checking the specimen of *Rinodina exigua*. Thanks also to participants who contributed records of their finds.

Pat Wolseley and Peter James

**References.**

Aptroot, A 1998. Lichens in Kew Gardens, Richmond, Surrey. - *British Lichen Society Bulletin* 82: 36-37.  
 Coppins, B.J. 2002. Checklist of lichens of Great Britain and Ireland. British Lichen Society. <http://www.thebls.org.uk/checklist.html>  
 Darbishire, O. V. 1906. Lichens in "The wild fauna and flora of the Royal Botanic Gardens, Kew". - Royal Botanic Gardens of Kew Bull. of Miscell. Informations V: 102-103.  
 James, P. & Wolseley P. 2004. Lichens at Kew, 2004. Report to RBGKew  
 Henrici, A. 2005. Unpublished list of Lichens recorded at Kew Gardens.

Table 2. Species recorded in Kew gardens on 9.01.05. \* denotes new records for Kew. Species names follow the checklist (Coppins, 2002) Substrata are indicated Ag – *Alnus glutinosa*, Ca – *Corylus avellana*, Cb- *Catalpa* sp., Fx – *Fraxinus* sp., Qp – *Quercus petraea*, Sa – *Sorbus aucuparia*. Pa- palm.

Species	Tree sp	Lignin-garden furniture	Calcareous to neutral rocks	Acid rocks-granite and slate
* <i>Acarospora fuscata</i>				+
<i>A. rufescens</i>				+
* <i>A. smaragdula</i>				+
<i>A. veronensis</i>				+
<i>Amandinea punctata</i>	Fx Sa	+	+	+
* <i>Arthonia radiata</i>	Sa			
<i>Arthopyrenia punctiformis</i>	Ag			
* <i>Bacidia adastrae</i> Sparrius & Aptroot 2003	Pa Fx Qp			
* <i>B. arceutina</i>	Fx			
<i>B. arnoldiana</i>			+	
* <i>B. caligans</i>			+	
<i>B. delicate</i>	Fx			

<i>*B. egenula</i>			+	
<i>*B. neosquamulosa</i>	Fx Magnolia			
<i>Buellia aethalea</i>				+
<i>B. griseovirens</i>	Fx	+		
<i>*Calicium viride</i>	Fx			
<i>*Caloplaca chlorina</i>			+	
<i>C. dalmatica</i>			+	
<i>*C. flavocitrina</i>	Fx		+	
<i>*C. obscurella</i>	Fx			
<i>C. concolor</i>	Fx Qp			
<i>Candelariella reflexa</i>	Fx			
<i>C. vitellina</i>		+		+
<i>Catillaria chalybeia</i>	Fx			
<i>*C. nigroclavata</i>	DEFRA			
<i>Cladonia coniocraea</i>	Fx			
<i>Collema crispum</i>			+	+
<i>Cyphelium notarisi</i>		+		
<i>Evernia prunastri</i>	Qp			
<i>Flavoparmelia caperata</i>	Cb Qp Fx			
<i>F. sooredians</i>	Fx			
<i>*Graphis scripta</i>	Sa			
<i>*Haematomma ochroleucum var. porphyrium</i>	Magnolia			
<i>Hymenelia prevostii</i>			+	
<i>Hypogymnia physodes</i>	Cb Qp			
<i>H. tubulosa</i>	Cb Qp			
<i>Hypotrachyna revoluta</i>	Fx			
<i>*Lecania cyrtella</i>	Fx			
<i>Lecania erysibe -sorediate form</i>			+	
<i>*L. naegelii</i>	Fx			
<i>L. rabenhorstii</i>			+	
<i>Lecanora campestris</i>			+	
<i>L. chlarotera</i>	Ca	+		
<i>L. compallens</i>	Various			
<i>L. confusa</i>		+		
<i>L. conizaeoides</i>	Fx	+		
<i>L. dispersa</i>	Fx			
<i>L. expallens</i>	Fx			

<i>*L. flotowiana</i>			+	
<i>*L. intricata</i>				+
<i>L. muralis</i>			+	+
<i>L. polytropa</i>				+
<i>*L. pulicaris</i>	Ca	+		
<i>L. saligna</i>		+		
<i>L. symmicta</i>	Fx Qp	+		
<i>Lecidea fuscoatra</i>			+	+
<i>Lecidella carpathica</i>			+	+
<i>L. elaeochroma</i>	Fx			
<i>L. scabra</i>		+	+	
<i>L. stigmatea</i>	Fx	+	+	+
<i>Lepraria incana</i>	Fx			
<i>L. lobificans</i>			+	+
<i>*Leptogium turgidum</i>				
<i>Melanelia fuliginosa subsp. glabratula</i>	Fx			
<i>M. subaurifera</i>	Fx			
<i>*Opegrapha atra</i>	Ca			
<i>*O. gyrocarpa</i>			+	
<i>*O. herbarum</i>	Ca			
<i>Parmelia saxatilis</i>	Fx			
<i>P. sulcata</i>	Fx			
<i>Parmotrema chinense</i>	Fx			
<i>*Pertusaria hymenea</i>	Fx			
<i>*P. leioplaca</i>	Ca			
<i>*Phaeographis dendritica</i>	Sa Fx			
<i>Phaeophyscia orbicularis</i>	Fx			
<i>Physcia adscendens</i>	Fx	+		
<i>*P. aipolia</i>	Qp			
<i>P. caesia</i>	Fx	+		+
<i>P. tenella</i>	Fx			
<i>Physconia grisea</i>	Fx			
<i>*Porina aenea</i>	Ca?			
<i>*Porpidia crustulata</i>				+
<i>P. soredizodes</i>				+
<i>Punctelia borreri</i>	Fx Qp			
<i>P. subrudecta</i>	Fx			
<i>P. ulophylla</i>	Fx			

<i>*Pyrenula chlorospila</i>	Fx			
<i>Ramalina farinacea</i>	Fx			
<i>*Rhizocarpon petraeum</i>			+	
<i>*R. reductum</i>			+	+
<i>*Rinodina exigua</i>	Fx			
<i>R. gennarii</i>	Fx			+
<i>R. pityrea</i>	Fx			
<i>Sarcogyne regularis</i>			+	
<i>*Sterocaulon dactylophyllum</i>				+
<i>Trapelia coarctata</i>			+	+
<i>*T. placodioides</i>			+	+
<i>*Trapeliopsis flexuosa</i>		+		
<i>Usnea hirta</i>	Fx			
<i>Verrucaria muralis</i>			+	
<i>V. viridula</i>			+	
<i>*Xanthoparmelia mougeotii</i>				+
<i>Xanthoria parietina</i>	Fx	+		
<i>X. polycarpa</i>	Fx			

Additional records of lichenicolous fungi were; *Licheniconium lecanorae* on *Parmelia sulcata* and *Licheniconium xanthoriae* on *Xanthoria polycarpa*.

### URSULA DUNCAN AWARDS 2005

The Ursula Duncan Awards were presented to two distinguished members of the Society: Frank Dobson and Brian Coppins. It is hoped to publish Oliver Gilbert's speech about Brian Coppins in a later Bulletin.

### FRANK DOBSON

Although Frank's ready laugh and deep, booming voice catches your attention he is essentially a quiet man, unassuming, even modest about his lifelong dedication to lichens and about his tremendous output of publications over more years than most of us can remember. To all of us who have taken our first stumbling steps in the study of lichens, the name "Dobson" is synonymous with the guide book he produced, the first edition in 1979, followed by revised editions in 1981, 1992 and the full-colour illustrated version of 2000. And this indefatigable man is currently working on the

latest, 5<sup>th</sup> edition. It is “the” book for all students of field lichenology, and no other single publication has done more to encourage and nurture the interest of beginners.

This would be achievement enough for many, but Frank has also tackled other areas of field lichenology producing numerous keys for the British Lichen Society as well as for the Field Studies Council. A few years ago, he produced Lichen-Identifier – a multi-access computer key to the complete lichen flora of the British Isles, a huge tour de force involving the amassing tens of thousands of items of data to create a user-friendly set of keys in a totally new program.

Drawing on years of experience with the Richmond Publishing Company, Frank’s advice to the Society has been invaluable with the production of numerous BLS titles. He has written many articles over the years for the BLS *Bulletin* as well as writing for other publications, thus raising the profile of lichens in the mind of the general public.

Frank’s dedication to teaching lichenology to beginners can be seen in the number of years he regularly ran Lichen Courses at Field Study Centres, at Juniper Hall, Slapton Ley, and Orierton. How many new, aspiring lichenologists have benefited from attending Frank’s courses, been grateful for his patient teaching and gone on to have a lifelong interest in these fascinating and beautiful organisms and become fully-fledged members of the Society?

Although, for many, these achievements alone would be a notable contribution to lichenology, there is yet much more that Frank has done through his commitment to the British Lichen Society. He was President between 1992 and 1993 and for 15 years, between 1987 and 2001, he served as Treasurer. The expression “served” as Treasurer is very apt, as Frank put a huge amount of time and energy into his role, endlessly tackling the complexities of the Charity Commissioners, the Tax status of the Society, the best deals at the bank, finding ways through the legal mires of administrating bequests, grants, public indemnity insurances. Frank acquired an encyclopaedic fund of information about every aspect of the running of the Society, such that he became the “fount of all wisdom” that I turned to on many occasions when I was President. Although Frank is no longer Treasurer, he still serves the Society in the role of Chair of the Data Committee, and is probably one of the most regularly attending members at Council meetings.

So, it is with real pleasure that Frank Dobson is presented with the Ursula Duncan Award, for outstanding service to lichenology in the British Isles, both as author and teacher.

Sandy Coppins

## WHAT IS THE ROLE OF SECONDARY LICHEN SUBSTANCES IN ROCK-INHABITING CRUSTOSE LICHENS?

Many plants (vascular or not) produce secondary substances. Lichens, however, are well-known, because nearly all secondary substances are unique to them and, as a consequence, can be used as a means of identification. Huneck & Yoshimura (1996) mention over 1350 substances! These substances are supposed to be not directly involved in the primary metabolism of the lichens, but represent, in most cases, chemical by-products of the fungal component and are deposited on the outer surface of the hyphae (Brodo *et al.* 2001).

Several activities have been ascribed to these lichen substances. Huneck & Yoshimura (1996) give seven of them, nearly all of them protective: antibiotic (depsides, depsidones, usnic acid), antitumour (a.o. usnic and protolichesterinic acid), plant growth inhibiting (a.o. atranorin, evernic acid, psoromic acid), enzyme inhibiting (a.o. lecanoric and usnic acid). Some are allergenes (a.o. atranorin, barbatic, lobaric and stictic acid), some are known to be medicinal (a.o. picrolichenic and pulvinic acid).

It is common knowledge that crustose lichen communities growing on calcareous rock are different from those growing on siliceous rock. You may wonder what makes them specialists? The nature of the substrate such as mineral composition, texture and water-holding capacity, plus different forms of "enrichment" (droppings, pollen) are also very important for settlement. The fact is that whilst randomly checking generic features in Purvis *et al.* (1992) it was found - very much to our surprise - that crustose genera mainly growing on siliceous rock; (*Buellia*, *Fuscidea*, *Lecidea*, *Pertusaria*, *Porpidia*, *Rhizocarpon*) produce a great many lichen substances, viz. depsides, depsidones, pardepsides, tridepsides and xanthenes. Whereas crustose genera, mainly growing on calcareous rock, (*Clauzadea*, *Lecania*, *Polyblastia*, *Protoblastenia*, *Psorotichia*, *Staurothele*, *Thelidium*) lack them though of course, there are the exceptions which break the rule. For example there are *Rhizocarpon* species on calcareous rock producing stictic acid whilst others following the rule produce none. There are some *Lecidea*, *Porpidia* and *Fuscidea* species on siliceous rock which produce no lichen substances. The same holds for e.g. *Polyblastia quartzina* and *Thelidium pluvium*, both growing on siliceous rock, but not producing any lichen substance. It is interesting to note that species in *Aspicilia* and *Lecanora*, known from both siliceous and calcareous rock, mainly follow the rule with just one or two exceptions. This rule is also proved by Sparrius (2004). Six out of seven *Dirina* species growing outside Europe on siliceous rock produce one or more lichen substances (erythrin, lecanoric). However, *Dirina calcicola*, growing on calcareous rock, does not produce any lichen substance.

The protective activities of the lichen substances given by Huneck & Yoshimura (1996), do not explain why many crustose genera on siliceous rock need these secondary substances which should guarantee protection in a broad sense, whereas other genera on calcareous rock can do without them and thrive as well. The production of secondary substances seems to depend on the quality of the substratum. Some lichen substances (fumarprotocetraric and squamatic acid) are known to weather siliceous rock (Masuch 1993) and make it suitable for settlement, but again, why do genera on calcareous rock hardly need any?

It is well-known that vascular plants growing on calcareous rock produce and exude oxalic acid in order to take up P and Fe (Ström *et al.* 1994) which are hard to come by in calcareous substrates. It is also known that many lichens on calcareous rock exude oxalic acid which according to Horner & Wagner (1995) seems to be important for the regulation of calcium, for protection, structural strengthening, calcium storage and light gathering and reflection. Lichens on calcareous substrates are generally pruinose due to the abundance of calcium oxalate, while lichens on silicates are rarely pruinose. This is strikingly observed on single species, or even single thalli that grow on both calcareous rock and silicates: Specimens of e.g. *Diplotomma alboatrum* or *Caloplaca saxicola* on exposed walls are pruinose when growing on mortar, and devoid of pruina on the adjacent brick. Many of these lichens are pruinose (calcium oxalate) which is a result of a secretion of oxalic acid and availability of calcium ions Giordani *et al.* 2003).

However, it is also hardly conceivable that calcicole lichens need just one substance to settle –and survive, whereas those on siliceous rock need so many!

Leo Spier, Kon. Arthurpad 8, 3813 HD Amersfoort, The Netherlands

André Aptroot, G. v.d. Veenstraat 107, 3762 XK Soest, The Netherlands.

### **References**

- Ahmadjian, Vernon & Hale, Mason, E. (1973) *The Lichens*. Academic Press. New York and London,
- Brodo,, Irwin, M., Sharnoff, Sylvia Duran & Sharnoff, Stephen. (2001). *Lichens of North America*. Yale University Press. New Haven and London.
- Giordani, P., Modenesi, P. & Tretiach, M. (2003) Determinant factors for the formation of the calcium oxalate minerals, weddellite and whewellite, on the surface of foliose lichens. *Lichenologist* 35(3): 255-270.

Horner, H.T. & Wagner, B.L. (1995) Calcium oxalate formation in higher plants. In *Calcium Oxalate in Biological Systems* (S.R. Kahn, ed.): 53-71. Boca Raton: CRC Press.

Huneck, S. & Yoshimura, I. (1996) Identification of Lichen Substances. Springer-Verlag Berlin Heidelberg.

Masuch, G. (1993) Biologie der Flechten. U.T.B. Heidelberg.

Purvis, O. W., Coppins, B. J., Hawksworth, D. L., James, P. W. & Moore, D. M. (1992) The Lichen Flora of Great Britain and Ireland. London: Natural History Museum Publications.

Sparrius, Laurens, B. (2004) *Dirina calcicola*, a new lichen species from Florida, U.S.A. *Bryologist* 107(4): 521-523.

Strom, L, Olssen, T. & Tyler, G. (1994) Difference between calcifuge and acidifuge plants in root exudation of low-molecular organic acids. *Plant Soil* 167: 239-245.

### NOTES ON *PLACYNTHIUM GAROVAGLIOI* IN THE BRITISH ISLES

When revising the genus *Placynthium* in Scandinavia, I also checked on some British material and found to my surprise that three different species were found under the name of *Placynthium garovaglii* in British herbaria. This is a pruinose species (the epithet being correctly spelled *garovaglio*). In Scandinavia only one was found, now correctly named *Collolechia caesia* (Fr.) A. Massal., see Jørgensen 2005). They key out in the following way:

1. Thallus without marginal lobes, loosely organized; ascospores fusiform, 3-7 septate, 25-50 µm long, apical amyloid ring-structure in asci.  
.....*Collolechia caesia* (Fr.) A. Massal.  
Thallus with marginal lobes, "cellular"; ascospores ellipsoid, 1-2 septate, at most 20 µm long, apical amyloid sheet in asci..... **2**
2. Marginal lobes flatly appressed; central parts with flat, imbricating, tightly packed squamules.....*Placynthium garovaglio*(A. Massal.) Malmé  
Marginal lobes not appressed, central parts of repeatedly branched lobules, appearing isidioid..... *P. hungaricum* Gyeln.

Note that other species of the genus may occasionally be pruinose, particularly *P. subradiatum* (Nyl.) Arnold, a species which when fully developed forms crescents on the rock as it dies off centrally, but when young may be difficult to separate from those above. It has, however, always a dark olive-brown main colour which is not entirely covered by the grey pruina, like in the species in the key above, which all have entirely bluish grey thalli.

These species also differ in ecology and distribution:

1. *Collolechia caesia* is the most the widespread, reaching as far North as SW Scotland (VC 98, Lismore Isl., 6. June 1971, P. W. James, BM) , and a species of rather cool, shaded habitats, usually north-facing calcareous overhangs or caves.  
In Europe it reaches as far North as Gotland in Sweden (Jørgensen 2005), though it is commonest in the Alps. It is new to the British Isles.
2. *Placynthium garovaglioii* is rare, being known from two localities, one in Somerset (VC 6, Cheddar Gorge, 11. Apr 1981, P. W. James, BM); the other in Derbyshire (VC 57, Ashbourne, Dovedale, 28. June 2002, A. Orange, NMW). It is a species of warm, well-lit, usually south-facing, steep calcareous rocks. Elsewhere it is commonest in the southern Alps, but it is also known from northern Spain and the Tatra mountains.
3. *Placynthium hungaricum* is the most surprising find, also known only from Wales (Caernarvon (VC 49), Llandudno, Great Orme, 5.9-1997, B.J. Coppins et al., E; and Denbighshire (VC50, Llangollen, Creigiaw Eglwyseg, near Rock farm, 13. March 2003, A. Orange, NMW), and possibly in Derbyshire (a small, sterile bit from Ashburne, Biggin Dale, 28. June 2003, A. Orange, NMW). It is a species of steep half-shaded calcareous cliffs. It is commonest in central Europe, but recorded as far North as Belgium on the continent (Sérusiaux & al. 2004). The Welsh record is the northernmost and westernmost known at present. This species is new to the British Isles, and is a strong candidate as an addition to the British red-list.

Per M. Jørgensen

### References

- Jørgensen, P.M. (2005) *Placynthium garovaglioii* not present in Scandinavia. *Graphis scripta* ined.
- Purvis, O. W. & al. (1992) *The lichen flora of Great Britain and Ireland*. The Natural Hist. Museum, London, 710 pp.
- Sérusiaux, E., Diederich, P. & Lambinon, J. (2004) Les macrolichens de Belgique, du Luxembourg et du nord de la France. *Ferrantia* 40, 192 pp.

## BLS UNDERGRADUATE STUDENT BURSARY REPORT 2004

During the summer of 2004 I worked with Drs. Fabian Seymour, Peter Crittenden and Paul Dyer in the Microbiology Research Group in the School of Biology at Nottingham University. This work was funded by a BLS Student Bursary and enabled me to continue work that I had done as part of my undergraduate research project.

Our research used molecular biological techniques to study the population genetics of the fungal component of *Ochrolechia frigida*. This is a bipolar lichen that is also founding lower latitude alpine regions. The aim of the project was to examine the extent of genetic isolation of Antarctic populations, and hopefully compile information about the evolution and worldwide dispersion of *O. frigida* since the last ice age, by studying the sequence divergence of two fungal gene regions. Our original intention was to extract DNA from pure cultures of the fungus. However, although *O. frigida* is frequently found in the fertile state, our experience has been that ascospores seldom discharge under laboratory conditions or, if they do so, the spores seldom germinate on agar. For this reason we worked with whole thalli using fungal specific primers to characterize specific parts of the fungal DNA. Collections in the form of individual thalli, had been made previously from a number of localities around the world, including the Antarctic Peninsula, Falkland Islands, Tierra del Fuego, northern Europe, Greenland, Canada, Alaska and Russia. Many of these collections were provided by members of the BLS, ABLs and IAL who were very generous with their time and energy.

The first gene selected was the nuclear ribosomal (nr)DNA unit. This contains three spacer regions; the intergenic transcribed sequences ITS1 and ITS2 as well as the intergenic, IGS. Additionally, three ribosomal genes are present in the nrDNA; 18S, 5.8S and 28S. The ITS 1, 5.8S gene and the ITS2 regions of ribosomal DNA unit are often used in relationship studies of this nature since they have a relatively rapid molecular evolution in comparison with the rest of the nrDNA. The second gene selected was RPB1. This gene encodes the largest subunit in the holozyme RNA polymerase II and has a more conserved sequence than the ITS-5.8S-ITS2 region of nrDNA. Each lichen sample (usually the apothecia) was subjected to a DNA isolation procedure, the products of which were first quantified using electrophoresis before being used as templates for PCR-based amplification. The PCR products were then quantified prior to extraction from the agarose gel to awaiting sequencing. PCR products were successfully obtained using ITS primers ITS1F and ITS4R, and RPB primers gRPB1-A and gRPB1-C for the majority of the samples.

Towards the end of my bursary I helped Fabian begin to analyse the gene sequences; this analysis continued after I left in September. A preliminary analysis of the data

suggested that exciting results will emerge. There appear to be genetic differences within the data set which correlate with geographic origin, and the sequence analysis has so far confirmed that the RB1 gene is more conserved than the ITS regions. Sometimes we have found distinctly different DNA sequences among replicate samples from the same location; such differences might be indicative of cryptic speciation. Since I finished my bursary some additional specimens arrived from Kamchatka and Colorado so that not all the data were yet assembled when I left. Once all the data have been analysed we hope to have gained a more complete understanding of global genetic diversity and population relationships in this widespread bipolar lichen-forming fungus. I am very grateful to the Society for this award which gave me a fantastic opportunity to gain research experience in molecular biology and lichenology.

Chris Rowley

## CHURCH YARD NEWS

### What's new?

Two species previously unrecorded from churchyards were added to the roll in 2004. *Lepraria borealis* was found in Allersley churchyard (Warwickshire) growing on a sandstone chest-tomb. The tedium of a physics examination-grading meeting had forced me to find solace in the churchyard across the road. I had expected little of interest but in less than an hour found not only this unusual *Lepraria* but also over eighty species—with the prospect of even more, given a longer survey. The yard lies in the suburbs of Coventry and only a few miles down wind from the “sweet air” of Birmingham – have I read somewhere about the negative effects of industrial pollution and acid rain on the quality of our inner city lichen flora? I am grateful to Alan Orange for his TLC identification of *L. borealis* and for his comments (“Morphology identical to *caesioalba* but PD+ yellowish whereas *L. caesioalba* is PD+ [strong] yellow to orange. Widespread in the North and West, with this find likely to be an outlier”). I suspect that I have now found a second site in Warwickshire, close to the original, and am presently scouring the yards just over the border in south Leicestershire. This helpful PD test reminds me of a comment made some years ago by Oliver Gilbert concerning my presence on field meetings –you can imagine my elation at being singled out for such attention from one of The Societies doyens—“it is always good to have Ivan on field meetings”; and my deflation at his mischievous put down, “he always carries PD!”

The second species newly found in 2004 was *Porina byssophyla*. Alan Orange recorded this in Llanllwch churchyard on the Churchyard Sub-Committee meeting to Carmarthenshire. Again I am grateful for his field notes and comments —“ on a siliceous pebble amongst pieces of broken grave, with *Verrucaria elaeina*. In the field similar to *P. chlorotica* but involucrellum pigment blue-grey in K. It likes slightly basic or base-influenced siliceous rocks. Probably under recorded ”

This visit to southwest Wales – the “Works-outing”, as we in the Churchyards Sub-Committee call our yearly meeting—was a particular success. These meetings inevitably turn out to be delightful social occasions –the friendship between the various area co-ordinators always ensures this—but they also introduce a valuable element of “quality control” to our determinations. Are we all recognising, and naming the same taxa correctly? In this respect Alan’s presence in 2004, to mentor our understanding of the genus *Verrucaria*, was particularly encouraging. Most of the common members of this genus, e.g. *V. baldensis*, *V. hochstetteri*, *V. macrostoma* f. *furfuracea*, *V. muralis* and *V. nigrescens* present few problems in the field and *V. elaeina* is also easily identifiable (when dry!). However, more care is needed with the extreme morphs of *V. viridula* and *macrostoma* f. *macrostoma* and, if there is uncertainty, it is wise to pass on and hope for more typical thalli elsewhere in the yard. The fact that *V. fuscella* may parasitise other species has not been fully appreciated. In the past I have often ignored “*fuscella*-like” patches within the thalli of *V. nigrescens* and *V. viridula* –assuming then to be areas of necrosis. In hindsight such patches were obviously *V. fuscella*.

The challenge of obtaining samples of these difficult taxa growing on churchyard memorials will always pose a problem. Scraping, however careful and circumspect, removes substrata, which, in the case of monuments of antiquity, is not acceptable. Members of the genus *Thelidium*—not difficult to separate if spores are examined—will always be under-recorded because of this difficulty in obtaining specimens without damaging the rock surface.

The Carmarthenshire churchyards were surprisingly good. Several were surveyed that produced totals very close to the 100 species mark, and St Clears was well in excess of this number. Those travelling to the southwest of Wales, having just escaped the Grand Prix circuit of the M4 motorway, can do no better than to compose themselves in this lovely yard. Fourteen churches were visited during the weekend in 11 previously unsurveyed hectads that together form a useful continuum with the Pembrokeshire churchyard flora. There is still much more to be done in this lovely part of the country.

## News from the Regions

All the churchyard co-ordinators are still active in their regions; Ann and Barbara in the southwest, Ishpi, Ken, Martin and David in the south, and Don in the north. Joy Ricketts is still an inspiration the west and Mark Seaward is systematically working all the yards in Lincolnshire with great vigour. In Scotland two new co-ordinators, John Douglass and Peder Aspen, are actively surveying yards, running courses and generally pushing the churchyard cause—this in spite of the magnificent primary habitats available north of the border. All are more than prepared to help others in their areas and to extend churchyard coverage. Many things are being achieved but there is still much to do!

### A New Edition of the Mapping Card—implications and thoughts.

This is now available and incorporates both a change of style and a number of changes to the species listed on the card. A space for additional species is now provided on the front. This will not only save time—let's face it, turning the old card over to record other taxa was a little tedious, particularly in the wind—but also cost. Those still avoiding sending their records electronically to The Mapping Recorder and to the BioBase Recorder need now only copy the front of the card and send this via the post.

Changes to the names of a number of species have been brought up to date. They involve *Myxobilimbia sabulatorum*—now being changed to *Bilimbia sabulatorum*; *Lepriloma vouauxii*—now *Lepraria vouauxii*, *Lepraria lesdainii*—now *Botryolepraria lesdani* (what a mouthful!) and *Parmotrema chinense*—just as we getting use to that name—now becoming *Parmotrema perlatum*. *Lepraria incana* sensu stricta has been added to the list as this is one of the easiest *Lepraria* to identify correctly in the field, but *L. incana* sensu lat. is retained for those beginners still having difficulties. The *Caloplaca citrina* agg. has been split into *Caloplaca citrina* sensu stricta and *Caloplaca flavocitrina*. With care and experience, both these are readily separated in the field. A third entity, which equates to what our colleagues in the Netherlands are calling *Caloplaca britannica*, is also very common in churchyards. Those regularly recording it in British yards have, in the past, referred to it as *Caloplaca* "A". This should continue for the present as the *Caloplaca britannica* on the British checklist, mainly recorded as a coastal species, shows a number of morphological differences. *Caloplaca* "A" is very easy to tell from *C. citrina* and *C. flavocitrina*. It is a much more substantial species in terms of its thallus, with obvious areoles often edged with coarse granular soredia. I find that it helps me if the three taxa are mentally arranged in terms how noticeable their soredia are. Farinose (like dust), under the microscope below 50 $\mu$  and with smooth thalline margins = *C. flavocitrina*, larger, more granular soredia, above 50 $\mu$ , often covering the entire thallus and with sorediate edges to the

fruits = *C. citrina* and finally *Caloplaca* "A", quite unmistakable with noticeable areoles having marginal granular soredia.

The card now also includes *Aspicilia contorta* subsp. *hoffmanniana*, which is the taxa most commonly, found in the midlands. This has, in the past, been lumped with *A. contorta* subsp. *contorta* and, if it retains its subspecies status, there is a need for a sensu lato code number to accommodate all the previous records of *A. contorta* that in all probability include both subspecies. Both subspecies may have crowded angular areoles in the centre of the thallus, a character that extends, in the case of subsp. *hoffmanniana* right to the flat spreading marginal edge. In subsp. *contorta* the areoles become widely separated at the margin and the substrata shows through (from above they have the appearance of "fried eggs" with dark yolks). In yards where both forms exist intermediates are also common and often impossible to separate into the two subspecies with any certainty. More work on these two entities is clearly necessary but having looked at many hundreds of examples I will need some hard genetic evidence to be convinced of their *sui generis*.

Our thanks must go to Jeremy Grey for his work in producing this distinctive mapping card. And of course, in hindsight, to Bryan Edwards for the previous edition that has been my constant companion and aide memoir in many, many churchyards.

### **Changes to the Midland Flora.**

The remarkable colonisation of the Midlands by corticolous species is also noticeable in the Churchyards and is following a similar pattern of development. The Xanthorion community takes up initial residence followed by other, more interesting, taxa. Younger saplings often form the substratum for the less common *Lecanora* species, *L. albella* and *L. carpinea*. The boles of more mature trees seem to retain some hint of pollution from the past and are less favoured, although the Xanthorion on the younger branches and twigs of even these veterans is still very impressive. Basic bark trees such as ash, willow and elder often now support a fine shaggy growth of epiphytes.

Change in the saxicolous flora is less apparent but even here improvement is noticeable. The early colonisers of acid slate and fine-grained sandstones for example *Buellia aethalea* and *Rhizocarpon reductum* are showing an annual growth rate of around 2mm. *Xanthoparmelia mougeotii*, remarkable in its ability to pick out as substrata uncompromising (in terms of lichen growth) slate and polished granite, is now much more common and is growing at an even quicker rate. On basic stonework and memorials *Diploica canescens* is showing rapid increases and is becoming fertile. The most dramatic colonisation and growth are occurring on recent memorials where

clean freshly worked rock is available and particularly if this is basic. *Xanthoria parietina* and *X. polycarpa* are appearing on such stones within three years, as are the common *Physciaceae* and *Lecanorae*. One fine-grained sandstone memorial at Hampton in Arden (Warwickshire) supports 26 species, including three species of *Acarospora*. The date on the memorial—1997! Older sandstone memorials in the same yard are devoid of all but the most enduring of species. It appears that, as with the resurgence of the corticolous flora, older substrata retain some aspects of the toxic conditions from the past. That most lovely of all the *Xanthoria*—*X. elegans*, a few years ago so very rare in Midland counties, is now a frequent and welcome sight.

### Links with the past!

At the beginning of 2004 I had become somewhat weary of surveying churchyards. Having “done” Leicestershire, Derbyshire and Staffordshire, like Alexander, “who wept when he saw the breadth of his domain—for there were no more worlds to conquer”, I could see no more local challenges. And in any case, the wonderful improvement in our local flora had lured me into looking at “primary habitats” (A phrase that only a few years ago would have received howls of derision from those colleagues living in Scotland and the southwest). Two recent newcomers to lichenology David Mackie and Rita Ruban have galvanised me into looking at Warwickshire in a systematic way—hctad by hctad—moving south. Their friendship and enthusiasm has blown away my jaded feelings and rekindled interest.

In a way it is not surprising that Warwickshire should awaken my interest for, not only is it a lovely county, but it is in this county that I was first introduced to many of the good and great of the Society—and a number of the others as well! The occasion was a seminar on churchyards as a lichen habitat held at Stoneleigh Agricultural College. Tom Chester had insisted that I be there and also insisted on introducing me to all. I reached a point in handshakes when I felt like Theodore Roosevelt when, during political campaigning, “50 hands a minute, 3000 and hour” were the norm! Some time was spent during the meeting at the local church and great interest was shown in *Lecanora pannonica* that was found growing on the walls. “Tom’s *Lecanora*” as it was called, for at the time its determination was unclear and he was relentlessly “badgering” all the experts on what it might be. It is still present at Stoneleigh and we have now recorded it from 15 other churches in a wide arc to the east and south of Coventry. It is always about 15km out from the city centre, usually found on the south and east walls, on sandstone—rarely on the memorials in the yard. Similar fine-grained sandstone churches available further out do not support it. It is as if the lichen needs to feel the breath of the big city close by. On an outlier to the west of Coventry at Meriden, although still retaining its distance from the city centre, it covers the walls and is recognisable from many metres away. When seen in this quantity it is evident

(shh! don't breath a word about this to anyone!) what a fierce eroder of its substrata it is—capable of lifting great divots out of the underlying rock by spalling. The cavity under the bulging thallus is a haven for a multitude of arthropods. In its defence I always say to worried incumbents that it has been there for many years and the church is still standing, a simple observation that always seems to quieten alarm. This very distinctive lichen is actively growing at many of its sites with new thalli evident.

Another lichen linked with Tom Chester is *Pertusaria lactescens*. Our Warwickshire survey so far has shown this species to be very common and, similar to *L. pannonica*, it favours the south and east church walls, usually on sandstone stringing or chamfers. It is also happy to move into the yard onto chests and headstones with a similar geology. We have never found it fertile, as in mid Wales, but it is obviously happy in the Midlands and often covers large areas of stonework. It is present at Stoneleigh but was not recorded during the conference all those years ago, and yet it is so obvious that I wonder what was said about it at the time. It does have the same chemistry as *Phlyctis argena*, K+yellow to blood red, which may take so long to develop that it is easy to become bored and wander off, or to be pulled away by an excited colleague with another jewel to show. The initial K+yellow reaction however, is immediate and obvious and separates it from other look a likes on this habitat—*Porpidia tuberculosa*, without soredia, and *Pertusaria albescens*. Snail grazing is the great leveller in damp yards and all these lichens can become depressingly alike when the “Molluscan lawn mowers” have been at work. It is probable that I have over recorded *Phlyctis* in the past, mistaking it for this species and I suspect that others have also done so.

**“It is the main function of the English Law to make work for itself”** Charles Dickens

If I have left a feeling of well-being—a “rosy glow”—with those readers who have remained with this article (following the tails of new discoveries, exciting yards and improvements in our lichen flora) then I am sorry at this point to extinguish it! All is not well in “Gods Acre” at least in terms of the nightmare our lovely churchyards and cemeteries face from “Health and Safety” issues driven on by the “grasping and covetous” law.

Stoke-on-Trent authority has recently inspected all the memorials in its many cemeteries. Without any general warning, they lowered any deemed to be “unsafe”. This was done; I was informed by the cemetery attendants at Hartshill, in straightforward Potteries manner, by giving each memorial “a good shove”! Some fairness of testing was adhered to—it was the strongest worker administering the shove on each occasion. The long-distance walker John Hillaby in his “Journey through Britain” describes the city and its people in these terms “Dear Stoke-on-Trent.

By far the dirtiest place I walked through and by far the friendliest” The dirt has largely gone and the good humour of the inhabitants still remains. However, even for these warm hearted people, this desecration of their cemeteries was too much. Their rage was so effective that a compromise was reached. Two steel rods were driven down the back of each headstone with wooden cross pieces fixed to the rods and secured to the stonework by crate strapping tape. By then of course the local youth, always prepared to help in a destructive cause, worked the night shift and pushed over several others. One “joy -rider” crashed a stolen car into a particularly obdurate and massive column. Obviously the National Curriculum no longer sufficiently stresses Newton’s Laws and Turning Moment’s, so the unfortunate occupants of the vehicle were not aware that a force imparted onto the base of an object not only pushes it forward but also creates a turning moment causing the top of the object to fall backwards. In this case on to the roof of the car and its occupants. I regret very little in a life that has been more than kind to me, but perhaps I do regret not being present to witness this incident. As a physics teacher I am always ready to use practical experience to extend understanding in this difficult subject. I am sure that those occupants still conscious would have appreciated the clarification of their mistake as they were being cut from the wreckage.

After chasing the ambulances the English Law is now asking why the monument fell, why this late 18<sup>th</sup> century edifice was not regularly maintained, what compensation may be obtained for their clients and, of course, what profit is in it for the legal practices. I have no doubt that in this mad litigious world future monuments to those recently deceased will need to be founded upon bed rock, however deep this is, and surrounded by crash barriers, however unsightly, and any above head height to be topped with an aircraft warning light! For the time being every cemetery in the city looks dreadful, with orange exclusion netting and obtrusive fluttering warning notices put up by the Bereavement Care Services –a title with a strangely hollow ring to it!

Less you think I am too flippant about this desecration I will point out that I did sent a letter to the City council pointing out that for the first time in my life I felt ashamed at being born in Stoke-on-Trent and what an impertinence it was for them to have interfered with the Pedley née Keeling family grave!!

No! It is wrong to end on such a miserable, hopeless note! The Society sometimes functions in such a well-oiled way that it does have an effect on current issues. I did not personally see the programme, but an item on BBC’s “East Midlands Today” prompted Nick Hodgetts to sound a warning. The parish council at Pinxton Derbyshire were flattening gravestones in response to –yes, you guessed—Health and Safety issues. The locals were outraged; “Joe public” were not happy; action was called for against this injustice. And the result? Enraged families were re-erecting headstones in

the dead of night. The cause was being trumpeted in the local press. The national news felt that there was mileage in the story etc, etc. All topical, but transient news and a good "knock-about" on the television screen. Nick contacted Bryan Edwards and he referred it to Ishpi Blatchley, who has done so much to raise the awareness of diocese to the value of their lichen flora. A letter was fired off to the vicar offering a survey of the stones; to help in whatever way we could to protect the lichen flora, but most of all expressing our concern at such ill-informed precipitous action. A kind and uplifting reply was received. The Council had backed away; the memorials were to be reinstated—at the Councils expense (i.e. out of the poor rate payers purse) – and consultations will be held. Am I too cynical to think that the Council's decision was driven by a fear of lost votes, by the prospect of no more junketing, of no more expense accounts, or, do I put a more generous spin on it (in the spirit of reconciliation that pervades Pinxton at the moment), were they responding to *vox populi*—perhaps, even to The British Lichen Society!?

Ivan Pedley

### LETTER TO THE CHURCH TIMES

Threats to lichen habitats seem to be ever present not least that of the beleaguered churchyard lichen. A few years ago we were alerted to the 'new' threat of unstable tombstones and in the interest of health and safety, church and local authorities are now instigating 'topple tests' and laying down tombstones deemed to be unsafe. But the old threats don't go away and last year the Church Times, in a section called 'Out of the Question' published this from a reader: 'When I was an incumbent, I was sent for trial a product that cleaned the lichen off headstones without damage to stone or inscription. Is there any such product on the market today?'. One of the BLS's diocesan representatives sent me the article and encouraged me to reply. Eventually this was published under the heading 'Like your lichen':

In answer to the query 'Is there a product which removes lichen from tombstones' a supplementary question should be asked: 'Why does the lichen need to be removed?' The British Lichen Society is actively involved in the conservation of lichens and has a thriving churchyard project to record lichens in churchyards and give advice on appropriate management. In Britain the churchyard is a major habitat for lichens (ranking in importance alongside ancient woodland, heathland etc) and churchyards are particularly vital for maintaining populations and diversity of those lichens which grow on stone in lowland Britain where natural outcrops are rare. Although most yards will have between 50 and 70 different lichen species there are an increasing number of churchyards where this number exceeds 100. The contribution that lichens make to the appearance of the churchyard is often overlooked but the atmosphere of the typical

English churchyard is greatly enhanced by the effect of lichens forming a colourful mosaic pattern on the church building, tombstones and boundary walls. Lichens not only enhance the look of the stone they may also offer some protection against the ravages of wind, rain and frost. Cleaning of tombstones inevitably removes lichens and mosses. Brushing too vigorously, particularly with a wire brush, also removes the surface patina which has developed over a long time and gives the stone its mellow look. Although some cleaning may be necessary in order to read the inscription only that part of the stone carrying the inscription needs to be cleaned. There are other methods of reading inscriptions (such as looking through a tube, wetting the area or taking a rubbing) and these should always be tried first before resorting to cleaning. If cleaning is thought to be necessary only water and a soft brush should be used. It is inadvisable to use bleach, herbicide or algicide. In all cases where lichens will be destroyed the British Lichen Society would welcome the opportunity to survey the stones to be cleaned or removed so that if there are rare lichens involved a satisfactory solution to the conflicting interests can hopefully be reached. More information regarding the British Lichen Society's churchyard lichen project can be found on the Society's web site [www.thebls.org.uk](http://www.thebls.org.uk)

Lichens did have another ally in the correspondence as the Rev Neil Vigers of Hook regarded the cleaning of lichens off gravestones as 'unintended vandalism'. However the pro cleaning lobby came up with Bio patio cleaner, household bleach and a strong solution of washing soda.

The following week any good which might have come from my letter was undermined by Dr Dennis Allsopp who writing about the damage that lichens and other organisms can inflict on stonework stated that '...in Wiltshire, I estimate that typical inscriptions on limestone tombstones, colonised by lichens and other deteriogens, are rendered illegible within 400 years.'. He did admit that grasses and mosses blocking gutters and ivy and tree saplings growing in masonry produced the most spectacular damage but I am afraid that yet again the negative aspect of lichen-covered tombstones will be the thing that is remembered.

Ishpi Blatchley

#### **SYMPOSIUM ON ATLANTIC OAKWOODS (Botanical Society of Scotland)**

14-16 September 2005 at Oban, Argyll. Brian Coppins will be speaking on Thursday 15<sup>th</sup> on "Lichens- the biodiversity value of Western Oakwoods". On Friday 16<sup>th</sup> there is a field excursion to Glen Nant and a visit to Bonawe Furnace. Details: <http://www.geos.ed.ac.uk/abs/bss/> or Hon General Secretary, Botanical Society of Scotland, c/o RBGE 20A Inverleith Road, Edinburgh EH3 5LR.

**WORKSHOP REPORT: MARINE AND MARITIME LICHENS BANGOR  
7-13 AUGUST 2004.**

Lichen studies on the North Wales coast have provided much of our modern information on the ecology of seashore lichens in Britain, so this was clearly the most appropriate venue for this workshop. It was based at the University of Bangor and included generous laboratory space, a lecture theatre and unlimited use of microscopes and other equipment. There were 27 participants in a week of generally excellent weather.

The workshop was designed to provide an introduction to seashore ecology, lichen distribution and lichen identification. The time was thus divided into lectures, fieldwork and laboratory identification sessions. Participants were provided with copies of relevant reprints and were invited to test drafts of the new keys to seashore lichens. Lectures covered the elements of seashore ecology and the factors affecting presence of lichens and their distribution on the shore. The familiar descriptive scheme for seashore lichens was adopted, namely Littoral, Mesic-, Submesic- and Xeric supralittoral, Terrestrial - halophilic and -halophobic. In addition, time was devoted to other seashore habitats such as sand dunes, shingle and salt marshes. Field trips were made to shores contrasting different aspects of this descriptive scheme, for example, the effects of exposure to wave and wind action, aspect to light, temperature, local effects of nutrient enrichment, and so on. Lichen identification focussed on difficult groups such as marine *Verrucaria*, *Caloplaca*, *Aspicilia* and separation of difficult species pairs. Questions revealed some common problem areas as summarised below –

- *Aspicilia intermutans* appears to be the commonest entity of the K+ red trio including *A. cinerea* and *A. epiglypta*. In fact, the last two seem to be very rare and are seldom found in herbarium collections. They are best separated by conidial size, but these are usually only found in the late winter to spring period.
- *Caloplaca citrina* and *C. flavocitrina* continue to be confused. Both start off as scattered squamules which develop marginal soredia. *C. citrina* is greenish yellow, with granular soredia, >70um diam, which obscure the thalline margins of the apothecia. *C. flavocitrina* is bright yellow-orange, has farinose soredia 20-50um diam., and the thalline margins are smooth.
- *Caloplaca britannica* and *C. littorea* inhabit crevices in the mesic supralittoral. *C. britannica* is yellow, not orange, of tiny, rosettes of radiating lobules with marginal, spherical granules, best interpreted as isidia. *C. littorea* is a filmy, bright orange prothalline crust, becoming minutely areolate, never lobulate, with finger-like isida which may branch. The thallus looks furry from a distance.

Reports of *C. britannica* from inland churchyards may refer to a species called *Caloplaca* 'A' (see BLS Churchyard Group newsletter 'Stonechat' 7: 3-4).

- Other troublesome *Caloplaca* species are *C. marina* and *C. maritima*. The former is strictly mesic supralittoral, occupying a narrow zone on the shore closely associated with black *Verrucaria maura* and *Lecanora helicopsis* and *L. actophila*. The areoles are lobulate and radiating around the edge, roughly 2x as long as wide. *C. maritima* has areoles developing on a yellow prothallus, which become progressively smaller to the edge and are never lobulate. It is coastal rather than maritime, living on siliceous rock walls subject to mortar downwash, or near to seepage tracks on the seashore. It is seldom, if ever, mesic supralittoral.

### Species Lists

Although the primary aim of the workshop was education and enlightenment, some species lists were compiled. They give an idea of the excellent quality of the lichen flora to be found on the North Wales coast. Interestingly, a number of species formerly considered to be southern in distribution seem to occur quite regularly, while some northern elements were also found.

#### **Porth Treacastell, Aberffraw, Anglesey. SH330706. 7<sup>th</sup> August 2004.**

This rocky shore was composed of chlorite schist, facing SW, ranging from a sheltered eastern end to a very exposed western end. All rocks were steep, very sunny and dry, with little higher plant vegetation. Records were also made at Barclodiad y Gawres (SH328707), a restored neolithic burial chamber surrounded by mortared walls. Also included was the south side of Porth Nobla (SH328711), the small bay to the north which is north facing and sheltered. The lichen vegetation was in very good condition. Many species are characteristic of seashores subject to conditions of extreme wind and wave action, with high sunshine levels.

Notable species included *Buellia sequax* (syn. *B. abstracta*) on small loose stones on cliff tops. Formerly known only from the Scilly Isles, it has now been found on sunny shores in Pembrokeshire and near Aberdaron during this workshop (see below). *Caloplaca chrysothalma* was formerly known only from 19<sup>th</sup> C records on Ash in SE England. It has since been reported from rocky shores on Ynys Enlli (Bardsey Island) about 70km to the SW, on dead stems of *Spergularia maritima*, *Crithmum maritimum* and *Armeria maritima* (Fletcher 2001) and near Achmelvich, NW Sutherland below coastal overhangs of ultramafic dykes (magnesium rich). *Ochrolechia inaequatula* is proving frequent on seacoasts from Bardsey Island to Berwickshire. It has been much confused as a small form of with *O. androgyna* or *O. frigida* (alpine). *O. arborea* is also close but lives on heather stems. *Porocyphus*

*leptogiella* is frequent on shores in North Wales. It seems to exist for most of the year as a black, cyanobacterial crust on dusty soil in crevices, and develops characteristic granules and poriform apothecia during the summer. It was formerly much confused with *P. coccodes* which has a smooth, black, areolate crust resembling *Verrucaria maura*, and lives in freshwater habitats or in very sheltered Scottish sea lochs.

<i>Amandinea punctata</i>	<i>Anaptychia runcinata</i>
<i>Aspicila caesiocinerea</i>	<i>Aspicilia intermutans</i>
<i>Bacidia arnoldiana</i>	<i>Bacidia scopulicola</i>
<i>Buellia aethalea</i>	<i>Buellia stellulata</i>
<i>Buellia sequax</i> (exposed end on small stones among soil)	<i>Buellia stellulata</i> (exposed end)
<i>Buellia subdisciformis</i>	<i>Caloplaca arnoldii</i> (abundant on the burial chamber entrance walls)
<i>Caloplaca ceracea</i>	<i>Caloplaca cerina</i> var. <i>chloroleuca</i> (on <i>Armeria</i> roots)
<i>Caloplaca chrysophthalma</i> (exposed end, on <i>Spergularia maritima</i> . Very rare in Britain.)	<i>Caloplaca citrina</i>
<i>Caloplaca crenularia</i>	<i>Caloplaca crenulatella</i>
<i>Caloplaca flavescens</i>	<i>Caloplaca flavocitrina</i>
<i>Caloplaca flavovirescens</i>	<i>Caloplaca holocarpa</i>
<i>Caloplaca littorea</i>	<i>Caloplaca marina</i>
<i>Caloplaca maritima</i>	<i>Caloplaca microthallina</i>
<i>Caloplaca saxicola</i>	<i>Caloplaca thallincola</i>
<i>Caloplaca verruculifera</i>	<i>Catillaria chalybeia</i>
<i>Catillaria lenticularis</i>	<i>Cladonia firma</i> (exposed end)
<i>Cladonia foliaceae</i>	<i>Cladonia furcata</i>
<i>Cladonia furcata</i> var. <i>subrangiformis</i>	<i>Cladonia pocillum</i>
<i>Cladonia rangiformis</i>	<i>Cladonia subcervicornis</i>
<i>Diploicia canescens</i>	<i>Diploschistes caesioplumbeus</i>
<i>Diplotomma alboatrum</i>	<i>Diplotomma chlorophaeum</i>
<i>Flavoparmelia caperata</i>	<i>Fuscidea cyathoides</i>
<i>Halecania ralfsii</i>	<i>Lecania aipospila</i>
<i>Lecania turicensis</i>	<i>Lecanora actophila</i>
<i>Lecanora albescens</i>	<i>Lecanora campestris</i>
<i>Lecanora confusa</i>	<i>Lecanora dispersa</i>
<i>Lecanora fugiens</i>	<i>Lecanora helicopis</i>
<i>Lecanora intricata</i>	<i>Lecanora muralis</i>
<i>Lecanora orosthea</i>	<i>Lecanora polytropa</i>
<i>Lecanora rupicola</i>	<i>Lecanora saligna</i>
<i>Lecanora sulphurea</i>	<i>Lecanora symmicta</i>

<i>Lecanora zosteræ</i>	<i>Lecidea fuscoatra</i>
<i>Lecidella asema</i>	<i>Leprara incana</i>
<i>Leprocaulon microscopicum</i>	<i>Leptogium gelatinosum</i>
<i>Lichina confinis</i>	<i>Lichina pygmaea</i>
<i>Melanelia fuliginosa</i> ssp. <i>glabratula</i>	<i>Micarea prasina</i>
<i>Neofuscelia loxodes</i>	<i>Neofuscelia pulla</i>
<i>Neofuscelia verruculifera</i>	<i>Ochrolechia inaequatula</i>
<i>Ochrolechia parella</i>	<i>Opegrapha calcarea</i>
<i>Opegrapha dolomitica</i>	<i>Opegrapha saxigena</i>
<i>Parmelia saxatilis</i>	<i>Parmelia sulcata</i>
<i>Pertusaria aspergilla</i> (on Heather)	<i>Pertusaria pseudocorallina</i>
<i>Phaeophyscia orbicularis</i>	<i>Physcia adscendens</i>
<i>Physcia tenella</i>	<i>Physcia tenella</i> ssp. <i>marina</i>
<i>Polysporina simplex</i>	<i>Porocyphus leptogiella</i> (rare in N Wales)
<i>Porina chlorotica</i>	<i>Porpidia cinereoatra</i>
<i>Porpidia macrocarpa</i>	<i>Protoblastenia rupestris</i>
<i>Pyrenocollema elegans</i>	<i>Pyrenocollema halodytes</i>
<i>Pyrenocollema orustensis</i>	<i>Pyrenocollema sublitoralis</i>
<i>Ramalina cuspidata</i>	<i>Ramalina incrassata</i>
<i>Ramalina siliquosa</i>	<i>Rhizocarpon geographicum</i>
<i>Rhizocarpon hochstetteri</i>	<i>Rhizocarpon obscuratum</i>
<i>Rhizocarpon reductum</i>	<i>Rhizocarpon richardii</i>
<i>Rinodina atrocinerea</i>	<i>Rinodina gennarii</i>
<i>Rinodina luridescens</i>	<i>Scoliosporum umbrinum</i>
<i>Solenopsora vulturienensis</i>	<i>Tephromela atra</i>
<i>Toninia aromatica</i>	<i>Trapelia coarctata</i>
<i>Verrucaria amphibia</i>	<i>Verrucaria ditmarsica</i>
<i>Verrucaria fusconigrescens</i>	<i>Verrucaria halizoa</i>
<i>Verrucaria maura</i>	<i>Verrucaria mucosa</i>
<i>Verrucaria muralis</i>	<i>Verrucaria nigrescens</i>
<i>Verrucaria prominula</i>	<i>Verrucaria striatula</i>
<i>Verrucaria viridula</i> s. lat.	<i>Xanthoria ectanoides</i>
<i>Xanthoria parietina</i>	

**Point Lynas, Llanelian, Anglesey, SH475929. 8<sup>th</sup> August 2004**

Records were made below the coastal path west of Graig Ddu (SH476932) and from the very exposed point at Cyllell Lanw (SH478936). All rocks were of chlorite schists with quartz veins. The west side of the bay was north facing, with fairly even, steep to shallow slopes, ranging from very sheltered to very exposed. Much was affected by agricultural fertilizer downwash from grassland above. The east side of Bay was to

the Point, of very exposed, steep rocks, with extensive Heather heathland above and large bird perches with overhangs.

The lichen flora was typical of damp, north facing shores, with many acid soil species, particularly *Cladonia*. The bird perches were the most interesting with abundant *Lecania atrynoides* and *Caloplaca granulosa*, notably contrasting with the greener *C. verruculifera*.

<i>Acarospora fuscata</i>	<i>Amandinea lecideina</i>
<i>Amandinea punctata</i>	<i>Anaptychia runcinata</i>
<i>Arthonia phaeobaea</i>	<i>Arthonia varians</i> (on <i>Lecanora rupicola</i> )
<i>Aspicila caesiocinerea</i>	<i>Aspicila leproscenscens</i>
<i>Bacidia arnoldiana</i>	<i>Bacidia scopulicola</i>
<i>Buellia aethalea</i>	<i>Buellia subdisciformis</i>
<i>Caloplaca arnoldii</i>	<i>Caloplaca ceracea</i>
<i>Caloplaca citrina</i>	<i>Caloplaca crenularia</i>
<i>Caloplaca crenulatella</i>	<i>Caloplaca flavocitrina</i>
<i>Caloplaca flavovirescens</i>	<i>Caloplaca granulosa</i> (on bird perches with <i>C. verruculifera</i> )
<i>Caloplaca holocarpa</i>	<i>Caloplaca littorea</i>
<i>Caloplaca marina</i>	<i>Caloplaca maritima</i>
<i>Caloplaca microthallina</i>	<i>Caloplaca thallincola</i>
<i>Caloplaca verruculifera</i> (fertile)	<i>Candelariella vitellina</i>
<i>Catillaria chalybeia</i>	<i>Catillaria lenticularis</i>
<i>Cetraria aculeata</i>	<i>Cladonia cervicornis</i>
<i>Cladonia cervicornis</i> var. <i>verticillata</i>	<i>Cladonia chlorophaea</i> s. lat.
<i>Cladonia ciliata</i> var. <i>tenuis</i>	<i>Cladonia digitata</i>
<i>Cladonia diversa</i>	<i>Cladonia firma</i>
<i>Cladonia foliacea</i>	<i>Cladonia furcata</i>
<i>Cladonia furcata</i> var. <i>subrangiformis</i>	<i>Cladonia gracilis</i>
<i>Cladonia humilis</i>	<i>Cladonia macilenta</i>
<i>Cladonia pocillum</i>	<i>Cladonia portentosa</i>
<i>Cladonia pyxidata</i>	<i>Cladonia ramulosa</i>
<i>Cladonia rangiformis</i>	<i>Cladonia subcervicornis</i>
<i>Cladonia uncialis</i> ssp. <i>biuncialis</i>	<i>Cliostomum tenerum</i>
<i>Collema tenax</i> var. <i>ceranoides</i>	<i>Diploicia canescens</i>
<i>Diploschistes caesioplumbeus</i>	<i>Diplotomma alboatrum</i>
<i>Diplotomma chlorophaeum</i>	<i>Evernia prunastris</i>
<i>Flavoparmelia caperata</i>	<i>Fuscidea cyathoides</i>
<i>Halecania ralfsii</i>	<i>Hypotrachyna britannica</i>
<i>Lecania aipospila</i>	<i>Lecania atrynoides</i>
<i>Lecania nylanderiana</i>	<i>Lecania turicensis</i>

<i>Lecanora actophila</i>	<i>Lecanora albescens</i>
<i>Lecanora campestris</i>	<i>Lecanora conizeoides</i> (on Heather stem)
<i>Lecanora confusa</i>	<i>Lecanora dispersa</i>
<i>Lecanora expallens</i>	<i>Lecanora fugiens</i>
<i>Lecanora gangaleoides</i>	<i>Lecanora helicopsis</i>
<i>Lecanora intricata</i>	<i>Lecanora muralis</i>
<i>Lecanora orosthea</i>	<i>Lecanora poliophaea</i>
<i>Lecanora polytropa</i>	<i>Lecanora rupicola</i>
<i>Lecanora saligna</i>	<i>Lecanora sulphurea</i>
<i>Lecanora symmicta</i>	<i>Lecidea fuscoatra</i>
<i>Lecidea lactea</i>	<i>Lecidella asema</i>
<i>Lecidella meiococca</i>	<i>Lecidella stigmatea</i>
<i>Leprara incana</i>	<i>Lichina confinis</i>
<i>Lichina pygmaea</i>	<i>Melanelia fuliginosa</i> ssp. <i>fuliginosa</i>
<i>Micarea denigrata</i>	<i>Micarea leprosula</i>
<i>Neofuscelia loxodes</i>	<i>Neofuscelia pulla</i>
<i>Ochrolechia inaequatula</i>	<i>Ochrolechia parella</i>
<i>Opegrapha calcarea</i>	<i>Opegrapha conferta</i>
<i>Opegrapha gyrocarpa</i>	<i>Opegrapha saxatilis</i>
<i>Parmelia omphalodes</i>	<i>Parmelia saxatilis</i>
<i>Pertusaria aspergilla</i>	<i>Pertusaria corallina</i>
<i>Pertusaria excludens</i>	<i>Pertusaria lactea</i>
<i>Pertusaria microstictica</i>	<i>Pertusaria pseudocorallina</i>
<i>Physcia adscendens</i>	<i>Physcia leptalea</i>
<i>Physcia tenella</i>	<i>Physcia tenella</i> var. <i>marina</i>
<i>Placynthiella icmalea</i>	<i>Porina chlorotica</i>
<i>Porpidia cinereoatra</i>	<i>Porpidia crustulata</i>
<i>Porpidia macrocarpa</i>	<i>Porpidia platycarpoides</i>
<i>Protoblastenia rupestris</i>	<i>Pyrenocollema elegans</i>
<i>Pyrenocollema halodytes</i>	<i>Pyrenocollema orustensis</i>
<i>Pyrenocollema sublitoralis</i>	<i>Ramalina cuspidata</i>
<i>Ramalina siliquosa</i>	<i>Ramalina subfarinacea</i>
<i>Rhizocarpon geographicum</i>	<i>Rhizocarpon reductum</i>
<i>Rhizocarpon richardii</i>	<i>Rinodina atrocinerea</i>
<i>Rinodina gennarii</i>	<i>Rinodina luridescens</i>
<i>Rinodina orculariopsis</i>	<i>Schaereria fuscocinerea</i>
<i>Scoliosporum umbrinum</i>	<i>Solenopsora vulturienis</i>
<i>Sphaerophorus globosus</i>	<i>Stereocaulon vesuvianum</i>
<i>Tephromela atra</i>	<i>Toninia aromatica</i>
<i>Trapelia coarctata</i>	<i>Trapelia involuta</i>
<i>Trapeliopsis wallrothii</i>	<i>Verrucaria amphibia</i>
<i>Verrucaria ditmarsica</i>	<i>Verrucaria fusconigrescens</i>

<i>Verrucaria halizoa</i>	<i>Verrucaria internigrescens</i>
<i>Verrucaria maura</i>	<i>Verrucaria mucosa</i>
<i>Verrucaria nigrescens</i>	<i>Verrucaria prominula</i>
<i>Verrucaria striatula</i>	<i>Xanthoria ectanoides</i>
<i>Xanthoria parietina</i>	

**Trwyn Penmon, Anglesey, SH641811. 9<sup>th</sup> August 2004.**

A carboniferous limestone shore and headland facing south-east and north-east (SH638813), with low (5m cliffs) and an extensive flat foreshore. A limestone shingle beach borders the N section. The shores are exposed to eastwardly wind- and wave action.

*Aspicilia calcarea* and *A. contorta* var. *hoffmanniana* were noted living side by side. The former has a thick, somewhat smooth thallus with radiating cracks, especially at the abruptly terminating margin, which becomes almost lobulate. *A. contorta* var. *hoffmanniana* has a darker, greyer thallus, rather scabrid, and an effuse margin. It seems to be especially common on urban concrete, while *A. calcarea* seems to be rare on this substratum.

<i>Acarospora heppii</i>	<i>Acarospora impressula</i>
<i>Acarospora smaragdula</i>	<i>Anaptychia runcinata</i>
<i>Aspicilia calcarea</i>	<i>Aspicilia contorta</i> f. <i>hoffmanniana</i>
<i>Bacidia arnoldiana</i>	<i>Belonia nidarosiensis</i>
<i>Caloplaca aurantia</i> (mortar)	<i>Caloplaca ceracea</i>
<i>Caloplaca cirrochroa</i>	<i>Caloplaca flavocitrina</i>
<i>Caloplaca citrina</i>	<i>Caloplaca crenularia</i>
<i>Caloplaca crenulatella</i>	<i>Caloplaca flavescens</i>
<i>Caloplaca flavovirescens</i>	<i>Caloplaca holocarpa</i>
<i>Caloplaca lactea</i>	<i>Caloplaca marina</i>
<i>Caloplaca maritima</i>	<i>Caloplaca microthallina</i>
<i>Caloplaca ochracea</i>	<i>Caloplaca saxicola</i>
<i>Caloplaca thallicola</i>	<i>Caloplaca variabilis</i> (not <i>C. alociza</i> )
<i>Candelariella aurella</i>	<i>Candelariella vitellina</i>
<i>Catapyrenium squamulosum</i>	<i>Catillaria chalybeia</i>
<i>Catillaria lenticularis</i>	<i>Cladonia foliacea</i>
<i>Cladonia furcata</i> var. <i>subrangiformis</i>	<i>Cladonia pocillum</i>
<i>Cladonia rangiformis</i>	<i>Clauzadea monticola</i>
<i>Cliostomum tenerum</i>	<i>Collema auriforme</i>
<i>Collema crispum</i>	<i>Collema tenax</i>
<i>Diploicia canescens</i>	<i>Diplotomma albostrum</i>

<i>Fuscidea cyathoides</i>	<i>Lecania atrynoides</i>
<i>Lecania erysibe</i>	<i>Lecania rabenhorstii</i>
<i>Lecania turicensis</i>	<i>Lecanora actophila</i>
<i>Lecanora albescens</i>	<i>Lecanora aghardiana</i>
<i>Lecanora campestris</i>	<i>Lecanora crenulata</i> (mortar)
<i>Lecanora dispersa</i>	<i>Lecanora fugiens</i>
<i>Lecanora helicopsis</i>	<i>Lecanora sulphurea</i>
<i>Lecidea diducens</i>	<i>Lecidea</i> sp. (On shingle)
<i>Lecidella stigmatea</i>	<i>Lepraria lobificans</i>
<i>Lepraria nivalis</i>	<i>Leprocaulon microscopicum</i>
<i>Leptogium gelatinosum</i>	<i>Leptogium schraderi</i>
<i>Lichina confinis</i>	<i>Lichina pygmaea</i>
<i>Melanelia fuliginosa</i> ssp. <i>fuliginosa</i>	<i>Micarea prasina</i>
<i>Myxobilimbia lobulata</i>	<i>Myxobilimbia sabuletorum</i>
<i>Ochrolechia parella</i>	<i>Opegrapha calcarea</i>
<i>Opegrapha rupestris</i> (on <i>Verrucaria baldensis</i> )	<i>Phaeophyscia orbicularis</i>
<i>Physcia adscendens</i>	<i>Physcia leptalea</i>
<i>Physcia tenella</i>	<i>Placynthiella icmalea</i>
<i>Placynthium nigrum</i>	<i>Placynthium subradiatum</i>
<i>Protoblastenia incrustans</i>	<i>Protoblastenia rupestris</i>
<i>Pyrenocollema elegans</i>	<i>Pyrenocollema halodytes</i>
<i>Pyrenocollema orustensis</i>	<i>Pyrenocollema sublitoralis</i>
<i>Ramalina siliquosa</i>	<i>Rhizocarpon richardii</i>
<i>Rinodina genarii</i>	<i>Rinodina immersa</i> (new to N. Wales)
<i>Rinodina orculariopsis</i>	<i>Sarcogyne regularis</i>
<i>Sarcopyrenia gibba</i>	<i>Scoliciosporum umbrinum</i>
<i>Solenopsora candicans</i>	<i>Solenopsora vulturienis</i>
<i>Squamarina cartilaginea</i>	<i>Tephromela atra</i>
<i>Thelidium decipiens</i>	<i>Toninia aromatica</i>
<i>Verrucaria amphibia</i>	<i>Verrucaria baldensis</i>
<i>Verrucaria caeruleascens</i>	<i>Verrucaria ditmarsica</i>
<i>Verrucaria elaeina</i>	<i>Verrucaria fuscella</i>
<i>Verrucaria fusconigrescens</i>	<i>Verrucaria glaucina</i> s. lat.
<i>Verrucaria halizoa</i>	<i>Verrucaria hochstetteri</i>
<i>Verrucaria hydrela</i>	<i>Verrucaria macrostoma</i>
<i>Verrucaria mucosa</i>	<i>Verrucaria muralis</i> (mortar)
<i>Verrucaria maura</i>	<i>Verrucaria nigrescens</i>
<i>Verrucaria striatula</i>	<i>Verrucaria viridula</i> s. lat.
<i>Xanthoria elegans</i>	<i>Xanthoria parietina</i>

Trwyn Cemlyn, Cemaes, Anglesey. 10<sup>th</sup> August 2004

The itinerary started at the National Trust car park (SH329937) and extended along the seashore to SH322935.

The shore was of steep, boulder clay sea cliffs, north facing, with a sheltered, very low rocky foreshore which was densely seaweed-covered. The rocks were schists, mostly flat and slab-like, with shallow slopes, with crevices and a few boulders. The most notable species was *Acarospora benedarensis*. This species was first described by the pioneer Maritime Lichenologist, Matilda Knowles, from similar cliffs at Howth Head, Dublin in 1912. It was refound at the type locality by myself in July 1975. Further records were made by me at Hen Borth (1975) and Bardsey Island (Fletcher 1999). Two further records have been made in Shetland and Angus. It has always been found on dusty soil, particularly maritime sheep walks and 'nesting' scrapes. Here though, it was on flat rocks heavily dusted with boulder clay soil. *Lecidella carpathica* growing alongside, is an overlooked species closely resembling *L. stigmatea* but with a K+ orange hypothecium.

<i>Acarospora benedarensis</i> (On flat, schist projecting from clay cliffs, densely covered with boulder clay overwash. Very rare, endemic species.)	<i>Acarospora fuscata</i>
<i>Agonomia tristicula</i> (pine fence post)	<i>Amandinea lecideina</i>
<i>Amandinea punctata</i>	<i>Anaptychia runcinata</i>
<i>Arthonia phaeobaea</i>	<i>Aspicilia calcarea</i>
<i>Aspicilia contorta</i>	<i>Aspicilia intermutans</i>
<i>Aspicilia leproscens</i>	<i>Buellia aethalea</i>
<i>Buellia subdisciformis</i>	<i>Caloplaca ceracea</i>
<i>Caloplaca citrina</i>	<i>Caloplaca crenularia</i>
<i>Caloplaca flavescens</i> (mortar)	<i>Caloplaca flavocitrina</i>
<i>Caloplaca holocarpa</i> (mortar)	<i>Caloplaca marina</i>
<i>Caloplaca maritima</i>	<i>Caloplaca microthallina</i>
<i>Caloplaca saxicola</i>	<i>Caloplaca thallincola</i>
<i>Caloplaca verruculifera</i> (pine fence post)	<i>Candelariella aurella</i> (mortar)
<i>Candelariella vitellina</i>	<i>Catapyrenium cinereum</i>
<i>Catillaria chalybeia</i>	<i>Cladonia chlorophaea</i>
<i>Cladonia furcata</i>	<i>Cladonia pyxidata</i>
<i>Cladonia rangiformis</i>	<i>Cliostomum tenerum</i>
<i>Collema auriforme</i>	<i>Collema tenax</i> var. <i>ceranoides</i>
<i>Collema tenax</i> var. <i>tenax</i>	<i>Dactylospora parallelaria</i> (on <i>Ochrolechia parella</i> on car park wall)

<i>Diploicia canescens</i>	<i>Diploschistes caesioplumbeus</i>
<i>Diplotomma alboatrum</i>	<i>Diplotomma chlorophaeum</i>
<i>Fuscidea cyathoides</i>	<i>Halecania ralfsii</i>
<i>Lecania aipospila</i>	<i>Lecania erysibe</i>
<i>Lecanora actophila</i>	<i>Lecanora albescens</i>
<i>Lecanora campestris</i>	<i>Lecanora dispersa</i>
<i>Lecanora fugiens</i>	<i>Lecanora gangaleoides</i>
<i>Lecanora helicopsis</i>	<i>Lecanora polytropa</i>
<i>Lecanora rupicola</i>	<i>Lecanora saligna</i> (cliff top fence post)
<i>Lecanora sulphurea</i>	<i>Lecanora zosteriae</i>
<i>Lecidella asema</i>	<i>Lecidella carpathica</i>
<i>Lecidella meiococca</i>	<i>Lecidella scabra</i>
<i>Lepraria lobificans</i>	<i>Lepraria nivalis</i>
<i>Leptogium schraderi</i>	<i>Leptogium tenuissimum</i>
<i>Lichinia confinis</i>	<i>Melanelia fuliginosa ssp. fuliginosa</i>
<i>Micarea prasina</i>	<i>Myxobilimbia sabuletorum</i>
<i>Neofuscelia pulla</i>	<i>Neofuscelia verruculifera</i>
<i>Ochrolechia parella</i>	<i>Opegrapha calcarea</i>
<i>Opegrapha conferta</i>	<i>Opegrapha saxatilis</i>
<i>Parmelia saxatilis</i>	<i>Peltigera rufescens</i>
<i>Pertusaria aspergilla</i>	<i>Pertusaria excludens</i>
<i>Pertusaria pseudocorallina</i>	<i>Phaeophyscia orbicularis</i> (mortar)
<i>Physcia adscendens</i>	<i>Physcia caesia</i>
<i>Physcia tenella</i>	<i>Physcia tenella ssp. marina</i>
<i>Placynthiella icmalea</i> mortar	<i>Placynthium nigrum</i> (mortar)
<i>Porpidia platycarpoides</i>	<i>Protoblastenia rupestris</i> (mortar)
<i>Pyrenocollema halodytes</i>	<i>Pyrenocollema orustensis</i>
<i>Ramalina siliquosa</i>	<i>Rhizocarpon concentricum</i>
<i>Rhizocarpon geographicum</i>	<i>Rhizocarpon petraeum</i>
<i>Rhizocarpon reductum</i>	<i>Rhizocarpon richardii</i>
<i>Rinodina atrocinerea</i>	<i>Rinodina gennarii</i>
<i>Rinodina orculariopsis</i>	<i>Sarcogyne regularis</i> (concrete)
<i>Sarcopyrenia gibba</i>	<i>Schaereria fuscocinerea</i>
<i>Scoliosporum umbrinum</i>	<i>Strangospora moriformis</i> (fence post on cliff top path)
<i>Tephromela atra</i>	<i>Toninia aromatica</i>
<i>Trapelia coarctata</i>	<i>Trapelia involuta</i>
<i>Verrucaria amphibia</i>	<i>Verrucaria ditmarsica</i>
<i>Verrucaria fuscella</i>	<i>Verrucaria fusconigrescens</i>
<i>Verrucaria glaucina s. lat.</i>	<i>Verrucaria halizoa</i>
<i>Verrucaria internigrescens</i>	<i>Verrucaria maura</i>
<i>Verrucaria mucosa</i>	<i>Verrucaria muralis</i>

<i>Verrucaria nigrescens</i>	<i>Verrucaria prominula</i>
<i>Verrucaria striatula</i>	<i>Xanthoria calcicola</i> (mortar)
<i>Xanthoria elegans</i>	<i>Xanthoria parietina</i>

**Esgair Cemlyn (Cemlyn Bay), Cemaes, Anglesey. SH335932. 10<sup>th</sup> August 2004**

A shingle beach facing north-east, exposed to seaward, with a sheltered tidal lagoon to the south west. The exposed side lacked lichens. The sheltered side had a distinct lichen zonation from the lagoon edge to almost the summit of the ridge. Individual pebbles also had a zonation from sunny top to shaded sides. All were densely surrounded by higher plant vegetation and this is a popular bird nesting spot. The shingle pebbles were dominated by lichens which are presumably rapidly growing and able to tolerate turnover of stones. So macrolichens such as *Ramalina siliquosa* were scarce. The abundance of *Caloplaca maritima* was unusual in this unstable habitat.

<i>Acarospora fuscata</i>	<i>Amandinea punctata</i>
<i>Buellia aethalea</i>	<i>Amandinea punctata</i>
<i>Caloplaca citrina</i>	<i>Caloplaca marina</i>
<i>Caloplaca maritima</i>	<i>Caloplaca thallincola</i>
<i>Catillaria chalybeia</i>	<i>Cladonia rangiformis</i>
<i>Diploicia canescens</i>	<i>Lecanora actophila</i>
<i>Lecanora campestris</i>	<i>Lecanora dispersa</i>
<i>Lecanora fugiens</i>	<i>Lecanora helicopsis</i>
<i>Lecanora polytropa</i>	<i>Lecanora rupicola</i>
<i>Lichina confinis</i>	<i>Physcia adscendens</i>
<i>Pyrenocollema halodytes</i>	<i>Ramalina siliquosa</i>
<i>Rhizocarpon obscuratum</i>	<i>Rhizocarpon richardii</i>
<i>Rinodina gennarii</i>	<i>Rinodina oculariopsis</i>
<i>Scoliciosporum umbrinum</i>	<i>Tephromela atra</i>
<i>Verrucaria ditmarsica</i>	<i>Verrucaria fusconigrescens</i>
<i>Xanthoria parietina</i>	

**Newborough Warren, Anglesey. 11<sup>th</sup> August 2004**

The itinerary started at the car park with the first records made on *Salix* at the entrance (Clwt-gwlyb, SH420644), continuing due south to high yellow dunes at approximately SH419625.

Lichens were found mostly in the dune slacks east of the high yellow dune area. Some slacks containing *Salix repens* and bryophytes, had abundant lichens free-living on the ground, which are more typical of trees. Free sand, bound by Marram Grass

(*Ammophila arenaria*) had *Leptogium* and *Cladonia pocillum* with abundant *Diploschistes muscorum* colonising *Cladonia pyxidata* and *C. pocillum*.

### Clwt-gwlyb on *Salix*.

<i>Caloplaca obscurella</i>	<i>Evernia prunastri</i>
<i>Flavoparmelia caperata</i>	<i>Fuscidea lightfootii</i>
<i>Hypogymnia physodes</i>	<i>Hypogymnia tubulosa</i>
<i>Lecania naegelii</i>	<i>Lecanora chlarotera</i>
<i>Lecanora expallens</i> (fencepost)	<i>Lecanora saligna</i> (fence post by entrance)
<i>Lecanora symmicta</i>	<i>Lecidella elaeochroma</i>
<i>Parmelia sulcata</i>	<i>Physcia aipolia</i>
<i>Physcia tenella</i>	<i>Ramalina calicaris</i>
<i>Ramalina canariensis</i>	<i>Ramalina farinacea</i>
<i>Ramalina fastigiata</i>	<i>Ramalina fraxinea</i> (on <i>Salix</i> and Hawthorn)
<i>Rinodina sophodes</i>	<i>Xanthoria parietina</i>
<i>Xanthoria polycarpa</i>	<i>Neofuscelia subaurifera</i>

### Dune slacks

<i>Amandinea punctata</i> (fence post)	<i>Bacidia arnoldiana</i> (bone)
<i>Bacidia bagliettoana</i> (dune slack soil)	<i>Caloplaca flavocitrina</i> (concrete breeze block)
<i>Cladonia cervicornis</i>	<i>Cladonia ciliata</i>
<i>Cladonia fimbriata</i>	<i>Cladonia foliacea</i>
<i>Cladonia furcata</i>	<i>Cladonia pocillum</i>
<i>Cladonia pyxidata</i>	<i>Cladonia ramulosa</i>
<i>Cladonia squamosa</i>	<i>Cladonia subrangiformis</i>
<i>Diploschistes muscorum</i> (on <i>Cladonia pocillum</i> )	<i>Diploschistes scruposus</i>
<i>Evernia prunastri</i> (on soil)	<i>Hypogymnia physodes</i> (on soil)
<i>Lecanora expallens</i> (fence post)	<i>Lecanora saligna</i> (fence post)
<i>Lecanora symmicta</i> (fence post)	<i>Lecidella elaeochroma</i> (fence post)
<i>Lecidella stigmatea</i> (concrete block)	<i>Leptogium gelatinosum</i>
<i>Micarea denigrata</i> (fence post)	<i>Peltigera canina</i>
<i>Peltigera neckeri</i>	<i>Peltigera rufescens</i>
<i>Phaeophyscia orbicularis</i> (fence post)	<i>Protoblastenia rupestris</i> (concrete block)
<i>Ramalina canariensis</i>	<i>Rinodina exigua</i> (fence post)
<i>Thelocarpon impressellum</i>	<i>Verrucaria nigrescens</i> (concrete breeze block)
<i>Verrucaria viridula</i> (concrete block)	

Fungi *Clathrus stereocorus* (associated with rabbit dung)

St Mary's Well, Uwchmynedd, Aberdaron, Caernarvonshire, 12<sup>th</sup> August 2004

The itinerary followed the valley to SH140252, then eastwards to SH141249. The site is a grassy, sheep-grazed valley, sloping to the sea, between high rocky hills. It was the last stop for pilgrims travelling to Bardsey Island, two miles distant. The shore faces south-west and is very exposed to wind and wave action. The cliff tops are stony, wind-swept and drought-prone, and bear *Heterodermia japonica*, *H. leucomela* and *Teloschistes flavicans*. *H. leucomela* was very abundant in fine turf, though lobes were seldom longer than 1.5cm. *Teloschistes* was scarce, on rock tops. There was considerable evidence of heavy sheep grazing at the time. Apart from sparse communities on the west coast of Anglesey, these are probably the world's northernmost populations of these red data listed species. A further 'sun species', *Rimelia reticulata* was also abundant. Further notable species included *Buellia sequax* on stones, *Porocyphus leptogiella* and *Trapeliopsis wallrothii* on soil, and *Lecanora zostera* on *Armeria* stems. Old heather stems had abundant lichens, familiar from acid-bark trees, including *Caloplaca cerinelloides* and *Lecanora persimilis*. Damp, peaty soils in crevices had lichens more typical of old woodland, such as *Dimerella lutea* and *Nephroma laevigatum*. An extensive line of west facing overhangs revealed *Dirina massiliensis* f. *sorediata*, *Sclerophyton circumscriptum*, *Lecanora praepostera*, *Leprocaulon microscopicum*, *Leptogium teretiusculum* and *Pertusaria excludens*.

<i>Amandinea lecideina</i>	<i>Anaptychia runcinata</i>
<i>Bacidia bagliettoana</i>	<i>Baeomyces rufus</i>
<i>Buellia sequax</i> (stones in soil)	<i>Buellia stellulata</i>
<i>Buellia subdisciformis</i>	<i>Caloplaca britannica</i>
<i>Caloplaca cerina</i> var. <i>chloroleuca</i>	<i>Caloplaca cerinelloides</i>
<i>Caloplaca citrina</i>	<i>Caloplaca crenularia</i>
<i>Caloplaca holocarpa</i>	<i>Caloplaca littorea</i>
<i>Caloplaca marina</i>	<i>Caloplaca maritima</i>
<i>Caloplaca saxicola</i>	<i>Candelariella aurella</i>
<i>Candelariella coralliza</i>	<i>Candelariella vitellina</i>
<i>Catapyrenium cinereum</i>	<i>Catillaria chalybeia</i>
<i>Catillaria lenticularis</i>	<i>Cladonia cervicornis</i>
<i>Cladonia diversa</i>	<i>Cladonia firma</i>
<i>Cladonia furcata</i>	<i>Cladonia portentosa</i>
<i>Cladonia subrangiformis</i>	<i>Cladonia uncialis</i> ssp. <i>biuncialis</i>
<i>Cliostomum tenerum</i>	<i>Dimerella lutea</i>
<i>Diploicia canescens</i>	<i>Diploschistes caesioplumbeus</i>
<i>Diplotomma alboatrum</i> (limestone boulder)	<i>Dirina massiliensis</i> f. <i>sorediata</i>
<i>Flavoparmelia caperata</i>	<i>Heterodermia japonica</i>
<i>Heterodermia leucomela</i>	<i>Hypotrachyna britannica</i>

<i>Lecania atrynoides</i>	<i>Lecanora actophila</i>
<i>Lecanora albescens</i> (limestone boulder)	<i>Lecanora dispersa</i>
<i>Lecanora ecorticata</i>	<i>Lecanora expallens</i> (Heather stems)
<i>Lecanora fugiens</i>	<i>Lecanora gangaleoides</i>
<i>Lecanora helicopsis</i>	<i>Lecanora persimilis</i> (Heather stems)
<i>Lecanora polytropa</i>	<i>Lecanora praepostera</i>
<i>Lecanora rupicola</i>	<i>Lecanora symmetrica</i> (Heather stems)
<i>Lecanora zosteriae</i>	<i>Lecidella asema</i>
<i>Lecidella scabra</i>	<i>Lepraria incana</i>
<i>Lepraria lobifigans</i>	<i>Lepraria nivalis</i>
<i>Leprocaulon microscopicum</i>	<i>Leptogium tenuissimum</i>
<i>Leptogium teretiusculum</i>	<i>Lichenocodium erodens</i> (on <i>Parmelia saxatilis</i> )
<i>Marchandiomyces corallinus</i>	<i>Micarea lignaria</i>
<i>Neofuscelia pulla</i>	<i>Neofuscelia loxodes</i>
<i>Neofuscelia verruculifera</i>	<i>Nephroma laevigatum</i>
<i>Normandina pulchella</i>	<i>Ochrolechia parella</i>
<i>Opegrapha calcarea</i>	<i>Opegrapha cesareensis</i>
<i>Opegrapha conferta</i>	<i>Parmelia omphalodes</i>
<i>Parmelia saxatilis</i>	<i>Parmelia sulcata</i>
<i>Parmotrema chinense</i>	<i>Parmotrema crinitum</i>
<i>Peltigera hymenina</i>	<i>Peltigera neckeri</i>
<i>Peltigera sp.</i>	<i>Pertusaria aspergilla</i> (Heather stems)
<i>Pertusaria excludens</i> (not <i>P. monogona</i> )	<i>Pertusaria lactea</i>
<i>Pertusaria pseudocorallina</i>	<i>Phaeophyscia orbicularis</i>
<i>Physcia adscendens</i>	<i>Platismatia glauca</i>
<i>Porocyphus leptogiella</i>	<i>Porpidia cinereoatra</i>
<i>Porpidia platycarpoides</i>	<i>Porpidia tuberculosa</i>
<i>Ramalina canariensis</i>	<i>Ramalina cuspidata</i>
<i>Ramalina farinacea</i>	<i>Ramalina incrassata</i>
<i>Ramalina lacera</i>	<i>Ramalina siliquosa</i>
<i>Ramalina subfarinacea</i>	<i>Rhizocarpon reductum</i>
<i>Rhizocarpon richardii</i>	<i>Rimelia reticulata</i>
<i>Rinodina atrocinerea</i>	<i>Rinodina confragosa</i>
<i>Rinodina conradii</i>	<i>Rinodina luridescens</i>
<i>Rosellinula haplospora</i> (on <i>Lecanora praepostera</i> )	<i>Schaereria cinereorufa</i>
<i>Schaereria fuscocinerea</i>	<i>Sclerophyton circumscriptum</i>
<i>Scoliciosporum umbrinum</i>	<i>Sclerophyton circumscriptum</i>
<i>Solenopsora vulturiensis</i>	<i>Sphaerophorus globosus</i>
<i>Teloschistes flavicans</i>	<i>Toninia aromatica</i>
<i>Trapeliopsis wallrothii</i>	<i>Verrucaria fusconigrescens</i>
<i>Verrucaria internigrescens</i>	<i>Verrucaria maura</i>

<i>Vezdaea aestivalis</i>	<i>Xanthoria aureola</i>
<i>Xanthoria parietina</i>	

**St. Tysilio (Church Island), Menai Bridge, Anglesey, SH551717. 13<sup>th</sup> August 2004**

An ancient church situated on an island surrounded by sea at high tide. As this was departure day only a brief stay was made. Notable finds were *Verrucaria ditmarsica* on glass fragments in the littoral; the transparent substratum making it easy to discern the black dots which characterise this species.

<i>Aspicilia grisea</i>	<i>Caloplaca flavocitrina</i> (concrete)
<i>Catillaria chalybeia</i>	<i>Collema auriforme</i>
<i>Lecanora albescens</i>	<i>Lecidea lactea</i>
<i>Opegrapha conferta</i> (Church wall on schist)	<i>Opegrapha saxatilis</i>
<i>Protoblastenia rupestris</i>	<i>Verrucaria ditmarsica</i> (on broken glass in the littoral)
<i>Verrucaria 'glaucina' sensu 1992</i>	

**Acknowledgements**

Thanks are due to CCW for helping to fund the hire of the laboratory, and to Charlotte Williams and John Ratcliffe for help with tracing site owners. Also, the owners of sites who generously gave permission to visit: Meyrick Estate Management Ltd., Sir Richard Williams Bulkeley, Mr S. Beckman and The National Trust,

**References**

- Fletcher, A. 1980. Marine and maritime lichens on rocky shores: their ecology, physiology and biological interactions. In J.H. Price, D.L. Irvine, R. Farnham (eds) *The shore environment: methods and ecosystems*. Academic Press, London and New York.
- Fletcher, A. 1999 Bardsey Lichens, 1993-1999. *Rep. Bardsey Bird Fld Obs.* 43: 130-138.
- Fletcher, A. 2001 Lichens and Lichenicolous Fungi. *Rep. Bardsey Bird Fld Obs.* 45: 82-86.

## FIELD MEETING IN NOTTINGHAMSHIRE, 2 – 3<sup>rd</sup> OCTOBER 2004

The meeting was apparently the first visit that the BLS has made to the county. Indeed, Nottinghamshire lichens have been very neglected in the past. Possibly, the reputation of the county with its tales of Robin Hood, coal mines, and Lady Chatterley, may have deterred lichenologists from taking it seriously as a place for lichen studies. In addition the M1 motorway traverses its entirety, north south, so that one enters and emerges from the county in less than 30 minutes, always on the way to better places.

However, there are some fine habitats and unsuspected riches to be found, with much scope for lichenological exploration. Craig Levy and I have made a number of visits to promising areas. The only recent written report I am aware of is by Oliver Gilbert (1970) 'Lichens of Sherwood Forest, where 15 corticolous species were recorded Cuckney Church was here dismissed in a few words 'This has a limestone flora affected by pollution and strong eutrophication from bird droppings' (we found 33 on brief visit on 31<sup>st</sup> December 2003). The lichens of Cresswell Crags were described by Gilbert (1984) and included a photograph and species list. More will be related below.

Briefly, the county possesses three strips of bedrock arranged north – south, overlying the Carboniferous coal measures. These are Permian magnesian limestone (dolomite) to the west, Permian / Triassic sandstone in the middle, and Jurassic lias mudstones to the East. The famous forests of Sherwood, etc., overlie the sandstone, so the soils support heather heathland. In fact, Sherwood Forest was originally 80% heathland and its densely wooded state is a recent phenomenon caused by lack of grazing and woodland management. The Nottinghamshire landscape abruptly varies, with green agricultural land abruptly interrupted by coal tips and sand quarries. These stony and sandy sites maintain flourishing heathland communities, presumably recruited from the native flora. The Jurassic lias seldom outcrops, and the Lincolnshire limestone dominates building stones in this area. This is mostly evidenced in churchyards, and is part of the series extending from East Yorkshire to the Cotswolds. So the lichen flora in the extreme east of the county resembles that of east Leicestershire and Rutland. The dolomite limestone to the extreme west is particularly interesting, as pointed out by Gilbert (1984). This magnesium-rich substratum, although calcareous, does not effervesce with hydrochloric acid. So, 'strong' limestone species are absent, and 'weak' limestone lichens are dominant resulting in the western churchyards having a very different lichen flora to those in the east. Many old buildings have a rich mixture of dolomite, sandstone and oolitic limestone.

The incidence of heavy, industrial air pollution in the recent past has almost certainly impoverished the lichens here, but there is every chance its richness will increase if SO<sub>2</sub> levels continue to decline. In addition, the lichens suggest relatively low levels of

atmospheric ammonia in the area, as animal husbandry seems minimal at the moment. Ammonia sensitive lichens such as *Hypogymnia physodes*, *Parmelia saxatilis*, etc. are flourishing.

It is noticeable, once one crosses the River Trent and goes northwards, that the Notts churchyards lose much of their *Caloplaca aurantia*, *C. flavescens* and *C. teicholyta*, to be replaced by abundant *C. chlorina* and *Caloplaca 'A'*. The latter was first brought to our attention in 2001 (Anon, 2001) and has been recently equated with the maritime *C. britannica*. However, as there are noticeable differences between these entities (compare figures, photographs and descriptions in Anon (2001), Fletcher (2001), Santesson (1992) and Aptroot & van Herk (2004)), the provisional name is retained here to avoid confusion.

### 1. Bestwood Country Park, SK565478. 2<sup>nd</sup> October 2004

The most interesting lichens were found in a large sand quarry abandoned since the 1960's, surrounded on most sides by young oak woodland but with impressive views to the southwest. The floor was of exposed, very soft textured sandstone with abundant crustose lichens. Quartz pebbles within the sandstone, often in horizons, improved the species list. The area is becoming colonised by birch but on soil below, among leaf litter, were *Cladonia*, *Cetraria*, etc.

- a. On Oak in secondary woodland near the Country Park education centre (Alexandra Lodge)

<i>Athelia arachnoidea</i>	<i>Evernia prunastri</i>
<i>Gyalideopsis anastomosans</i>	<i>Hypogymnia physodes</i>
<i>Hypotrachyna revoluta</i>	<i>Lepraria incana</i>
<i>Lepraria lobificans</i>	<i>Melanelia fuliginosa</i> ssp. <i>glabratula</i> (Oak)
<i>Melanelia subaurifera</i>	<i>Micarea prasina</i>
<i>Parmelia sulcata</i>	<i>Parmotrema chinense</i>
<i>Phycia adscendens</i>	<i>Platismatia glauca</i>
<i>Punctelia ulophylla</i>	<i>Ramalina farinacea</i>

- b. Quarry floor, of sandstone and loose, sand colonised by bryophytes, with Birch and small Oak.

<i>Baeomyces rufus</i> (pebble, sandy soil)	<i>Bilimbia sabuletorum</i> (sandstone)
<i>Catillaria chalybeia</i> (quartz pebble)	<i>Cetraria aculeatum</i> (soil)
<i>Cladonia chlorophaea</i> (soil)	<i>Cladonia coniocraea</i> (lignum)

<i>Cladonia fimbriata</i> (soil)	<i>Cladonia furcata</i> (soil)
<i>Cladonia humilis</i> (soil)	<i>Cladonia phyllophora / pityrea</i> (soil)
<i>Cladonia portentosa</i> (soil)	<i>Cladonia pyxidata</i> (soil)
<i>Cladonia ramulosa</i> (soil)	<i>Cladonia squamosa</i> (soil)
<i>Cladonia subulata</i> (soil, not <i>C. glauca</i> )	<i>Collema auriforme</i> (soil)
<i>Collema crispum</i> (soil)	<i>Collema tenax</i> var. <i>ceranoides</i> (soil)
<i>Cyrtidula quercus</i> (Oak)	<i>Lecanora chlarotera</i> (Oak)
<i>Lecanora conizaeoides</i> (lignum)	<i>Lecanora expallens</i> (Oak, pebble)
<i>Lecanora varia</i> (lignum)	<i>Micarea erratica</i> (quartz (pebbles in soil)
<i>Micarea denigrata</i> (lignum)	<i>Omphalina ericetorum</i> (soil) <i>Peltigera didactyla</i> (soil)
<i>Peltigera hymenina</i> (soil)	<i>Placynthiella dasyae</i> (pebble)
<i>Porpidia crustulata</i> (pebble)	<i>Porpidia tuberculosa</i> (pebble)
<i>Trapelia coarctata</i> (quartz pebbles in soil)	<i>Trapelia involuta</i> (quartz pebbles in soil)
<i>Trapelia obtegens</i> (pebble)	<i>Trapeliopsis granulosa</i> (soil)
<i>Verrucaria bulgarica</i> (pebble)	<i>Verrucaria cf. muralis</i> (on siliceous pebble in soil)
<i>Xanthoria polycarpa</i> (Oak)	

## 2. Linby Church, Nottinghamshire, SK534508. 2<sup>nd</sup> October 2004

A wind - exposed church in a small village. The surrounding wall was of most interest having dolomite coping stones dominated by bluish-grey *Caloplaca chlorina*, much of which was fertile, and *Caloplaca* 'A'. Much of the latter was distinct from *C. flavocitrina*. Vertical headstones had *Lecanora campestris* subsp. *dolomitica* which often grew alongside, or resembled a parasite on the parent species. The church walls were of less interest being mainly of sandstone and much restored.

<i>Acarospora rufescens</i>	<i>Agonimia tristicula</i>
<i>Aspicilia contorta</i>	<i>Aspicilia contorta</i> var. <i>hoffmanniana</i>
<i>Bilimbia sabuletorum</i>	<i>Caloplaca chlorina</i>
<i>Caloplaca citrina</i>	<i>Caloplaca flavescens</i>
<i>Caloplaca flavocitrina</i>	<i>Caloplaca holocarpa</i>
<i>Caloplaca variabilis</i>	<i>Caloplaca</i> 'A'
<i>Candelariella aurella</i>	<i>Candelariella medians</i>
<i>Candelariella vitellina</i>	<i>Cladonia humilis</i>
<i>Collema crispum</i>	<i>Lecania erysibe</i>
<i>Lecanora albescens</i>	<i>Lecanora campestris</i>
<i>Lecanora campestris</i> ssp. <i>dolomitica</i>	<i>Lecanora conizaeoides</i>
<i>Lecanora dispersa</i>	<i>Lecanora muralis</i>
<i>Lecanora rupicola</i>	<i>Lecanora soralifera</i>

<i>Lecidella scabra</i>	<i>Lecidella stigmatea</i>
<i>Lepraria incana</i> (tombs and bark)	<i>Lepraria lobificans</i>
<i>Melanelia fuliginosa</i> ssp. <i>fuliginosa</i> (bark)	<i>Phaeophyscia orbicularis</i>
<i>Physcia adscendens</i>	<i>Physcia caesia</i>
<i>Physcia tenella</i>	<i>Placynthium nigrum</i>
<i>Rinodina gennarii</i>	<i>Rinodina teicholphila</i>
<i>Sarcogyne regularis</i>	<i>Sarcopyrenia gibba</i>
<i>Toninia aromatica</i>	<i>Verrucaria macrostoma</i>
<i>Verrucaria macrostoma</i> f. <i>furfuracea</i>	<i>Verrucaria muralis</i>
<i>Verrucaria nigrescens</i>	<i>Verrucaria</i> non ' <i>tectorum</i> '
<i>Xanthoria parietina</i> (tombs and bark)	<i>Xanthoria polycarpa</i> (bark)

### 3. Papplewick Church, Nottinghamshire, SK546515. 2<sup>nd</sup> October 2004

This was a very secluded church surrounded by woodland. Some large limestone monuments and chest tombs were present. Its rather tree-shaded nature may have reduced the dominance of lichens found at Linby Church.

<i>Agonimia tristicula</i>	<i>Amandinea punctata</i> (Oak)
<i>Aspicilia contorta</i>	<i>Bilimbia sabuletorum</i>
<i>Caloplaca chlorina</i>	<i>Caloplaca citrina</i>
<i>Caloplaca flavescens</i>	<i>Caloplaca flavocitrina</i>
<i>Caloplaca 'A'</i>	<i>Candelariella aurella</i>
<i>Diploicia canescens</i>	<i>Haematomma ochroleucum</i> var. <i>porphyrium</i>
<i>Hypogymnia physodes</i> (Oak)	<i>Illosporium corallinum</i> (on <i>Lecanora albescens</i> )
<i>Lecanora campestris</i>	
<i>Lecanora campestris</i> ssp. <i>dolomitica</i>	<i>Lecanora chlarotera</i> (Oak)
<i>Lecanora conizaeoides</i>	<i>Lecanora dispersa</i>
<i>Lecanora murali</i>	<i>Lecanora polytropa</i>
<i>Lecidella stigmatea</i>	<i>Lepraria incana</i>
<i>Lichenocodium erodens</i> (on <i>Lecanora conizaeoides</i> )	<i>Lepraria lobificans</i>
<i>Melanelia fuliginosa</i> ssp. <i>glabratula</i> (Oak)	<i>Melanelia subaurifera</i>
<i>Parmelia sulcata</i> (Oak)	<i>Phaeophyscia orbicularis</i>
<i>Physcia adscendens</i>	<i>Physcia caesia</i>
<i>Physcia tenella</i> (Oak)	<i>Physconia grisea</i>
<i>Placynthium nigrum</i>	<i>Porpidia soredizodes</i>
<i>Protoblastenia rupestris</i>	<i>Psilolechia lucida</i>
<i>Rinodina gennarii</i>	<i>Rinodina teichophila</i>
<i>Sarcopyrenia gibba</i>	<i>Scoliciosporum umbrinum</i>

<i>Toninia aromatica</i>	<i>Verrucaria baldensis</i>
<i>Verrucaria hochstetteri</i>	<i>Verrucaria muralis</i>
<i>Verrucaria nigrescens</i>	<i>Verrucaria viridula</i>
<i>Xanthoria calcicola</i>	<i>Xanthoria parietina</i>
<i>Xanthoria polycarpa</i>	

4. Sherwood Visitor Centre, Edwinstowe, Nottinghamshire. 3<sup>rd</sup> October 2004

Recording was done from SK627677 (Visitor Centre) to SK615682 (Birklands Grove / Assarts Wood). This is a heavily used tourist facility receiving over 600,000 visitors per year. The 'Great Oak' is truly enormous and is propped up with steel stanchions. No lichens were noted on it except *Lecanora conizaeoides*. The trees opposite however, bore a good lichen flora of those macrolichens now becoming familiar in the midlands. Especially noteworthy was a Birch tree exposed to visitor - raised dust from limestone chippings applied to the path. This had lichens seldom seen on the usually acid-barked Birch such as *Caloplaca holocarpa*, *Rinodina gennarii* and *Amandinea punctata*.

Further into the Forest, large clearings are being created, in keeping with the policy of restoring the woodland to its previous balance of heath and high forest. Several old Oak stumps littered this area and bore a rich *Cladonia* flora. Most noteworthy was an abundance of *Cladonia parasitica*.

Gilbert (1970) noted only 15 lichens from this area. Most of these appeared to be stump species. The recent visit has greatly extended this list having revealed some very large stumps, presumably old. Oak and other branches have also become richly colonised with lichens as sulphur dioxide air pollution has ameliorated. Especially encouraging was *Parmelia saxatilis* in fertile condition.

a. Beside car park, near visitor centre; Oak, Birch.

<i>Evernia prunastri</i>	<i>Parmelia sulcata</i>
<i>Phaeophyscia orbicularis</i> (Roof of visitor centre)	<i>Physcia adscendens</i>
<i>Physcia caesia</i> (Roof of visitor centre)	<i>Physcia tenella</i>
<i>Physconia grisea</i>	<i>Punctelia ulophylla</i>
<i>Rinodina gennarii</i> (Roof of visitor centre)	<i>Xanthoria parietina</i>

b. In Oak, Birch forest

<i>Amandinea punctata</i> (Birch)	<i>Anisomeridium polypori</i> (Elder)
<i>Athelia arachnoidea</i> (Oak, Elder)	<i>Bacidia arnoldiana</i> (Elder opposite the Great Oak, fertile)
<i>Bacidia caligans</i> (Elder (26 <sup>th</sup> Sept. 2004))	<i>Bacidia sp.</i> (Oak twigs, sterile)
<i>Caloplaca cerinella</i> (Elder)	<i>Caloplaca flavocitrina</i> (Oak stump in heather moor)
<i>Caloplaca holocarpa</i> (Birch twig opposite the Great Oak)	<i>Candelariella reflexa</i> (Birch twig opposite the Great Oak)
<i>Chaenotheca ferruginea</i> (Oak)	<i>Cladonia chlorophaea</i> (Oak stump in heather moor)
<i>Cladonia coniocraea</i> (Oak stump in Heather moor, Oak)	<i>Cladonia digitata</i> (Oak stump in Heather moor)
<i>Cladonia diversa</i> (Oak stump in heather moor)	<i>Cladonia macilenta</i> (Oak stump in Heather moor)
<i>Cladonia ochrochlora</i> (Oak stump in Heather moor)	<i>Cladonia parasitica</i> (Oak stump in Heather moor)
<i>Cladonia polydactyla</i> (Oak stump in Heather moor)	<i>Cladonia sp.</i> (Oak stump in Heather moor)
<i>Cyrtidula quercus</i> (Oak)	<i>Evernia prunastri</i> (Oak)
<i>Flavoparmelia caperata</i> (Oak)	<i>Gyalideopsis anastomosans</i> (Oak)
<i>Hypocenomyce scalaris</i> (Oak)	<i>Hypogymnia physodes</i> (Oak)
<i>Hypogymnia tubulosa</i> (Oak)	<i>Lecania cyrtella</i> (Elder)
<i>Lecanora conizaeoides</i> (Oak stump in heather moor, Oak)	<i>Lecanora dispersa</i> (Oak stump in heather moor)
<i>Lecanora expallens</i> (Oak)	<i>Lecanora varia</i> (Oak stump in heather moor)
<i>Lecanora persimilis</i> (Elder)	<i>Lepraria incana</i> (Oak and stumps)
<i>Lichenocodium erodens</i> (on <i>Lecanora conizaeoides</i> )	<i>Micarea denigrata</i> (Oak stump in heather moor)
<i>Melanelia fuliginosa ssp. glabratula</i> (Oak)	<i>Micarea denigrata</i> (fence rail)
<i>Micarea prasina</i> (Oak, Elder)	<i>Micarea sp.</i> (Oak stump in Heather moor)
<i>Parmelia saxatilis</i> (fertile, on Oak)	<i>Parmelia sulcata</i> (Oak)
<i>Parmeliopsis ambigua</i> (Oak stump in Heather moor, Oak)	<i>Phaeophyscia orbicularis</i> (Oak twigs)
<i>Phlyctis argena</i> (Oak)	<i>Physcia adscendens</i> (Oak)
<i>Physcia aipolia</i> (Elder)	<i>Physcia tenella</i> (Oak)
<i>Platismatia glauca</i> (Oak)	<i>Ramalina farinacea</i> (Oak)
<i>Rinodina oleae</i> (Birch twig opposite the Great Oak)	<i>Trapeliopsis flexuosa</i> (Oak stump in heather moor)
<i>Trapeliopsis granulosa</i> (Oak)	<i>Tuckermanopsis chlorophylla</i> (Oak)
<i>Usnea hirta</i> (Oak)	<i>Verrucaria muralis</i>
<i>Xanthoria parietina</i> (Oak)	<i>Xanthoria polycarpa</i> (Oak twigs)

5. Cresswell Crags, Nottinghamshire, SK 535742. 3<sup>rd</sup> October 2004

Recorded from the south side of the gorge (Notts side), this impressive feature has high cliffs of white dolomite in a narrow wooded valley. The cliffs overhang on both sides of the gorge and have large dry caverns and overhangs at path level. They seem to have been extensively Ivy - clad in the past. The south side was the most rewarding for lichens, where cliffs were drier and better lit. The upper parts of cliffs were inaccessible. Occasional Elder and Ash increased the species count.

Gilbert's paper (1984) includes a photograph of a much less wooded site than we found. A surfaced path has been created at the base of the cliffs to allow visitor access to this important archaeological site. Gilbert found 51 saxicolous lichens compared with our 33. The difference may be due to our rather shorter visit (of about 2 hours), and limitation to the base of cliffs. However, Gilbert's list does reveal many more sun species such as *Aspicilia calcarea*, *A. contorta*, *Caloplaca aurantia*, *C. cirrochroa*, etc., whereas our list includes a larger proportion of shade species, especially those containing *Trentepohlia*. Terricolous *Cladonia* and *Peltigera* seemed to be more abundant in the 1984 paper. Gilbert did not record corticolous species.

<i>Acrocordia conoidea</i> (shaded dolomite)	<i>Amandinea punctata</i> (Elder)
<i>Anisomeridium polypori</i> (Elder)	<i>Bacidia delicata</i> (shaded dolomite)
<i>Bacidia phacodes</i> (Elder)	<i>Belonia nidarosiensis</i>
<i>Botryolepraria lesdainii</i>	<i>Caloplaca citrina</i>
<i>Caloplaca flavescens</i>	<i>Caloplaca flavocitrina</i>
<i>Caloplaca 'A'</i>	<i>Caloplaca cerinella</i> (Elder)
<i>Cladonia chlorophaea</i>	<i>Candelariella vitellina</i>
<i>Collema crispum</i>	<i>Dirina massiliensis</i> f. <i>sorediata</i> (shaded dolomite)
<i>Diploicia canescens</i>	<i>Diplotomma alboatrum</i>
<i>Illosporium corallinum</i> (on <i>Lecanora albescens</i> )	<i>Lecania cyrtella</i> (Elder)
<i>Lecania erysibe</i>	<i>Lecania inundata</i>
<i>Lecania sylvestris</i> (shaded dolomite)	<i>Lecanora albescens</i>
<i>Lecanora campestris</i>	<i>Lecanora campestris</i> ssp. <i>dolomitica</i>
<i>Lecanora dispersa</i>	<i>Lecanora sambuci</i> (Elder)
<i>Lecanora soralifera</i>	<i>Lepraloma vouauxii</i>
<i>Leproplaca chrysojeta</i>	<i>Lepraria incana</i>
<i>Lepraria lobificans</i>	<i>Opegrapha calcarea</i> (shaded dolomite)
<i>Opegrapha varia</i> (shaded dolomite)	<i>Physcia adscendens</i> (Elder)
<i>Rinodina exigua</i> (Elder)	<i>Sarcopyrenia gibba</i>

<i>Verrucaria elaina</i>	<i>Verrucaria macrostoma f. furfuracea</i>
<i>Verrucaria nigrescens</i>	<i>Xanthoria parietina</i> (Elder)

### **Acknowledgements.**

Grateful thanks are extended to Craig Levy for his guidance and companionship throughout the project. The staff of Nottinghamshire Country Parks Service are thanked for their favours and for providing access to Bestwood and Sherwood Country Parks. The Rev Canon K.H. Turner kindly allowed permission for publication of our results of churchyard visits. I am indebted to Ivan Pedley for his proof reading.

### **References**

- Anon (2001) Focus on *Caloplaca* 2 – The more common species. *Stonechat* 7: 3-4. [T.W. Chester (ed), Bulletin of the Br. Lichen Soc. Churchyards Group].
- Aptroot, A., van Herk, C.M. (2004) *Caloplaca britannica* common in non-maritime environments. *Lichenologist* 56: 261-263.
- Fletcher, A. (2001) *Caloplaca britannica*. In Seaward, M.R.D. (ed) *Lichen Atlas of the British Isles, Fascicle 6. Caloplaca*. British Lichen Society.
- Gilbert, O.L. (1970) *Lichens of Sherwood Forest*. Unpublished MS.
- Gilbert, O.L. (1984) Lichens of the Magnesian Limestone. *Lichenologist* 16: 31-43.
- Santesson, R. (1992) in Laundon, J.R. New British species of *Caloplaca*. *Lichenologist* 24: 1-6.

### **MICROSCOPES FOR SALE**

Used monocular compound microscopes for sale suitable for beginner lichenologist for looking at ascocarp sections, spore characters etc. £20-50. E-mail: [d.j.hill@bris.ac.uk](mailto:d.j.hill@bris.ac.uk) for details.

## LICHENS IN LITERATURE: 11

*The New Terror Omnibus* – a bumper collection of 37 terrifying tales edited by Ramsey Campbell (Pan Books, 1985) is not the sort of book I would normally select for bedtime reading, but my son (who picked this up at a car boot sale), sent it to me as he said there was a story all about lichens. True enough, the first of this eclectic collection of weird and wonderful tales, is entitled *The Stains* by Robert Aickman. The plot revolves around the hero (for want of a better word), Stephen, recently widowed, who goes to spend some time with his brother, the Reverend Harewood Hooper, in a remote country parish.

Harewood himself cared more for rock growths than for controversies about South Africa or for other such fashionable church preoccupations. He had published two important books on lichens. People often came to see him on the subject. He was modestly famous.

Hmm. Ring any bells?

He fostered lichens on the flagstones leading up to the rectory front door; on the splendidly living stone walls, here grey stone, there yellow; even in the seldom used larders and pantries; assuredly on the roof, which, happily, was of stone slabs also. .... The domestic lichens, once introduced, required little attention – only observation.

OK so far, except – lichens in larders and pantries? Er, is there some confusion here between lichens and “mould”? Is it cyanobacterial growths – or even fungi – on the larder walls?

Unfortunately, this confusion dogs the course of the story. After walking on the moors, meeting and falling madly in love with Nell, a mysterious young woman (a sort of *belle dans sans merci* type nymphet), the hero returns home with her to his flat in London, only to find mysterious dark stains have invaded the walls. Inexplicably, a book is sitting on the table in the hallway: *Lichen, Moss and Wrack. Usage and Abuse in Peace and War. A Military and Medical Abstract*. (This has got to be a joke!). Dismissing the book as something mistakenly sent to him instead of his brother, Nell and Stephen embark on a mildly erotic evening in, although the thought crosses Stephen’s mind that *within a week, the walls might be darkened all over, and he strongly suspected that the mossiness, the malady would become more conspicuously three dimensional at any moment.*

Sure enough; Stephen returns to work (a Civil Servant), and in the lunch break agrees to go swimming with a colleague. *"I say, Stephen. What's that thing on your back?"* When asked to describe what the "thing" is, the reply comes *"The best I can do is that it looks rather like the sort of thing you occasionally see on trees. I think it may simply be something stuck on you. Would you like me to give it a tug?"* Stephen demurs; they both get dressed and go for a drink.

Well, I won't spoil the story by revealing any more, except to say it all ends horribly under the floor in some remote tumble-down cottage on the moor. As a bizarre tale with remote lichen connections, it has to be "not recommended".

Contributed by Sandy Coppins

## REVIEW

### **A FIELD KEY TO COMMON CHURCHYARD LICHENS**

ISBN 09542324 2 9

Frank Dobson

No one has done more to make lichens accessible to a wider audience than Frank Dobson through his field study courses, his multi-access key and his excellent work on lichens. This is his latest publication intended to enable nearly 190 lichen species to be identified which frequently occur on stonework, memorials, fences, gates and benches in lowland churchyards. It includes virtually all churchyard species which might be identified without specialist knowledge. It is set out with a series of colour plates which are arranged by habitat, followed by a simple but clear account of lichens and the features used to identify them. The bulk of the text is given over to a series of keys which are supplemented when appropriate with sketches depicting particular features. The book is spirally bound in wire and printed on thin card with stouter covers which is very practical for use in the field.

At £5.50 for BLS members (plus £1.50 p&p) or £6.50 plus (£1.50 p&p) for non-members this is excellent value for money. It can be obtained from Frank S. Dobson, 57 Acacia Grove, New Malden, Surrey, KT3 3BU.

Peter Lambley

## LITERATURE PERTAINING TO BRITISH LICHENS - 36

*Lichenologist* 36(6) was published on 25 November 2004, and 37(1) on 24 January 2005.

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.

ANDERSEN, H L & EKMAN, S 2005. Disintegration of the *Micarea* (lichenized Ascomycota) in a molecular phylogeny based on mitochondrial rDNA sequences. *Mycological Research* 109: 21–31. The *Micarea* is shown to be best placed within the *Pilocarpaceae*. *Catillaria contristans* and *Fellhaneropsis vezdae* are placed close to main groupings within *Micarea*. The results also indicate that *Micarea intrusa* (syn. *Carbonea intrusa*) should be placed in *Scoliciosporum* [This has already been formalized by Hafellner (2004); see below].

AVERIS, A M, AVERIS, A B G, BIRKS, H J B, HORSFIELD, D, THOMPSON, D B A & YEO, M J M 2004. *An Illustrated Guide to British Upland Vegetation*. Peterborough: Joint Nature Conservation Committee. Softback, 454 pp, plus 16 pages of colour photographs. ISBN 1 86107 553 7. Price £25. A comprehensive guide to plant communities in the British uplands, drawn and improved from the National Vegetation Classification (NVC), and certainly much improved regarding the lichen component of many terricolous communities. Additional lichen-rich or lichen-dominated communities, not currently covered by the NVC, are referred to in the final chapter.

COPPINS, A M 2004. Wildlife reports: Lichens *British Wildlife* 15: 289. Reporting on two very rare, but possibly overlooked British species, *Melanelia subargentifera* and *Thelenella modesta*.

EKMAN, S 2004. *Bacidina*. In Nash III *et al.* (2004; *q.v.*): 28–32. *Bacidina* is separated from *Bacidia*, with the new combination *Bacidina neosquamulosa* (Aptroot & van Herk) S. Ekman (syn. *Bacidia neosquamulosa*).

EKMAN, S 2004. *Mycobilimbia*. In Nash III *et al.* (2004; q.v.): 365–367. *Mycobilimbia* is treated in its strict sense, for those species closely allied to *M. tetramera* [syn. *Biatora tetramera*]. There is one new combination: *M. carnealbida* (Müll. Arg.) S. Ekman & Printzen (syn. *Biatora carnealbida*).

FRYDAY, A M 2004. The genus *Porpidia* in northern and western Europe, with special emphasis on collections from the British Isles. *Lichenologist* 37: 1–35. The name *Porpidia flavocaerulescens* [or '*flavocaerulescens*'] is recommended for rejection in favour of *P. flavicunda*. However, most British *Porpidia* material with an esorediate, rusty orange thallus belongs to the new species, \**P. flavocruenta* Fryday & Buschbom, although a few specimens of *P. flavicunda* are known from Scotland and Ireland. [NB. In the 1992 *Flora*, "*P. flavocaerulescens*" was erroneously used for the sorediate species, now called *P. melinodes*.] Other newly described taxa are: \**P. islandica* Fryday, Knoph & Hertel, \**P. pachythallina* Fryday (syn. *P. confluenta* Fryday ad int.), \**P. striata* Fryday, and \**P. superba* f. *sorediata* Fryday. '*Huillia nigrocruenta*' is confirmed as British, but reduced in status to: \**P. macrocarpa* f. *nigrocruenta* (Anzi) Fryday, and *P. glaucophaea* is replaced by *P. rugosa* (Taylor) Coppins & Fryday (syn. *Endocarpon rugosum* Taylor). Other additions to the British list are: \**Porpidia lowiana* Gowan (1989), \**P. nadvornikiana* (Vezda) Hertel (1984) and \**P. thomsonii* Gowan (1989), but *P. grisea* has been incorrectly reported, and *P. musiva* is reduced the synonymy of *P. cinereoatra*. The basionym of *P. tuberculosa* is lectotypified.

FRYDAY, A M & COPPINS, B J 2004. A reassessment of the genera *Chromatochlamys* and *Thelenella*, and a new species of *Strigula* from the British Isles. *Lichenologist* 36: 89–95. The genus *Chromatochlamys* is subsumed into *Thelenella*, with the following, described British species: *T. larbalestieri* (A.L. Sm.) Coppins & Fryday (2004), *T. muscorum* (Fr.) Vain. (1899) (syn. *Chromatochlamys muscorum* var. *muscorum*), *T. muscorum* var. *octospora* (Nyl.) Coppins & Fryday (2004) (syn. *Chromatochlamys muscorum* var. *octospora*) and *T. modesta*. The new, mainly muscicolous species, *Strigula confusa* Fryday, Coppins & Common, is described from submontane and montane habitats in England, Ireland, Scotland and Wales [line drawings of this species are given in Clauzade & Roux (2004; see above)].

GILBERT, O L 2004. *Lichens*. Naturally Scottish series. Battleby, Perth: Scottish Natural Heritage. Softback, 39 pp. ISBN 1 85397 373 4. Price £4.95. A colourful introduction to Scottish lichens and their habitats.

GILBERT, O L 2004. *The Lichen Hunters*. Lewes: The Book Guild. Hardback, 208 pp, plus 16 pages of colour photographs. ISBN 1 85776 930 9. Price £16.95 + p & p.

An autobiographical account of the authors exploits in the field, beginning with a more general account of lichenological fieldwork in Britain from 1955 to 2001, and including several colour photos of British lichenologists and habitats. [Has a few factual errors – but a great read.] Full reviews will appear in *Lichenologist* 37(3).

GILBERT, O L 2003–2004. Wildlife reports: Lichens *British Wildlife* 15: 136–137 (2003); 15: 440–441 (2004); 15: 139–140 (2004). Continuations of the thrice yearly column on the latest discoveries and developments in British lichenology, especially field studies. [See also Coppins, A M 2004, above.]

GILBERT, O L, COPPINS, A M, COPPINS, B J, GIAVARINI, V & WOODS, R G 2004. What the UK BAP has done for the River Jelly Lichen. *British Wildlife* 15: 314–318. Describes the greatly increased knowledge of the distribution and ecology of *Collema dichotomum* as a result of field-studies generated by the UK BAP process. The article includes a UK distribution map and three colour photos.

GRAHAM, J & LAWLEY, M 2004. Bygone bryologists: Henry Herbert Knight (1862–1944). *Field Bryology* 83: 18–21. Mainly a biography (with portrait) from a bryological perspective, but H.H. Knight was also an important lichen collector in the early decades of the last century.

HAFELLNER, J 2004 Notes on *Scoliciosporum intrusum*. *Fritschiana* 49: 29–41. *Carbonea intrusa* (syn. *Micarea intrusa*) is transferred to *Scoliciosporum* as *S. intrusum* (Th. Fr.) Hafellner. This broadens the generic concept of *Scoliciosporum* to include species with ellipsoid spores [and this is supported by molecular studies: see above under Andersen & Ekman (2005)]. *S. intrusum* differs from *Carbonea* in having ±immarginate apothecia, an exciple that is not darkly pigmented, and branched and anastomosing paraphyses. It differs from *Micarea* in having a *Lecanora*-type ascus and in its algal cells being large and penetrated by distinct haustoria of the mycobiont.

HAFELLNER, J 2004. A revision of *Maronella loricata* and *Piccolia ochrophora*. In Thor *et al.* (2004; q.v.): 87–96. *Strangospora ochrophora* is transferred to the mainly tropical and subtropical genus *Piccolia* A. Massal. (1856) as *P. ochrophora* (Nyl.) Hafellner. The genus *Piccolia* differs from *Strangospora* in having a weakly developed tholus, which more or less disappears at maturity, pigment crystals over the apothecial surface and globose (rather than ellipsoid) conidia.

HAWKSWORTH, D L 2004. Miles J. Berkeley's lichenological interests. *Archives of Natural History* 31: 308–317. Although Berkeley [the 'Father of British Mycology'] is not generally regarded as a lichenologist, he certainly did not ignore them. This paper

gives an insight into the heated debates over the definition and classification of lichens and lichenicolous fungi in the mid-19<sup>th</sup> century.

HAWKSWORTH, D L 2004. Fungi living on lichens: a source of unexplored diversity. *British Wildlife* **15**: 192–199. A well-illustrated (12 colour photos) introduction to the diversity of form and biological diversity of lichenicolous fungi by a long-time enthusiast.

IHLEN, P G, HOLIEN, H & TØNSBERG, T 2004. Two new species of *Dactylospora* (Dactylosporaceae, Lecanorales), with a key to the known species in Scandinavia. *Bryologist* **107**: 357–362. The key includes many British species.

JAMES, P W, ALLEN, A & HILTON, B 2004. Lichens of Herm. *Rep. Trans. Soc. Guernésiaise* 2003 **25** (3): 512–536, plus 3pp of plates. A total of 230 species are recorded for this small island in the Channel Islands. The records cited are the authors' own from their visits in 2002 and 2003, together with earlier ones, including the previously unpublished records from the BLS field meeting in 1986. Apart from annotations for each species (substrata, localities, date, etc.), the paper includes background information about Herm, descriptions of the lichen communities, comparisons with other islands, and comments on conservation.

JØRGENSEN, P M & NASH III, T H 2004. *Leptogium*. In Nash III *et al.* (2004; *q.v.*): 330–350. *Leptogium palmatum* (Huds.) Mont. (1840) is shown to be the correct name for *L. corniculatum* (syn. *L. corniculatum* auct., non (Hoffm.) Minks (1873); *Tremella corniculata* With. (1776)).

KONDRATYUK, S Y & KÄRENEFELT, I 2003. Revision of three natural groups of xanthorioid lichens (*Teloschistaceae*, Ascomycota). *Ukrainian Botanical Journal* **60**: 427–437. Three new genera are proposed: *Oxneria* S. Kondratyuk & Kärnefelt, *Rusavskia* S. Kondratyuk & Kärnefelt and *Xanthoanaptychia* S. Kondratyuk & Kärnefelt. New combinations affecting British species are: *Oxneria fulva* (Hoffm.) S. Kondratyuk & Kärnefelt (syn. *Xanthoria fulva* [if this species can be confirmed from the British Isles]), *O. ulophyllodes* (Räsänen) S. Kondratyuk & Kärnefelt (syn. *Xanthoria ulophyllodes*), *Rusavskia elegans* (Link) S. Kondratyuk & Kärnefelt (syn. *Xanthoria elegans*), and *Xanthoanaptychia chrysophthalma* (L. f.) S. Kondratyuk & Kärnefelt (syn. *Teloschistes chrysophthalma*). [The name "*Oxneria coppinsii* (S. Kondratyuk & Kärnefelt & Søchting) S. Kondratyuk & Kärnefelt" is invalid as the supposed basionym (*Xanthomendoza coppinsii* S. Kondratyuk & Kärnefelt & Søchting) has not been formally published. These taxonomic/nomenclatural innovations have some merit, but should be tested more thoroughly by molecular

techniques before becoming widely adopted. Also, I am informed that *Xanthoanptychia* is a superfluous name, i.e. a previously published name is available for this group.]

NASH III, T H, RYAN, B D, DIEDERICH, P, GRIES, C & BUNGARTZ, F (eds) 2004. *Lichen Flora of the Greater Sonoran Desert Region*. Volume II. Tempe, Arizona: Lichens Unlimited. ISBN 0-9716759-1-0. Pp 742, plus 24 pp of colour photographs. This volume includes most of the microlichens, the remaining macrolichens not included in Vol. 1, and lichenicolous fungi. The flora includes descriptions of many species found also in the British Isles, and the generic accounts are widely applicable. [In this *Bulletin* only the accounts that include nomenclatural or taxonomic innovations pertinent to the British Isles are cited.]

LITTERSKI, B & AHTI, T 2004. World distribution of selected European *Cladonia* species. In Thor *et al.* (2004; q.v.): 205–236. British species treated are: *C. bellidiflora*, *C. botrytes*, *C. caespiticia*, *C. callosa*, *C. ciliata*, *C. convoluta*, *C. digitata*, *C. incrassata*, *C. macrophylla*, *C. maxima*, *C. polydactyla*, *C. rangiformis*, *C. strepsilis*, *C. subcervicornis* and *C. uncialis*. [The map of *Cladonia stellaris* is shown with two dots for Scotland, but all the collections from the three, supposed Scottish localities seen by me are of doubtful British provenance, and for two of the 'localities' the material seems to be part of the same gathering!].

NAVARRO-ROSINÉS, P, CALATAYUD, V & HAFELLNER, J 2004. *Cercidospora*. In Nash III *et al.* (2004; q.v.): 635–639. Includes the new combination: *Cercidospora macrospora* (Uloth) Hafellner & Nav.-Ros. (syn. *C. ulothii* Körb.).

ORANGE, A 2004. A remarkable new freshwater *Verrucaria* from Europe. *Lichenologist* 36: 349–354. A new, semi-aquatic *Verrucaria* with 4-spored asci, *V. madida* Orange, is described from Wales, France and Norway. Also, *Verrucaria scabra* Vezda (1970) is newly reported from the British Isles (England and Wales).

ORANGE, A 2004. *Verrucaria papillosa* is a synonym of *V. viridula*. *Lichenologist* 36: 445–447. This new synonymy is supplemented with cross-sections of the perithecia of *V. viridula* and of the similar *V. macrostoma*.

RANDLANE, T & SAAG, A. 2004. Distribution patterns of some primary and secondary cetrarioid species. In Thor *et al.* (2004; q.v.): 359–376. World distribution maps are given for the following British species: *Cetrelia cetrarioides*, *C. chicitae* [but no dots for Britain shown], *C. monachorum* and *C. olivetorum* s.str.

ROUX, C & SÉRUSIAUX, E (with BRICAUD, O & COPPINS, B J, collaborators) 2004. Le genre *Strigula* (Lichens) en Europe et en Macaronésie. *Bibliotheca Lichenologica* **90**: 1–96. Treats all the British species, including the new species \**S. thelopsidoides* Coppins, Cl. Roux & Sérus., which superficially resembles *Thelopsis rubella* (but has 8-spored asci), and grows on the mature trunks of oak and ash (Dunbartonshire, Mid-Perthshire and Westernness) [and West Ross – see ‘New, Rare and Interesting’ in this *Bulletin*]. Also treated is an undescribed species that resembles *S. phaea*, and is known from elm bark in Midlothian and East Sutherland. In the treatment of *S. stigmatella*, the var. *alpestris* is not accepted as a distinct taxon.

SEAWARD, M R D 2004. Studying the Farlow Lichen Collections from the British Isles. *Newsletter of the Friends of the Farlow* **43**: 1–4. An introductory article to the Thomas Taylor (1786–1848) collection in the Farlow Herbarium, including biographical notes on Taylor and his lichenological collaborators.

SEAWARD, M R D 2004. A checklist of Lincolnshire lichens. *Trans. Lincs. Nat. Un.* **26**: 26–30 & 29–40. A total of 313 taxa are listed, of which 13 have not been seen for more than 100 years, and a further 4 are considered doubtful in the absence of voucher material.

SEAWARD, M R D 2004. Mosses, liverworts and lichens. *Trans. Lincs. Nat. Un.* **26**: 42–44. Additional records for Lincolnshire. *Ramalina capitata* is now recorded from seven churchyards in the county.

SEAWARD, M R D 2004. William Borrer. In LIGHTMAN, B (ed.) *The Dictionary of Nineteenth-Century British Scientists*: 240–241.

SEAWARD, M R D 2004. James Morrison Crombie. In LIGHTMAN, B (ed.) *The Dictionary of Nineteenth-Century British Scientists*: 500–501.

SEAWARD, M R D 2004. William Mudd. In LIGHTMAN, B (ed.) *The Dictionary of Nineteenth-Century British Scientists*: 1433–1434.

SMOUT, T C, MACDONALD, A R & WATSON, F 2004. *A History of the Native Woodlands of Scotland 1500–1920*. Edinburgh: Edinburgh University Press. Hardback, 434 pp, plus 16 pages of colour photographs. ISBN 0 7486 1241 6. The first comprehensive historical account of Scottish Woodlands. The colour plates include a photo and distribution of the *Graphis alboscRIPTa*, which is apparently endemic to Scottish Atlantic hazelwoods.

STIVEN, R & HOLL, K 2004. *Wood Pasture*. Natural Heritage Management series. Battleby, Perth: Scottish Natural Heritage. Softback, 39 pp. ISBN 1 85397 386 6. Price £4.95. An extensively illustrated guide to Scottish wood pastures, so important to biodiversity and cultural heritage.

TEHLER, A, DAHLKILD, Å, ELDENÄS, P & FEIGE, G B 2004. The phylogeny and taxonomy of Macaronesian, European and Mediterranean *Roccella* (Roccellaceae, Arthoniales). In Thor *et al.* (2004; q.v.): 405–428. Includes full descriptions, photographs and a key to all species treated.

THELL, A, FEUERER, T, KÄRNEFELT, I, MYLLYS, L & STENROOS, S 2004. Monophyletic groups within the Parmeliaceae identified by ITS rDNA,  $\beta$ -tubulin and GAPDH sequences. *Mycological Progress* 3: 297–314. *Melanelia commixta* is transferred to *Cetrariella* as *C. commixta* (Nyl.) A. Thell & Kärnefelt. [However, this should be treated with some caution as there was only a moderate, 72% jackknife support in the analyses.] The results, so far [on a limited selection of species], indicate that some genera may need to be combined in the future, e.g. *Allantoparmelia* and *Brodoa*, *Cavernularia* and *Hypogymnia*, and *Neofuscelia* and *Xanthoparmelia*.

THOR, G, NORDIN, A & HEDBERG, I (eds) 2004. Contributions to Lichen Taxonomy and Biogeography. *Symbolae Botanicae Upsaliensis* 34 (1) 1–499. A volume of 32 papers dedicated to Leif Tibell on the occasion of his 60<sup>th</sup> birthday. Many of the papers are of general interest to British readers, but only those most pertinent to taxonomy and distribution of British lichens are listed here.

WARNEMENT, J 2004. More about Thomas Taylor and his Herbarium... *Newsletter of the Friends of the Farlow* 43: 4–5. Follows on from Mark Seaward's article (see above), elaborating on the sale of Taylor's herbarium in 1848/49.

ZHURBENKO, M P & ALSTRUP, V 2004. Lichenicolous fungi on *Cladonia* mainly from the Arctic. In Thor *et al.* (2004; q.v.): 477–499. Includes a key to all known cladoniicolous fungi. *Scutula epicladonia* is transferred to *Arthonia* as *A. epicladonia* (Nyl.) Alstrup & Zhurb. [Caution is required here as there is no indication that the type of the basionym, *Lecidea epicladonia* Nyl., has been examined. This new combination is based on the interpretation of an illustration of non-type material referred to *S. epicladonia* by Alstrup & Hawksworth (1990; *Medd. Grøn. Bioscience* 31: 1–90), which is undoubtedly an *Arthonia*. However, Nylander's protologue mentions the faint olivaceous tinge to the apothecia, the non-swollen paraphysis apices and narrower spores, that are more in keeping with the British material in E filed under *S.*

*epicladonia*; all parasitic on *Cladonia pocillum*, [Examination of the type material is required to resolve this problem.]

Brian Coppins

### POCKET MICROSCOPES

Members might be interested in some of the pocket microscopes sold by Optiglass Ltd, 52/54 Fowler Road, Hainault, Essex, IG6 3UT. Full details are available on their web site [http://www.optiglass.com/ukhome/micro\\_mike/mike1.html](http://www.optiglass.com/ukhome/micro_mike/mike1.html).

They sell a range of instruments which are light and small (about 13 x 1.2 cm) and which can easily be clipped into a shirt or jacket pocket. I have been using their 2020 model for some months. This gives a x20 magnification with a field of view of about 4.8 mm, and it seems to me to be a considerable improvement on a conventional x20 lens. There are no moving parts, and focusing is delightfully simple: you rest the tip of the instrument on the substrate, and tilt the barrel until a good focus is achieved. The instrument has built-in reticle which makes it easy to measure features like apothecia, perithecia etc with a precision of 0.1 mm. (Indeed, it has taught me that I have a tendency to underestimate the sizes of such features.) Yet another advantage is that, when examining a lichen, it is not necessary to scrape one's delicate nose against the substrate..... It has proved to be a good, practical instrument; taking it into the field is no hardship at all; and at around £20 it seems to me to be quite a reasonable purchase.

Will Stevens

### NEW, RARE AND INTERESTING LICHENS

Contributions to this section are always welcome. Submit entries to Chris Hitch, Orchella Lodge, 14, Hawthorn Close, Knodishall, Saxmundham, Suffolk, IP17 1QY, in the 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 should be on disc, with hard copy, 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 as the order of entry has been slightly altered.

### New to the British Isles

*Arthonia apatetica* (A. Massal.) Th. Fr. (1866): on twigs of *Populus tremula* in an aspen stand in pasture and on banks of a dismantled railway north of the A 827 road, just west of Strathtay, VC 88, Mid-Perthshire, GR 27(NN)/897.523, alt c. 105 m, June 2004. Herb. C J Ellis L 126 in E. Determined by B J Coppins. Similar in outward appearance to *A. muscigena*, but has larger ascospores ( $12-15 \times 4.5-5 \mu\text{m}$ ) with more rounded cells, and paraphysoids with dark capitate apices, 3-4 (-4.5)  $\mu\text{m}$  wide. BLS no.2418  
C J Ellis.

*Arthonia coronata* Etayo (1996): (i) on podetia of *Cladonia ochrochlora*, Culbin Forest, VC 95, Moray, GR 28(NH)/997.630, alt <10 m, April 1999. Herb. Coppins 19142 in E; (ii) on podetia of *Cladonia subulata*, Ferry Links, VC 107, East Sutherland, GR 28(NH)/8-9--, 1975, leg. member of ITE survey team. Herb. Coppins 2831 in E. The minute brown-black apothecia (50-100  $\mu\text{m}$  diam.) arise among the rather loose soredia of the hosts, and have a roughened appearance under the dissecting microscope (at  $\times 50$ ). This appearance is caused by the dark-brown simple (or occasionally 1-septate) surface hairs,  $10-35 \times 3-3.5 \mu\text{m}$ . The hymenium is I-, K/I- and the asci have a K/I- tholus (without an amyloid ring), but the ascoplasm is K/I+ reddish. The 'paraphyses' are compacted, branched, and irregular in width (2-3  $\mu\text{m}$ ). The ascospores are hyaline to pale brown, 1-septate,  $10-14 \times 3.5-4.5 \mu\text{m}$ . This species was previously known only as a parasite in the soralia of *Flavoparmelia caperata*, recorded from the French and Spanish Pyrenees, southern Spain (Andalucia) and the Canary Islands (Gomera) It is described and illustrated by Etayo (1996; *Bull. Soc. Linn. Provence* 47: 93-110). BLS no. 2415.  
B J Coppins

*Arthonia digitatae* Hafellner (1999): (i) on squamules of *Cladonia macilenta* on tree stump, Slade Wood, Barle Valley, Exmoor, VC 5, South Somerset, GR 21(SS)/87-30-, alt c. 210 m, March 1997, A M & B J Coppins. Herb. Coppins 17123 in E; (ii) on squamules of *Cladonia polydactyla* on tree stump, The Burn, Edzell, VC 91, Kincardineshire, GR 37(NO)/59-71-, alt 60 m, April 1996, B J & A M Coppins. Herb. Coppins 17826 in E. In both collections the squamules (and also podetia in the Exmoor collection) additionally hosted *Milospium lacoizquetiae* (q v). The tissues

infected by both species are discoloured to whitish or pale reddish brown. The *Arthonia* is seen as clusters of partly immersed cushion-like, black apothecia. The epithecium is dull olive-brown and the hypothecium is hyaline or dilute straw-brown. The hymenial gel is I+ reddish, K/I+ blue, and the asci have a minute I+ blue apical ring and a thin I+ blue zone in the lower part of the tholus. The ascospores are hyaline, 1-septate, 9–11 × 3–4.2 µm. This species was originally described and illustrated from Austria, on the squamules of *Cladonia digitata* (Hafellner 1999; *Linzer. Biol. Beitr.* **31**: 507–532). BLS no. **2416**.  
B J Coppins

*Cliostomum leprosum* (Räsänen) Tønsberg (1992): on bark of old *Pinus sylvestris* in boggy birch-dominated pasture woodland with scattered old pines, Coille Mhor, Black Wood of Rannoch SSSI, VC 88, Mid-Perthshire, GR 27(NN)/54069.56632., alt 230 m, July 2004. Herb. Sanderson 761 in E. Determined by B J Coppins. The sorediose thallus and large pycnidia (to 375 µm) distinguish this species from *C. griffithii*. The Scottish specimen lacked apothecia, which are yellowish and similar to those of *C. corrugatum*. A full description is given by Tønsberg (1992; *Sommerfeltia* **14**: 1–331). BLS no. **2414**.  
N A Sanderson

*Gyalidea rivularis* (Eitner) R.O. Nowak. & Tobol. (1975) [syn.: *G. fritzei* var. *rivularis* (Eitner) Vězda (1966)]: (i) on stone on hillside, not far above the road, Nether Craig, Glenisla, VC 90, Angus, GR 37(NO)171.612, alt 410 m, March 1996, Herb. R C Munro in E; (ii) on stone in small, copper-rich quarry, ½ mile east of Drumore Loch, Glenisla, VC 90, Angus, GR 37(NO)173.613, alt 380 m, March 1996, Herb. R C Munro in E. Differs from *G. fritzei* in having smaller apothecia (up to 0.2 mm diameter) and smaller ascospores (15–20 × 8.5–10 µm in above-cited specimens). This species has already been reported from Britain (Galloway, Cross Water of Luce) as *G. fritzei* var. *rivularis* by Peter James in Coppins & Gilbert (1990; *Lichenologist* **22**: 188). Unfortunately this taxon was overlooked for inclusion in the *Flora* and subsequent checklists. BLS no. **2421**.  
B J Coppins

*Intralichen baccisporus* D. Hawks. & M.S. Cole (2002): on thallus of *Diploicia canescens* on *Populus*, Campsey Ash, VC 25, East Suffolk, GR 62(TM)31-55-, January 1992. Herb Hitch. Confirmed by D L Hawksworth. Conidia aggregated into amorphous masses to 25µm diameter on the surface of the host, brown, becoming septate (6-) 8.5-12 x (5.5-) 7-9.5µm. Second world record. For further details see Hawksworth D. L. and Cole M. S. (2002), *Fungal Diversity* **11**: 87-97. BLS no. **2424**.  
P M Earland-Bennett

*Laeviomyces fallaciosus* Hafellner & Kalb (1990): on thallus of *Physcia adscendens* on brick wall outside churchyard, Cockfield, VC 26, West Suffolk, GR 52(TL)90-54-, February 1992. Herb. Hitch. Confirmed by D L Hawksworth. Pycnidia black 30-

50µm diameter, conidia pale brown, simple, truncated at the base, ellipsoid to sub-cylindrical (4 -) 6-8 (-9) x (2.5-) 3-4 µm. For more details see Kalb, K., (1990) *Lichenes Neotropici* Fascikel XI (No. 451-475). Previously only known from Hawaii. BLS no 2423. P M Earland-Bennett, C J B Hitch & P N Cayton

*Lichenonium reichlingii* Diederich (1986) : on thallus and ascomata of *Lecanora campestris* on oolitic limestone church wall, Walberswick, VC 25, East Suffolk, GR 62(TM) /48-74-, June 1992. Herb. Hitch. Confirmed by D L Hawksworth. Pycnidia black, 60 – 100µ diameter, subglobose, pycnidial wall, purple in K, conidia ellipsoid or clavate, distinctly truncated at base, brown, verrucose (6-) 8–11 (-14) x (3-) 5-7.2 µm. For more details see Diederich, P., (1986) *Jejeunia*, *Revue de Botanique*, Nouvelle Serie No. 119. Previously only known from Luxembourg and Austria. BLS no. 2422. P M Earland-Bennett, C J B Hitch & P N Cayton

*Milospium lacoizquetae* Etayo & Diederich (1996): on the squamules and podetia of *Cladonia macilenta* and on the squamules of *C. polydactyla* in two collections of *Arthonia digitatae* (see above). The crowded, black cushion-like sporodochia of this fungus are about 50–100 µm diam., and closely resemble young apothecia of the *Arthonia*. The conidia differ from those of *M. graphideorum* in being smaller (7–17 × 6-12 µm) and more irregular in shape. *M. lacoizquetae* was originally described from the squamules of *Cladonia incrassata* in northern Spain. (Etayo & Diederich 1996; *Mycotaxon* 60: 415–428). BLS no 2417 B J Coppins

*Ramonia azorica* P. James & Purvis (1993): on bark and overgrowing hepatics on trunks of old *Betula* and *Sorbus* in narrow, wooded valley, on south side of stream, just below footbridge over Allt na Muicraidh, Barrisdale, Knoydart, VC 97, West Inverness-shire, GR 18(NG)/864.032, alt 150 m, September 2004. Herb. Coppins 21478 in E. First record outside of the Azores. In the field, resembles a rather robust *Thelotrema petractoides* with emergent apothecia, but microscopically it has large, hyaline, richly muriform ascospores that are one (rarely two) per ascus. Indeed, this species is perhaps best placed in *Thelotrema* because of its I+ blue ascospores [confirmed in type material!] and lack of textura angularis tissue in the exciple. Originally described in Purvis & James (*Arquipélago, Life and Marine Sciences* 11A: 1–15). BLS no. 2420

B J Coppins, V J Giavarini and J C E Hope

*Strigula thelopidoides* Coppins, Cl. Roux & Sérus. (2004): on *Quercus* trunks in avenue, Applecross Park, VC 105, West Ross, GR 18(NG)/71-45-, September 2004. Herb. Coppins 21476 in E. Reported as a newly described species (from Dunbartonshire, Mid-Perthshire and Westernness) by Roux & Sérusiaux (2004; see

'Literature Pertaining' in this *Bulletin*). Additional record, and new to West Ross; the furthest north known locality. BLS no. 1682. B J & A M Coppins

*Tonia subfuscae* (Arnold) Timdal (1991): lichenicolous on the thallus of *Lecanora campestris*, on calcareous maritime cliff, coast NE of Kilmory, Ardnamurchan, Argyll, VC 97, West Inverness-shire, GR 17(NM)/53-70-, July 2004. Herb. Aptroot 62051 in E. Confirmed by B J Coppins. For description see Timdal (1991; *Opera Bot.* 110: 1–137). BLS no. 2419. A Aptroot

### Other Records

*Arthonia excipienda*: on *Corylus*, in *Corylus - Fraxinus* pasture woodland, Collie Mheadhonach, Glen Creran, VC98, Argyle Main, GR27(NN)/03-49-, September 2004. Herb. Sanderson 725. Determined by. N A Sanderson. Second record south of Loch Linnhe A M Cross, L Olley & N A Sanderson

*Arthonia ligniaria*: - for details see under *Thelocarpon superellum*.

*Arthonia zwackhii*: parasitic on *Phlyctis argena* on ancient *Fagus*, in *Fagus - Quercus* pasture woodland, Pond Hill, Mark Ash Wood, New Forest, VC11, South Hampshire GR 41(SU)/24-07-, January 2005 . Herb. Sanderson 817. Determined by N A Sanderson. First record from the New Forest since the 19<sup>th</sup> century. Also the first recent record for Hampshire, as the record of *Arthonia zwackhii* in Bulletin 92 (Summer 2002) for 41(SU)/5—3-- was an error. All recent records of *Arthonia zwackhii* by N A Sanderson & B W Edwards from Dorset and Hampshire have been strongly associated with *Phlyctis argena*, with some clearly parasitic effect on this species.

N A Sanderson & B W Edwards

*Arthopyrenia carneobrunneola*: on *Corylus*, in *Corylus - Alnus - Betula* pasture woodland, Pollochro, Loch Lomond, VC86, Stirlingshire, GR 27(NN)/33-10-, July 2004. Herb. Sanderson 718. First record for the vice county N A Sanderson.

*Arthopyrenia nitescens*: on *Corylus*, in *Corylus - Fraxinus - Quercus - Betula* pasture woodland, Pollochro, Loch Lomond, VC86, Stirlingshire, GR 27(NN)/33-10-, July 2004. Herb. Sanderson 716. First record for the vice county. N A Sanderson

*Aspicilia recedens*: on smooth top of Old Red Sandstone boulder in river; but probably rarely inundated, Afon Tawe, above Abercraf, VC 42, Breconshire, GR 22(SN)/853.202, October 1995. Herb. Woods s.n. E. Confirmed by B J Coppins. New to Breconshire. R G Woods

*Bacidia adastrata*: (i) abundantly fertile on *Populus nigra*, Hainault Forest Country Park, VC 18, South Essex, GR 52(TQ)/47-92-, March 2003. Herb. B Ecott. Determined by P M E-B; (ii) fertile on bole of roadside *Platanus*, Leigh-on-Sea, VC 18, South Essex, GR 51(TQ)/849.861, January 2005. Herb. Southend Museum. New to Essex.  
P M Earland-Bennett

*Bacidia neosquamulosa*: fertile on shaded bole of large *Eucalyptus*, Leigh Library garden, Leigh-on -Sea, VC 18, South Essex, GR 51(TQ)/839.858, February 2005. Herb P M E-B.  
P M Earland-Bennett

*Bacidia subincompta*: in sap run on old *Betula*, *Betula* - *Pinus* pasture woodland, 280m east of the Allt Camghouran, Black Wood of Rannoch, VC88, Mid Perthshire, GR 27(NN)/53-54-, July 2004 Herb. Sanderson 775. Determined by N A Sanderson.  
J Douglass, C Ellis, J Hope & N A Sanderson

*Calicium lenticulare*: on bark of trunk of old *Betula* and on lignum of trunk of old *Quercus*, Lochwood SSSI, VC 72, Dumfries-shire, GR 35(NY)/08-97-, October 2004. Herb. Coppins 21446 and 21447 in E. New to Dumfries & Galloway  
B J Coppins & A Acton

*Caloplaca asserigena*: on twig of *Populus tremula*, collected from the canopy of a large isolated tree near Coire Loch, Glen Affric, VC 96, Easternness, GR 28(NH)/293.280 c. 185m, June 2004. Herb. C J Ellis, L168 in E. Determined by B J Coppins. New to Easternness. This material has some apothecia that are turning blackish as in continental material, but not previously observed in British specimens (see *BLS Bulletin* 94: 83-84). The same twig included *Phaeocalcium praecedens*.  
C J Ellis

*Caloplaca cerina*: on lignum on bench on top of downlands, Tennyson Down, VC 10, Isle of Wight, GR 40(SZ)/32-3.85., August 2004. Not seen since the nineteenth century.  
C J B Hitch

*Candelariella medians*: on northwest side of concrete post with *Candelaria concolor*, by the Bus Station, Park Avenue, Aberystwyth, VC 46, Cardiganshire, GR 22(SN)/585.813 alt 5m, October 2004. New to the vice county. S P Chambers

*Catillaria nigroclavata*: in VC11 South Hampshire (i) on bark of maturing *Populus tremula*, in a thicket of *Populus tremula* on floodplain, Ober Water, New Forest, GR 41(SU)/26-03-, October 2004. Herb. Sanderson 702; (ii) on bark of maturing *Populus tremula*, in a thicket of *Populus tremula* in scrub at edge of pasture woodland,

Wormstall Wood, New Forest, GR 40(SZ)/36-98-, October 2004. Herb. Sanderson 791; (iii) on rough patches of bark on maturing *Populus tremula* in *Populus tremula* thicket in scrubby heathland, North Baddesley Common GR41(SU)39-21-, November 2004; (iv) on *Populus tremula*, in scrub at edge of pasture woodland, Jacks Wood, New Forest, GR 41(SU)/31-03-, December 2004. Herb. Sanderson 801. This tiny species has rarely been recorded from England. It may be an overlooked Aspen specialist in southern England, which should also be looked for elsewhere. It has also been found in wound tracks on old *Fagus* and on the bark of *Sambucus* in the New Forest.  
N A Sanderson

*Celothelium ischnobelum*: on *Corylus*, Lochwood SSSI, VC 72, Dumfries-shire, GR 35(NY)/084.970, October 2004. Herb. Coppins 21461 in E. Second record for Dumfries & Galloway.  
B J Coppins & A Acton

*Chaenothecopsis nigra*: on lignum on the underside of fallen *Quercus*, in *Corylus* – *Fraxinus* – *Quercus* – *Betula* pasture woodland, Pollochro, Loch Lomond, VC 86, Stirlingshire, GR27(NN)/33-10-, July 2004. Herb. Sanderson 717. First record for the vice county.  
N A Sanderson

*Chaenothecopsis savonica*: in VC 101, Kintyre (i) on *Quercus* lignum on fallen live old *Quercus* in pasture woodland, Ardnafrain, Ellary, GR 16(NR)/73-75-, May 2004. N A Sanderson, A M Cross & J Hope; (ii) on over-hanging *Quercus* lignum on underside of old coppice stool, in singled *Quercus* coppice, Port Luna, Knapdale Woods, GR 16(NR)/76-86-, May 2004, N A Sanderson & J Hope. New to the Knapdale area.  
N A Sanderson

*Chrysothrix chrysophthalma*: on lignum of large oak stump (girth 3.90m) - same tree as *Trapeliopsis viridescens*, Lochwood SSSI, VC 72, Dumfriesshire, GR 35(NY)/0847.9704, October 2004. Herb. Coppins 21456 in E. New to southern Scotland.  
B J Coppins & A Acton

*Cladonia incrassata*: on *Quercus* stump in *Quercus* – *Betula* pasture woodland, north of Pollochro, Loch Lomond, VC99, Dunbartonshire GR 27(NN)/33-13-, July 2004. First record for the vice county.  
N A Sanderson

*Cladonia incrassata*: on lignum of large oak stump (girth 3.90m) - same tree as *Trapeliopsis viridescens*, Lochwood SSSI, VC 72, Dumfriesshire, GR 35(NY)/0847.9704, October 2004. Herb. Coppins 21475 in E. Second record for Dumfries & Galloway.  
B J Coppins & A Acton

*Cladonia monomorpha*: amongst montane vegetation, The Cairnwell, VC 92, South Aberdeenshire, GR 37(NO)/12-3.76-7. (Tetrad I), 850 m, July 2003. Herb. Negal. Determined by C J B Hitch, confirmed by L Spier. Second record for The British Isles  
P Negal

*Collema fragile*: on large limestone block, Lydstep Point, VC 45, Pembrokeshire, GR 21(SS)/09-97-, alt 30m, December 2004. Field record.  
S P Chambers

*Collema fuscovirens*: in quantity on flat surface of low concrete tomb surround, St. Tysilio's church, near Cwmttydu, VC 46, Cardiganshire, GR 22(SN)/36-57-, alt 90m, May 2004. Herb. SPC. Confirmed by A Orange. New to the vice county.  
S P Chambers

*Collema nigrescens*: frequent on trunk of single ancient boundary *Fraxinus*, Rowborough Bottom, Shorwell, VC 110, Isle of Wight, GR 40(SZ)/45-85-, January 2004. Herb. CRP. First Isle of Wight record since the mid 1800s.  
C R Pope

*Elixia flexella*: on lignum of standing dead *Pinus sylvestris*, in *Pinus* dominated pasture woodland, Cross Craigs, Black Wood of Rannoch, VC 88, Mid Perthshire, GR 27(NN)/53-54-, alt 290m July 2004, C Ellis, J Douglass & N A Sanderson. Determined by N A Sanderson. Herb. Sanderson 767. First record for vice county.  
N A Sanderson

*Eopyrenula avellanae*: on *Corylus*, Lochwood SSSI, VC 72, Dumfriesshire, GR 35(NY)/084.970, October 2004. Herb. Coppins 21462 in E. Second record for Dumfries & Galloway.  
B J Coppins & A Acton

*Graphis alboscripta*: On *Corylus* at cliff base Ardnafrain, Ellary, Knapdale, VC101, Kintyre GR 16(NR)/72-74-, May 2004, N A Sanderson, A M Cross & J Hope. Herb. Sanderson 826. Determined by N A Sanderson. Southern-most record for this endemic species.  
N A Sanderson

*Gomphillus calycioides*: (i) on *Corylus* in open *Corylus* - *Fraxinus* woodland, Ardnafrain, Ellary, VC 101, Kintyre GR 16(NR)/72-74-, May 2004, N A Sanderson, A M Cross & J Hope. Herb. Sanderson 827; (ii) on *Fraxinus* in *Corylus* - *Fraxinus* - *Quercus* woodland, Baravalla, West Loch Tarbert, VC 101 Kintyre, GR 16(NR)/83-66-, May 2004, N A Sanderson, a southern extension to its range; (iii) on *Quercus*, in *Corylus* - *Fraxinus* - *Ulmus* - *Quercus* pasture woodland, north of Pollochro, Loch Lomond, VC 99, Dunbartonshire, GR 27(NN)/33-12-, May 2004. A record at the eastern edge of the range of the species.  
N A Sanderson

*Gyalecta bififormis*. On crumbling rock/soil interface; very rare. Hurlstone Point, VC 5, South Somerset, GR 21(SS)/9--4--, 2003, Herb. Sandell in E. Determined by B J Coppins. New to Somerset. Erroneously reported in *BLS Bulletin* 95: 16 (2004) as *G. foveolaris*.  
B J Coppins

*Gyalecta foveolaris* – for details see above under *G. bififormis*.

*Gyalecta ulmi*: on east-facing calcareous cliff, south side of River Lyon, east of Blackwood Cottage, Glen Lyon Woods SSSI, VC 88, Mid-Perthshire, GR 27(NH)/709.472. Field record. Still present at this spot, discovered by Alan Fryday in 1990.  
B J & A M Coppins

*Heterodermia japonica*: on *Salix* in carr woodland, Lochwood SSSI, VC 72, Dumfriesshire, GR 35(NY)/08-.97-, October 2004. Herb. Coppins 21450 in E. Re-found and monitored at this, its only known site in southern Scotland, but seen at two locations within the site.  
B J Coppins & A Acton

*Illosporopsis christiansenii*: on *Physcia tenella* on *Acer pseudoplatanus*, Plas Crug Avenue, Aberystwyth, VC 46, Cardiganshire GR 22(SN)/58-81-, alt 5m, February 1997. Herb. SPC. Confirmed by A Orange. New to the vice county. S P Chambers

*Intralichen baccisporus*: in hymenium of *Lecania erysibe* on brick steps by River Deben, Woodbridge, VC 25, East Suffolk, GR 62(TM )/27-48-, February 1992. Confirmed by D L Hawksworth. See other entry under **New to the British Isles**.  
P M Earland-Bennett

*Kalchbrenneriella cyanescens*: on *Usnea wasmuthii* on *Quercus* branches, Glenlee Park, St John's Town of Dalry, VC 73, Kirkcudbrightshire, GR 25(NX)/61-80-, October 2004. Herb. Coppins 21442 in E. New to southern Scotland.  
B J Coppins & J Douglass

*Laeviomyces fallaciosus*: on thallus of *Physcia adscendens* on wooden garden seat, Glemham House, Great Glemham, VC 25, East Suffolk, GR 62(TM )/54-61-, October 2003. See other entry under **New to the British Isles**.  
P M Earland-Bennett & C J B Hitch

*Lecanora cinereofusca*: (i) on 6 *Corylus* and 1 *Alnus*, in *Corylus* & *Alnus* dominated pasture woodland, lower Glen Stockdale, VC 98, Argyll Main, GR 17(NM)/94-47-, September 2004; (ii) on 1 *Fraxinus*, in *Corylus* – *Fraxinus* – *Betula* pasture woodland upper Glen Stockdale, VC 98, Argyll Main, GR 17(NM)/95-49-, September 2004. A M Cross, & N A Sanderson. Determined by N A Sanderson. A more detailed survey

of the second UK site, first recorded in 2003 by the BLS.

N A Sanderson

*Lecanora cinereofusca*: (i) on one *Corylus* in *Corylus* dominated pasture woodland, Eas an Daimh, Glen Creran, VC 98, Argyll Main, GR 17(NM)/99-45-, September 2004; (ii) on 5 *Fraxinus*, 1 *Corylus*, 1 *Ilex*, 1 *Salix caprea* and 1 *Quercus*, in *Corylus* – *Fraxinus* pasture woodland, Collie Mheadhonnach, Glen Creran, , VC98, Argyll Main, GR 27(NN)/03-49-, September 2004. A M Cross, L Olley & N A Sanderson. Herb. Sanderson 721, 729 & 730. Third and fourth sites for this distinctive and apparently very rare species.

N A Sanderson

*Lecanora rugosella*: on maturing *Populus tremula* trunk, *Populus tremula* stand in scrubby heathland, North Baddesley Common, VC11, South Hampshire, GR 41(SU)/39-21-, November 2004. Herb. Sanderson 802. Confirmed by B J Coppins. New to Hampshire.

N A Sanderson

*Lecanora zosteriae*: (i) on old stem of grazed down stub of *Atriplex portulacoides*, on grazed sea wall, in grazing marsh, Northney, North Hayling, VC11, South Hampshire, GR 41(SU)/73-03-, June 2004. Herb. Sanderson 795; (ii) Dead twigs of *Atriplex portulacoides*, in developing salt marsh in managed retreat project, Printhead Point, Thornham, VC13, West Sussex, GR 41(SU)/76-04-, July 2004, N A Sanderson & A M Cross. Herb. Sanderson 797. A new porophyte for this coastal species. The second record is a new vice-county record.

N A Sanderson

*Lecidea hypopta*: on lignum of decorticate *Quercus*, Dalkeith Old Wood SSSI, VC 83, Midlothian, 36(NT)/3401.6880, October 2004. In Herb. Coppins 21438 E. New to Midlothian.

B J Coppins & J Simkin

*Lepraria diffusa*: on north wall string course of church, Tower Street, Ipswich, VC 25, East Suffolk, GR 62(TM)/164.447., May 1999. Herb. Hitch M5. Determined by A Orange. New to Suffolk.

C J B Hitch

*Leptogium saturninum*: on *Fraxinus*, south side of River Lyon, Glen Lyon Woods SSSI, VC 88, Mid-Perthshire, GR 27(NH)/713.472. Field record. Seven mature thalli and several smaller ones.

B J & A M Coppins

*Lobaria amplissima*: on moss on old *Corylus*, in *Betula* dominated pasture woodland, Sron nan Calamag, Coille Mhor, Black Wood of Rannoch, VC88, Mid Perthshire, GR 27(NN)/53-56-, alt 230m, July 2004. A new 10km national grid square record.

N A Sanderson

*Macentina stigonemoides*: on moss on old *Corylus*, in *Betula* dominated pasture woodland, Sron nan Calamag, Coille Mhor, Black Wood of Rannoch, VC88, Mid Perthshire, GR 27(NN)/54-56-, alt 250m, July 2004. Herb. Sanderson 759. An unexpected record from a northern and upland habitat for a mainly lowland and southern lichen.

N A Sanderson

*Megalospora tuberculosa*: fertile on moss on *Acer pseudoplatanus*, in *Quercus* plantation reverting to pasture woodland, Dudh Cladach, West Loch Tarbert, VC101, Kintyre, GR 16(NR)/82-67-, May 2004. Herb. Sanderson 778. A very rarely fertile species.

N A Sanderson

*Menegazzia terebrata*: on *Sorbus aucuparia* in carr woodland, Lochwood SSSI, VC 72, Dumfriesshire, GR 35(NY)/08-97-, October 2004. Field record. Re-found and monitored at this, one of only three known sites in southern Scotland.

B J Coppins & A Acton

*Micarea coppinsii*: on *Salix* branch, Lochwood SSSI, VC 72, Dumfriesshire, GR 35(NY)/08-97-, October 2004. Herb. Coppins 21452 in E. New to southern Scotland.

B J Coppins & A Acton

*Micarea hedlundii*: on *lignum* of large oak stump (girth 3.90m) – the same tree supporting *Trapeliopsis viridescens*, Lochwood SSSI, VC 72, Dumfriesshire, GR 35(NY)/0847.9704, October 2004. Herb. Coppins 21457 in E. New to southern Scotland.

B J Coppins & A Acton

*Micarea pycnidiophora*: (i) on small acidic *Quercus*, in former *Quercus* coppice, Port Luna, Knapdale Woods, VC 101, Kintyre, GR 16(NR)/76-86-, May 2004, N A Sanderson & J Hope. First record for the vice county; (ii) on three *Betula* in old policy woodland, Baravalla, West Loch Tarbert, VC101, Kintyre, GR 16(NR)/83-66-, May 2004. Second record for vice-county. This mainly southern species may be overlooked as stunted *Micarea stipitata* in western Scotland. *M. pycnidiophora* differs in its C + red simple stalked pycnidia. It is advisable to test *Micarea* with simple stalked pycnidia with C, although much is C- stunted *M. stipitata*. With familiarly, *M. pycnidiophora* candidates can be picked out by the slightly whiter pycnidia.

N A Sanderson

*Micarea stipitata*: on *Betula*, Lochwood SSSI, VC 72, Dumfriesshire, GR 35(NY)/0836.9729, October 2004. Herb. Coppins 21449 in E. One of only 3 sites in Dumfries & Galloway (recorded as "*Bacidia sphaeroides*" by Francis Rose in 1976).

B J Coppins & A Acton

*Micarea subviridescens*: on soil of steep bank within stunted oakwood, The Dizzard, VC 2, East Cornwall, GR 20(SX)/17-99-, alt 140m, October 2002. Herb. Coppins 20764 in E. Prasinic acid by TLC. Additional to the list in *BLS Bulletin* 94: 38–44.

B J Coppins

*Micarea viridileprosa*: on *Alnus* trunk, Lochwood SSSI, VC 72, Dumfriesshire, GR 35(NY)08-97-, October 2004, Coppins 21453 in E. New to Dumfries & Galloway.

B J Coppins & A Acton

*Micarea xanthonica*: on *Betula* with *M. stipitata*, Lochwood SSSI, VC 72, Dumfries, GR 35(NY)0836.9729, October 2004. Herb. Coppins 21449 in E ( under *M. stipitata*). New to southern Scotland.

B J Coppins & A Acton

*Microcalicium ahlneri*: on exposed soft heartwood on leaning side of standing dead *Pinus sylvestris* in native Pinewood, Dall Burn, Black Wood of Rannoch, VC86, Mid Perthshire, GR 27(NN)/58-55-, July 2004. J Douglass & N A Sanderson. Determined by N A Sanderson. Second vice county record

N A Sanderson

*Mycocomicrothelia confusa*: on *Populus tremula* branch, in *Populus* thicket in rocky high altitude *Betula* dominated pasture woodland, Cross Craigs, Black Wood of Rannoch, VC 88, Mid Perthshire, GR 27(NN)/52-53-, alt 420m, July 2004. C Ellis, J Douglass & N A Sanderson, Determined by N A Sanderson. Herb. Sanderson 766. First record for the vice county and a very eastern one for this oceanic species.

N A Sanderson

*Mycoporum lacteum*: (i) on old *Ilex* on cliff, in *Corylus* – *Fraxinus* pasture woodland in steep gorge, Garbh-airde Mhòr, West Loch Tarbert, VC101, Kintyre, GR 16(NR)/83-68-, May 2004. First record for the vice county; (ii) On ancient *Ilex* on cliff, in *Corylus* – *Fraxinus* – *Quercus* – *Betula* pasture woodland, Pollochro, Loch Lomond, VC86, Stirlingshire, GR 27(NN)/33457.10617, July 2004. Herb. Sanderson 715. First record for the vice county.

N A Sanderson

*Neofuscelia delisei*: extensively spreading colony on a steep south- to southeast-facing exposed outcrop of hard gritstone, Pant-y-Gwair, south of Trefenter, VC 46, Cardiganshire, GR 22(SN)/60-67-, alt 330m, August 2004. Herb. SPC. Confirmed by A Orange. 7.5km from the coast and accompanied by other maritime species, including *Ramalina siliquosa*. New to the vice county.

S P Chambers

*Ochrolechia inversa*: on *Corylus*, in *Corylus* – *Alnus* – *Betula* pasture woodland, Pollochro, Loch Lomond, VC86, Stirlingshire, GR 27(NN)/33-10-, July 2004. Herb. Sanderson 705.

N A Sanderson

*Opegrapha fumosa*: on stunted old *Quercus* in wind stunted coastal *Quercus* – *Betula* – *Corylus* pasture woodland, Ardminish, Loch Stornoway, VC101, Kintyre, GR 16(NR)/73-60-, May 2004. A M Cross & N A Sanderson. An under recorded south western species.  
N A Sanderson

*Opegrapha fumosa*: on *Quercus* trunks (on 2 trees), Lochwood SSSI, VC 72, Dumfriesshire, GR 35(NY)/083.972, October 2004. Herb. Coppins 21454 in E. New to southern Scotland.  
B J Coppins & A Acton

*Opegrapha sphaerophoricola*: on *Sphaerophorus globosus* on old *Betula*, Leathad Mòr, Coulin Pinewood SSSI, VC 105, West Ross, GR 28(NH)/0061.5557, September 2004. Herb. Coppins 21477 in E. New to Scotland.  
B J Coppins

*Opegrapha xerica*: (i) on dry bark of old *Quercus*, Lothead & Ardnafrain, Ellary, VC101 Kintyre, GR 16(NR)/76-77- & 16(NR)/ 72-74-, May 2004, NA Sanderson, A M Cross & J Hope. Herb. Sanderson 829 & 845; (ii) on stunted old *Quercus* in wind stunted coastal *Quercus* – *Betula* – *Corylus* pasture woodland, Ardminish, Loch Stornoway, VC101, Kintyre, GR 16(NR)/73-60-, May 2004. A south western species at the edge of its range .  
N A Sanderson

*Opegrapha xerica*: on lignum inside ancient *Taxus* in churchyard, Alton Priors, Vale of Pewsey, North Wiltshire, GR 41(SU)/10-62-, November 2004. Herb. Sanderson 811. New to North Wiltshire.  
NA Sanderson

*Parmotrema crinitum*: locally abundant on northeast-facing, low outcrop, VC 81, Berwickshire, Fast Castle, GR 36(NT)/860.710, alt 50m, November 2004. Herb. Coppins 21443 in E. Only the second record for eastern Scotland [there is an old specimen in E from the Isle of May].  
B J Coppins C J Ellis & R Yahr

*Pertusaria ophthalmiza*: on single old *Betula*, in *Betula* dominated pasture woodland on edge of ravine, Inverneil Burn, VC101, Kintyre, GR 16(NR)/83-81-, May 2004, A M Cross, Jo Hope, Andy Acton, Anna Acton & N A Sanderson. The southern-most record from the Scottish Highlands. .  
N A Sanderson

*Pertusaria pupillaris*: on smooth bark of *Quercus* trunk in old woodland, Rheidol gorge, VC 46, Cardiganshire, GR 22(SN)/753.798, alt 210m, December 2004. Herb. SPC. New to the vice county.  
S P Chambers

*Pertusaria velata*: on old *Quercus* with *Pertusaria amara pulvinata*, in wind stunted *Quercus* - *Betula* pasture woodland, Barr nan Sliseag, Ardpark, VC101, Kintyre,

GR 16(NR)/74-59-, May 2004. Confirmed by B J Coppins. Herb. Sanderson 685  
Deposited in E. New to Scotland. N A Sanderson.

*Peltigera degenii*: on shaded damp rock face with *Pseudocyphellaria norvegica* in old *Quercus* plantation reverting to pasture woodland, Leacainn Iasgair, Pollochro, Loch Lomond, VC86, Stirlingshire, GR 27(NN)/33-09-, July 2004. Herb. Sanderson 705.  
N A Sanderson

*Phaeocalicium praecedens*: - for details see under *Caloplaca asserigena*.

*Phaeographis smithii*: on smooth bark on old *Carpinus* in relic pasture woodland with old *Fagus* & *Carpinus*, Micheldever Wood, VC 12, North Hampshire, GR 41(SU)/53-38-, April 2001. Herb. Sanderson 426. First record for North Hampshire.  
N A Sanderson

*Physcia clementei*: (i) colony covering a sloping slab for 7m, coastal rocks, west side of Tainish NNR, VC101, Kintyre, GR 16(NR)/72-84-, May 2004, N A Sanderson & J Hope. A new site, 600m north of the original site, where it cannot now be found; (ii) 2 thalli on sunny south-facing gently sloping slab of coastal rocks, Balnabraid, Campbelltown VC101, Kintyre, GR 16(NR)/76-15-, May 2004. First record since 1973 from this site; (iii) a large population on 3 sloping coastal rocks, both open and partly shaded by trees, Carraig na Graisge, Baravalla, West Loch Tarbert, VC101, Kintyre, GR 16(NR)/83- 65-, May 2004 . New site and third Scottish record. The entire known Scottish population was examined during SCM surveys in 2004.  
N A Sanderson

*Polychidium dendriscum*: on *Frullania tamarisci* on *Salix caprea* in *Corylus* - *Fraxinus* pasture woodland, Collie Mheadhonach, Glen Creran, VC98, Argyll Main, GR 27(NN)/03-49-, September 2004. A M Cross, L Olley & N A Sanderson. Herb. Sanderson 725. Determined by N A Sanderson. Fifth Scottish record. N A Sanderson

*Porina coralloidea*: on bark of mature *Quercus*, in old *Quercus* plantation reverting to pasture woodland, Leacainn Iasgair, Pollochro, Loch Lomond, VC86, Stirlingshire, GR 27(NN)/33-09-, July 2004/19/7/2004. Herb. Sanderson 704. First record for the vice county.  
N A Sanderson

*Porina rosei*: (i) on moss on old *Fraxinus*, Sidhean Buidhe, Ellary VC101, Kintyre. GR 16(NR)/72-74-, May 2004, N A Sanderson, AM Cross & J Hope. New to site; (ii) on old *Quercus* in pasture woodland, south of Tainish NNR, VC 101, Kintyre GR 16(NR)/72-83-, May 2004, N A Sanderson & J Hope; (iii) on at least 4 *Ulmus* in old growth coastal slope *Fraxinus* - *Corylus* - *Ulmus* woodland, Sròn Bheith, Tainish

NNR, VC 101 Kintyre GR 16(NR)/74-86-, May 2004. New to the NNR; (iv) on old *Fraxinus*, in *Corylus* – *Fraxinus* pasture woodland in steep gorge, Garbh-airde Mhòr, West Loch Tarbert, VC101, Kintyre, GR 16(NR)/83-68-, May 2004. New to the area; (v) on moss in crevice in gully in sea cliff rich in *Lobarion* species, Balnabraid, VC101, Kintyre, GR 16(NR)/76-15-, May 2004. New to the area; (vi) on *Ulmus* & rock, in *Corylus* – *Fraxinus* - *Ulmus* – *Quercus* pasture woodland, Pollochro, Loch Lomond, VC86, Stirlingshire, GR 27(NN)/33-10-, July 2004. First record for the vice county.  
N A Sanderson

*Porpidia striata*: occasional on Ordovician shale fragments in windswept *Diphasiastrum alpinum* – *Galium saxatile* – *Vaccinium vitis-idaea*, heath Pen Pumlumon Fawr, VC 46, Cardiganshire GR 22(SN)/79-86-, alt 720-740m, September 1999. Herb. SPC. New to the vice county.  
S P Chambers

*Protoparmelia oleagina*: on lignum of huge fallen ancient *Quercus*, in damp pasture, by Jacks Wood, New Forest, VC11, South Hampshire, GR 41(SU)/31-03-, December 2004. Herb. Sanderson 812. First record for Hampshire.  
N A Sanderson

*Pseudocyphellaria lacerata*: (i) 1 large thallus on sunny costal rock, Rubh'an Oib, Fairy Isles, Knapdale Woods, VC 101, Kintyre GR 16(NR)/75-87-, May 2004, New to northern Knapdale; (ii) on edge of shaded sloping damp rock with *Pseudocyphellaria norvegica*, in *Corylus* – *Fraxinus* - *Ulmus* – *Quercus* pasture woodland, north of Pollochro, Loch Lomond, VC99, Dunbartonshire, GR 27(NN)/ 33-13-, July 2004. Herb. Sanderson 709. Confirmed by B J Coppins. First record for the vice county and first inland Scottish record.  
N A Sanderson

*Ramalina portuensis*: on trunk of large *Abies procera*, Applecross Park, VC 105, West Ross, GR 18(NG)/7198.4550, September 2004. Herb. Coppins 21473 in E. Apparently the furthest north British and European locality.  
B J Coppins

*Rinodina efflorescens*: on *Quercus* trunk in gappy hedge in sheep field, Capel Bangor, VC 46, Cardiganshire, GR 22(SN)/65-80-, alt 100m, October 2004. Herb. SPC. Confirmed by A Orange. New to the vice county.  
S P Chambers

*Roccella phycopsis*: fertile in an underhang, west of Start Point, VC 3, South Devon, GR 20(SX)/82-37-, March 2004. Determined by D L Hawksworth. Very rarely fertile  
B Benfield

*Roccella phycopsis*: small colony of *c.* 4-5 mingled stunted tufts, in a 4 x 2cm area in deep recess under sheltering rock roof, on coast at Cwm Soden, VC 46, Cardiganshire, GR 22(SN)/36-58-, alt 30m, May 2004. Herb. SPC. New to the vice

county and an extension in range of 30 miles beyond the previous northern-most British locality, to the west of Strumble Head.  
S P Chambers

*Sticta canariensis*: the free living green morph: (i) frequent on rocks in coastal *Ulmus* – *Fraxinus* woodland, Cnoc Moine, Ellary, VC 101 Kintyre, GR 16(NR)/71-73- & 16(NR)/70-73-, N A Sanderson & A M Cross, May 2004; (ii) on rocks & a *Fraxinus* in coastal woodland, Rubha an Tuth, Ellary, VC 101, Kintyre, GR 16(NR)/73-75-, May 2004, N A Sanderson, A M Cross & J Hope. A major population; (iii) about 10 large thalli on side of large loose slab, in old growth coastal slope *Fraxinus* – *Corylus* – *Ulmus* woodland, Sròn Bheith, Taynish NNR, VC101, Kintyre, GR 16(NR)/74-86-, May 2004. New to north Knapdale.  
N A Sanderson

*Stenocybe bryophila*: growing buried in the liverwort *Plagiochila punctata* on the base of old *Quercus*, Pollochro, Loch Lomond, VC86, Stirlingshire, GR 27(NN)/33-10-, July 2004. Herb. Sanderson 712. First record for the vice county.  
N A Sanderson

*Thelocarpon superellum*: on crumbly soil on sheltered face at back of vehicle turning space, Allygoch quarry, Cwrtnwydd, VC 46, Cardiganshire, GR 22(SN)/49-48-, alt 190m, January 2005. Herb SPC. Confirmed by A Orange. Associates include *Arthonia ligniaria* and *Veizdaea cobria*.  
S P Chambers

*Thelotrema macrosporum*: on *Corylus* in *Corylus* – *Betula* pasture woodland, north of Pollochro, Loch Lomond, VC99, Dunbartonshire, GR 27(NN)/33-13-, July 2004. Herb. Sanderson 708. First record for the vice county.  
N A Sanderson

*Trapeliopsis viridescens*: on lignum of large oak hulk in oakwood, Coel na mara, N side of Loch Sunart, VC 97, West Inverness-shire, GR 17(NM)/7546.6181, alt 15m, April 2004. C J Ellis L 164 in E. Determined by B J Coppins. With apothecia. The same oak hulk supported *Calicium lenticulare* and abundant, fertile *Lecidea doliiformis*. Known only from two modern sites (see next entry). New to the Scottish Highlands.  
C J Ellis

*Trapeliopsis viridescens*: on lignum of large oak stump (girth 3.90 m), Lochwood SSSI, VC 72, Dumfriesshire, GR 35(NY)/0847.9704, October 2004. Herb. Coppins 21455 in E. With apothecia. Only the second modern British record. Originally found here by Göran Thor in 1990.  
B J Coppins & A Acton

*Usnea florida*: rare on *Quercus* branches, Lochwood SSSI, GR 35(NY)/08-97-, October 2004. Herb. Coppins 21460 in E. The species seems to have declined at this, its only known Scottish locality. One thallus was parasitized by an unidentified

coelomycete, which had hyaline, simple conidia with a distinctly truncate base, 3–4 × 1.5–1.8 µm.  
B J Coppins & A Acton

*Verrucaria hydrela*: on wet sandrock in seepage sandrock exposure, in wooded gill in old coppiced woodland, Thirty Acre Wood, Uckfield Wood, VC 14, East Sussex, GR 51(TQ)/46-22-, December 2004. A M Cross & N A Sanderson. Herb. Sanderson 809. First record for East Sussex.  
N A Sanderson

*Verrucaria ochrochlora*: on mortar on south wall of church, Ilketshall St. John, VC 25, East Suffolk, GR 62(TM )/360.875, June 2001. Herb. Hitch O20. Determined by A Orange. Second Suffolk record.  
C J B Hitch & P M Earland-Bennett

*Verrucaria polysticta*: on base of oolitic limestone tomb in churchyard, Exning, VC 26, West Suffolk, GR 52(TL)/621.655, August 2004. Herb. Hitch. Determined by P M E-B. Confirmed by A Orange. First churchyard record and new to Suffolk.  
P M Earland-Bennett & C J B Hitch

*Verrucaria polysticta*: abundant on concrete wall tops of urban gardens, Leigh Road, Chalkwell, VC 18, South Essex, GR 51(TQ)/854.862, February 2005. New to Essex.  
P M Earland-Bennett

*Veizdaea cobria*: - for details see under *Thelocarpon superellum* .

S P Chambers

## Supplement

### New, Rare and Interesting Lichens: From Lundy and the Lesser Channel Islands

#### New to the British Isles

*Pertusaria leucosora* Nyl (1877): in Sark, VC 113, Channel Islands, on flat, sunny coastal rocks and boulders in turf (i) on biotite gneiss below Pilcher Monument, GR WV/455.754; (ii) on diorite above Les Boutiques Caves, GR WV/459.777; (iii) on hornblende gneiss, Les Laches, GR WV/477.755; (iv) on hornblende gneiss, Hog's Back, GR WV/469.750, August 1999. Thick grey thallus, spreading, rimose cracked, resembles *Pertusaria excludens* and *P. lactea*. Soralia are K- (or dirty brown), KC-, C-, Pd+ rust red. Fumarprotocetraric acid by TLC. Also known from the coast of Brittany and the Cherbourg Peninsula. BLS no. 2311.  
P W James

## Other Records

*Acarospora subrufula*: on top of small granodiorite boulder, Bibette Head, Alderney, VC 113, Channel Islands, GR WA/589.092, May 2001. Also found in Alderney by BLS in Fort Corblet's Bay, GR WA/599.091 and in Veux Trembliers Bay, GR WA/601.091, August 1975. P W James

*Acarospora subrufula*: in sunny crevices at top of xeric-supralittoral granodiorite outcrop, Bear's Beach, Herm, VC 113, Channel Islands, GR WV/394.808, September 2003. Confirmed by P W James. A Allen & B Hilton

*Anaptychia ciliaris* subsp. *mamillata*: on exposed rock on low granite cliffs near bridge to North Light, above Virgin's Spring, North West Point, Lundy, VC 4, North Devonshire, GR 21(SS)/131.482, June 1995. Confirmed by P W James. Well-developed, but localised. A Allen & B Hilton

*Arthonia endlicheri*: on base of sheltered, landward-facing diorite cliff, foot of Adonis Headland, Sark, VC 113, Channel Islands, GR WV/449.738, August 1999. Confirmed by P W James. With *Dirina stenhammarii* and both *Roccella* species. C+ red. Contains lecanoric acid and gives no fluorescence with UV. Soralia with coarse granules originate along the margins of the areoles. A specimen collected in 1966 by Professor Aino Henssen at L'Eperquerie, Sark, GR WV/462.773, was the first British record for this species. A Allen & B Hilton

*Bacidia chlorotricula*: on concrete-pebble detritus below Fort Albert, Alderney, VC 113, Channel Islands, GR WA/588.086, November 2001. P W James

*Bacidia egenula*: on dead trunk of *Ulmus*, near Belvoir, Herm, VC 113, Channel Islands, GR WV/402.805, October 2002. P W James

*Bacidia friesiana*: on *Sambucus*, near Belvoir Bay, Herm, VC 113, Channel Islands, GR WV/403.805, October 2002. P W James

*Bryoria fuscescens* var. *positiva*: in acid *Calluna* heathland, north end, beyond Threequarter Wall, Lundy, VC 4, North Devonshire, GR 21(SS)/132.476, December 2002. Confirmed by P W James. With *Cetraria muricatum* and *Platysmatia glauca*. This species is rare on the island and was last seen by Noon and Hawksworth on granite at Threequarter Wall, GR 21(SS)/136.466, in 1972. A Allen & B Hilton

*Buellia leptoclinoides*: in sheltered dry underhang community, at a dolerite fault area in hornblende gneiss, near bottom of Port du Moulin footpath, Sark, VC 113, Channel

Islands, GR WV/458.768, August 1999. With *Dirina stenhammarii* and *Lecanographa grumulosa*. P W James

*Byssoloma leucoblepharum*: on dead *Calluna* stems in sheltered recesses, between North East Point and Gannets' Bay, Lundy, VC 4, North Devonshire, GR 21(SS)/135.477, August 1996. P W James

*Caloplaca cerinelloides*: on *Sambucus*, Happy Valley, Sark, VC 113, Channel Islands, GR WV/455.754, August 1999. Confirmed by B J Coppins. P W James

*Caloplaca cerinelloides*: in Alderney, VC 113, Channel Islands (i) on branches of young *Ulmus*, near Zig-Zag, GR WA/562.070, May 2001; (ii) on *Sambucus*, near main entrance to Essex Castle, GR WA/595.077, November 2001. P W James

*Caloplaca phlogina*: on branches of old *Ulmus* in field, near Le Manoir, Herm, VC 113, Channel Islands, GR WV/400.804, October 2002. P W James

*Catillaria chalybeia* var. *chloropoliza*: on brick wall of train terminal, Mannez Quarry, Alderney, VC 113, Channel Islands, GR WA/597.087, May 2001. With *Lecania rabenhorstii*. P W James

*Cladonia cyathomorpha*: on crumbling, mossy earth bank under *Rhododendron* by lower path, south of Quarter Wall, east coast, Lundy, VC 4, North Devonshire, GR 21(SS)/139.446, August 1996. The large basal squamules have the very distinct pink veins of this species. Fumarprotocetraric acid and an unknown substance by TLC. P W James

*Cladonia cyathomorpha*: on sheltered earth bank, facing north-west, Les Fontaines Creek, Sark, VC 113, Channel Islands, GR WV/455.732, August 1999. P W James

*Dirina massiliensis* f. *massiliensis*: in Sark, VC 113, Channel Islands, (i) in dry crevices in gneiss cliff face protected from wind and rain, above Gouliot Caves, GR WV/453.758, August 1999. Fertile, and associated with luxuriant *Rocella fuciformis*; (ii) near stream in dolerite dyke area, at bottom of path to Port du Moulin, GR WV/458.768, August 1999. Pycnidiate, and with *Opegrapha cesareensis* and *Sclerophytomyces* sp. ined. P W James, A Allen & B Hilton

*Dirina massiliensis* f. *massiliensis*: on sheltered sandstone underhang, La Grande Folie, Alderney, VC 113, Channel Islands, GR WA/604.086, May 2001. Confirmed by P W James. Well fertile, and with *Sclerophytomyces circumscriptus*. An earlier Alderney record for the Nunnery wall, BLS visit, August 1975, was confirmed by A

*Fulgensia fulgens*: amongst moss, *Trichostomum crispulum* on consolidated, shell-rich sand, basic sandy soil, near HWST, Longis Common (Mannez Garenne), Alderney, VC 113, Channel Islands, GR WA/ 604.085, May 2001. In two small patches with a total of 40 thalli, the area covered being considerably reduced since the BLS visit in August 1975. Now extinct at the Mount Hale Battery site, GR WA/588.085, May 2001. P W James

*Fulgensia fulgens*: in Herm, VC 113, Channel Islands (i) on open dune grassland in small patches, south of Obelisk and behind Shell Bay, GR WV/398.812; (ii) frequent on consolidated basic sand, west of Obelisk, GR WV/397.813, October 2002. With *Toninia sedifolia* and the moss, *Trichostomum crispulum*, in a community dominated by *Thymus polytrichus*. P W James, A Allen & B Hilton

*Herteliana taylori*: in Sark, VC 113, Channel Islands in shaded coastal situations, often on path-side rock faces, mossy boulders or embankments (i) at Creux Harbour entrance, GR WV/477.758; (ii) at L'Eperquerie, GR WV/462.773; (iii) at Les Fontaines Creek, GR WV/452.742; (iv) on rock at the top of The Pot GR: WV/458-738; (v) at Harbour Hill, GR WV/470.758, August 1999. Sometimes with *Bacidia viridifarinoso*. Mostly sterile and browsed by snails. P W James, A Allen & B Hilton

*Heterodermia leucomela*: on low-turfed *Armeria* slope overlooking the sea and exit of Les Boutiques Caves, north of L'Eperquerie, Sark, VC 113, Channel Islands, GR WV/460.777, July 2004. Confirmed by P W James. Scattered over one and a half metre square area. With stunted *Parmelia saxatilis* and *Parmotrema crinitum*. This material is very near the site recorded (L'Eperquerie) for a nineteenth century specimen, leg. Crombie, in the BM herbarium. A Allen & B Hilton

*Hypotrachyna endochlora*: on embedded granite boulder, low down on sheltered side, adjacent to third major outcrop near Tibbett's Point, *en route* to Threequarter Wall Bay, Lundy, VC 4, North Devonshire, GR 21(SS)/141.464, May 1995. With *Hypotrachyna laevigata*. P W James

*Lecanographa grumulosa*: in Sark, VC 113, Channel Islands (i) on sheltered and shaded rock face in dolerite fault area of Port du Moulin, GR WV/458-768); (ii) on north-facing barn wall influenced by crumbling mortar, Vieux Port, GR WV/458.761, August 1999. Possibly lost now due to reconstruction of barn. P W James, A Allen & B Hilton

*Lecanographa grumulosa*: on old mortar of north-facing boundary walls the Nunnery, Alderney, VC 113, Channel Islands, GR WA/595.082, May 2001. Well-developed and extensive patches. This is the site recorded for this species by Larbalestier, 1873 (Larbal. *Lich. Rariss.* No. 161) and recorded by Marquand, 1901. P W James, A Allen & B Hilton

*Lecanora compallens*: on bole of *Cupressus*, Old Cemetery, Sark, VC 113, Channel Islands, GR WV/462.760, August 1999. P W James

*Lecanora compallens*: on sandstone headstone, St Anne's Churchyard, Alderney, VC 113, Channel Islands, GR WA/572.074, May 2001. P W James

*Lecanora intricata*: on low sandstone outcrop, in the xeric-supralittoral zone, La Tchue, Alderney, VC 113, Channel Islands, GR WA/591.075, May 2001. Confirmed by P W James. A Allen

*Lecanora ochroidea*: in Sark, VC 113, Channel Islands in dry underhang communities on north-facing outcrops of biotite-gneiss (i) above Havre Gosselin, GR WV/453.754; (ii) above the Gouliot Caves GR WV/453.768, August 1999. This species occurs on exposed outcrops as well as in sheltered sites. Sark specimens have norstictic acid with a higher concentration of protocetraric acid than usual by TLC. P W James

*Lecanora sambuci*: on *Sambucus* twigs, south of cliff path, Herm, VC 113, Channel Islands, GR WV/404.798, October 2002. P W James

*Lecanora strobilina*: on the base of dead *Cupressus*, along The Drive, Herm, VC 113, Channel Islands, GR WV/399.801, October 2002. Found fertile. With *Bacidia delicata*. TLC: usnic acid and zeorin. P W James

*Lecanora zosterarum*: in Sark, VC 113, Channel Islands (i) on decaying clumps of *Armeria maritima* on sunny outcrop, Venus Headland, GR WV/455.732, August 1999; (ii) on dead *Armeria*, with *Heterodermia leucomela*, in low coastal turf overlooking sea and exit of Les Boutiques Caves, GR WV/460.777, July 2004.

P W James, A Allen & B Hilton

*Lecanora zosterarum*: in Alderney, VC 113, Channel Islands among plant debris, especially dead tufts of *Armeria maritima* (i) in the xeric-supralittoral zone, Bibette Head, GR WA/589.091; (ii) at Frying Pan Battery, GR WA/597.077, May 2001.

P W James

*Lecanora zosteræ*: on decaying tufts of *Armeria maritima*, cliff-top rock, south coast, Herm, VC 113, Channel Islands, GR WV/400.794, October 2002. P W James

*Lecidea diducens*: in Lundy, VC 4, North Devonshire (i) on horizontal granite gravestone in cemetery GR 21(SS)/133.443; (ii) on granite wall by Harbour Hill, GR 21(SS)/141.439, November 1995. P W James

*Lecidea diducens*: on diorite outcrop, Roselle Battery, Alderney, VC 113, Channel Islands, GR WA/587.087, November 2001. Exciple C+ carmine-red. 2'-*o*-methylanziaic acid by TLC. P W James

*Lecidea sarcogynoides*: in Alderney, VC 113, Channel Islands (i) on sandstone at quarry near lighthouse, GR WA/602.091; (ii) on granite in mortared wall, Catholic Cemetery, Longis Road, GR WA/585.075; (iii) following cracks in flat granodiorite, Vallée des Trois Vaux, GR WA/558.065; (iv) on flat sandstone outcrop, La Tchue, GR WA/591.075, August 2001; (v) on pebble near path, Roselle Battery, GR WA/587-087; (vi) very well-developed on diorite outcrops, Roselle Point, GR WA/587.087, November 2001. Hypothecium and hymenium K± mauve-purple. P W James

*Lecidella meiococca*: on sunny vertical, west-facing granite cliff above Jenny's Cove, Lundy, VC 4, North Devonshire, GR 21(SS)/133.457, June 1995. P W James

*Lecidella meiococca*: in Sark, VC 113, Channel Islands (i) on gneiss outcrops in the xeric-supralittoral zone, Gouliot Headland, GR WV/453.758; (ii) on rock, Banquette GR WV/470.771; (iii) on diorite wall, L'Eperquerie Landing slipway GR WV/463.776, August 1999. Sometimes with *Lecidella asema*. P W James, A Allen & B Hilton

*Leptogium corniculatum*: among mosses between pebbles, Roselle Battery, Alderney, VC 113, Channel Islands, GR WA/587.087, November 2001. P W James

*Lobaria virens*: on north-facing, sheltered diorite cliff face of a rock chimney near the sea, The Pot, Sark, VC 113, Channel Islands, GR WV/458.738, August 1999. Confirmed by P W James. B Hilton

*Nephroma laevigatum*: on consolidated peaty soil, above The Battery, Lundy, VC 4, North Devonshire, GR 21(SS)/128.448, November 1996. Confirmed by P W James. With *Teloschistes flavicans*. A Allen & B Hilton

*Nephroma tangieriense*: on west-facing wall, along steps down to Grande Greve, in a fault area which receives sea mist, Sark, VC 113, Channel Islands, GR WV/460.746,

July 2002. Well-developed local patch about one metre square. Confirmed by P W James.  
A Allen & B Hilton

*Opegrapha arenisida*: on minor sandstone intrusion in granite at Earthquake, Lundy, VC 4 North Devonshire, GR: 21(SS)/128.454, June 1995. With pycnidia only.  
P W James

*Opegrapha arenisida*: on mortar, low on outside of north-facing, old sandstone wall below the Pepperpot, Essex Castle, Alderney, VC 113, Channel Islands, GR WA/594.077, November 2001. With numerous clusters of pycnidia and a few lirellae  
P W James

*Opegrapha subelevata*: on old decaying mortar, on both sides of the lower part of north-facing boundary walls. The Nunnery, Alderney, VC 113, Channel Islands, GR WA/595.082, November 2001. Only two other sites for this species are recorded from Britain: Torrs Walk, Ilfracombe, N Devon, leg. P W James, 1971 (site destroyed, but material found recently nearby by T Holwill – see BLS *Bulletin* 94, p 43) and Portland, leg. V Giavarini, 1984 (not refound by BLS, July 2001). There is a specimen in the BM from the Nunnery Wall, Alderney, Channel Islands, leg. P W James, August 1975.  
P W James, A Allen & B Hilton

*Opegrapha vermicellifera*: on *Malus*, top of track to Greve de la Ville, Sark, VC 113, Channel Islands, GR WV/470.764, August 2000. Confirmed by P W James.  
A Allen & B Hilton

*Pertusaria lactea*: on vertical, sheltered, granite coastal rock, Earthquake, Lundy, VC 4, North Devonshire, GR 21(55)/132.453, December 2004. Confirmed by P W James. With *Haematomma ochroleucum* var. *porphyrium* and fruiting '*Parmelia*' species. Also recorded by Noon and Hawksworth (1972) on granite at the Knight Templar Rock area of Lundy, GR 21(55)/141.462. This species has not been found in the Channel Islands, suggesting that it may have a more northerly and upland distribution, recalling similarities with Dartmoor communities of acid, mineral-deficient granite.  
A Allen & B Hilton

*Pertusaria lactescens*: in Alderney, VC 113, Channel Islands (i) on diorite at Battery Quarry showing stages of development, GR WA/585.079; (ii) on boundary wall, St Anne's Churchyard, GR WA/574.075; (iii) on concrete below granite and iron cross, Catholic Cemetery, Rue de Longis, GR WA/584.075; (iv) on low, coastal sandstone outcrop, Frying Pan Battery, GR WA/597.077; (v) on granodiorite outcrop and quarry, Les Couriaux, GR WA/567.061, May 2001; (vi) on diorite outcrop, near Mount Hale Battery, GR WA/588.085; (vii) on inside of north-facing boundary wall, The Nunnery,

GR WA/595.081; (viii) on low-lying granite rock, near the sea, as a juvenile, isidiate form, Chateau à L'Etoc, GR WA/594.094, November 2001. It was recorded by the BLS as fertile *Phlyctis agelaea*, Les Rochers, Battery Quarry, GR WA/585.077, August 1975. While frequent on Alderney, this species is rare or missing on the other Channel Islands surveyed. Young thalli have discrete, dot-like circumscribed areas which are granular isidiate. In time these initial patches enlarge becoming more granular sorediate and mask the underlying apothecia. Asci (2-)-3 - spored, 80-105 x 50-80 µm, brown, wall densely channelled, K+ violet-purple. Norstictic acid conf. by TLC. The species belongs to Section *Melanaria* as does *P. pluripuncta* (*P. gallica*) recently recorded from Jersey by James and Davey (2001, in lit). P W James

*Pertusaria lactescens*: on diorite wall, with *Porpidia tuberculosa* and *Rhizocarpon reductum*, along main road to Little Sark, Sark, VC 113, Channel Islands, GR WV/459.744, August 1999. P W James

*Pertusaria leucosora*: in Alderney, VC 113, Channel Islands, on sunny coastal sandstone outcrop (i) at La Tchue, GR WA/591.075, May 2001; (ii) above La Roche Pendant, GR WA/595.075), May 2001; (iii) on diorite, with *P. lactescens*, Mount Hale Battery, GR WA/588.084, November 2001. P W James

*Pertusaria leucosora*: in Herm, VC 113, Channel Islands (i) on sunny granodiorite boulders, with *Lecanora rupicola* and *Aspicilia epiglypta*, south cliff path, GR WV/400.793, October 2002; (ii) on granodiorite outcrop, in the xeric-supralittoral zone, above *Rocella fuciformis*, behind Bear's Beach, GR WV/394.808), September 2003. P W James, A Allen & B Hilton

*Placidiopsis custnani*: on top of concrete bunker, Roselle Battery, Alderney, VC 113, Channel Islands, GR WA/587.087, November 2001. P W James

*Porina curnowii*: on shaded, damp dolerite rock near stream entry into bay, in the xeric-supralittoral zone, Port du Moulin, Sark, VC 113, Channel Islands, GR WV/458.768, August 1999. With *Opegrapha cesareensis*, *Sclerophytonomyces* sp. ined. and *Dirina stenhammarii*. P W James

*Ramalina pollinaria*: on small declivities of north-facing sides of granite bluffs between Pilot's Quay and The Cheeses, Lundy, VC 4, North Devonshire, GR 21(SS)/130.440, November 1996. P W James

*Rinodina biloculata*: on sheltered *Sambucus* at entrance to Quarry A, east side, Lundy, VC 4, North Devonshire, GR 21(SS)/140.455, November 1996. P W James

*Rinodina biloculata*: on *Fraxinus*, *Sambucus* and young *Populus tremula*, Barrackmaster's Lane, Alderney, VC 113, Channel Islands, GR WA/592.079, May 2001. P W James

*Rinodina biloculata*: on *Sambucus*, along dune path to north, Herm, VC 113, Channel Islands, GR WV/398.808, October 2002. Recorded also by BLS, on *Sambucus*, south coast, GR WV/403.794, August 1986. P W James

*Sarcogyne clavus*: on repointed, north-facing sandstone wall, west of main gate to the Nunnery, Alderney, VC 113, Channel Islands, GR WA/595.082, November 2001. P W James

*Sarcogyne clavus*: on granodiorite boulder, south of Obelisk, Herm, VC 113, Channel Islands, GR WV/398.812, October 2002. Also recorded by BLS, at La Grande Monceau, GR WV/399.809, August 1986. P W James

*Syncesia myrticola*: on shaded recess, in small quantity, on north-facing side of granite bluff, north of Tibbett's Point, Lundy, VC 4, North Devonshire, GR 21(SS)/140.464, June 1995. Sterile. With protocetraric and traces of norstictic acids by TLC. P W James

*Syncesia myrticola*: in Sark, VC 113, Channel Islands (i) on dry underhangs, bluffs and crevices of gneiss, often north-east-facing, protected from rain, Gouliot Headland, GR WV/453.758 August 1999; (ii) on diorite, Venus Headland, GR WV/455.732, August 1999. Usually with *Lecanora praepostera*, *Dirina stenhammarii* and both *Roccella* species. P W James, A Allen & B Hilton

*Syncesia myrticola*: on dry sandstone underhang, La Grande Folie, Alderney, VC 113, Channel Islands, GR WA/604.086, May 2001. P W James

*Teloschistes flavicans*: on low-lying granite outcrops in heathland and on boulders, Lundy, VC 4, North Devonshire, confined to the west coast from Virgin's Spring at the north, GR 21(SS)/131.481 to Pilot's Quay near the south, GR 21(SS)/131.439, June 1995. Frequent in the region of the Battery, GR 21(SS)/131-448 and increasing, December 2004. See Gilbert, 1995, *Audit of Teloschistes flavicans in South-west England*, Report to English Nature, p 67. P W James, A Allen & B Hilton

*Teloschistes flavicans*: on low-lying, sunny gneiss outcrop in heathland in coastal wind tunnel, prone to mist, Gouliot Headland, Sark, VC 113, Channel Islands, GR WV/453.758, August 1999. Sparse material, but a little recent improvement despite invasive *Pteridium*, July 2004. A Allen & B Hilton

*Thelenella modesta*: on twigs of *Crataegus*, Vieux Port, Sark, VC 113, Channel Islands, GR WV/458.361, August 1999. At the present time this species is otherwise known only from a single site in Britain on a *Fraxinus* at Glamis, Angus, Scotland. Due to changes in property maintenance the Sark material may now be lost.

P W James

*Thelidium pyrenophorum*: in Sark, VC 113, Channel Islands (i) on sheltered, damp gneiss rock in the lower xeric-supralittoral zone, at bottom of the beach path to Dixcart Bay, GR WV/468.751; (ii) on sheltered, damp granodiorite wall, Creux Harbour, GR WV/ 477.758, August 1999.

P W James

*Thelidium pyrenophorum*: on concrete fragments among rubble, below Fort Albert, Alderney, VC 113, Channel Islands, GR WA/588.086, August 2001.

P W James

*Xanthoparmelia tinctoria*: in Alderney, VC 113, Channel Islands (i) on top of path-side sandstone boulder, with *Aspicilia caesiocinerea*, near train shed, Mannez Quarry, across road from lighthouse, GR WA/ 597.087, May 2001; (ii) on sandstone boulder above La Roche Pendante, GR WA/595.075, November 2001.

P W James

*Xanthoparmelia tinctoria*: in Herm, VC 113, Channel Islands (i) on top of granodiorite boulder, south cliff path, GR WV/400.793; (ii) on granodiorite wall, facing south-west and the sea, The Drive, GR WV/399.802, October 2002. Recorded also by BLS visit, August 1986. Usnic, salazinic and  $\pm$  norstictic acids by TLC.

P W James

Voucher specimens of more critical species cited above are housed in the Herbarium at the Natural History Museum (BM).

For fuller information on the species noted above, the following references are helpful:

James, P.W., Allen, A. and Hilton, B. 1995. The Lichen Flora of Lundy: I The Species. *Annual Report of the Lundy Field Society* 46, 66-86.

James, P.W., Allen, A. and Hilton, B. 1996. The Lichen Flora of Lundy: II The Communities. *Annual Report of the Lundy Field Society* 47, 93-126.

James, P.W., Allen, A. and Hilton, B. 1999. The Lichens of Sark. *Report and Transactions, La Société Guernesaise*, XXIV, Part IV, 657-702.

James, P.W., Allen, A. and Hilton, B. 2001. The Lichens of Alderney. *Report and Transactions, La Société Guernesaise*, XXV, Part I, 116-160.

James, P.W., Allen, A. and Hilton, B. 2003. The Lichens of Herm. *Report and Transactions, La Société Guernesiaise*, XXV, Part III, 512-536.

Marquand, E. D. 1901. *Flora of Guernsey and the Lesser Channel Islands*. London: Dulau, pp. 459-460.

Marquand, E. D. 1905-08. Supplement to *Flora of Guernsey. Report and Transactions, La Société Guernesiaise*, Vol. V, p. 450.

Noon, R. A. and D. L. Hawksworth. 1972. The Lichen Flora of Lundy. *Annual Report of the Lundy Field Society* 23, 52-58.

## **SOCIETY BUSINESS**

### **FROM THE ASSISTANT TREASURER**

I've had a busy and interesting time since last October, when I took over the job of Assistant Treasurer. It has been particularly pleasant to be in touch with so many members across the world, and I'm also grateful for the useful feedback which I have received.

#### **Collection of subscriptions**

My thanks to the members who changed their Standing Orders in good time, and also to those who responded promptly to the call for 2005 subscriptions. It makes a huge difference to the Assistant Treasurer's workload if members pay on time, and send the correct amount.

With the 2006 renewals, I hope to experiment with a different method of collecting subscriptions. Instead of sending out renewal forms with the *Winter Bulletin*, I hope to send personalised letters to members from whom a payment is due, setting out the options available. So please expect a letter from me in early November – unless of course, you pay by Standing Order, or have an unexpired 3- or 5-year subscription, or are a Life or an Honorary Member.

Indeed, this is not really an innovation, since Jim Hinds already collects subscriptions in this way from members in North and South America.

I hope that members will find this additional service helpful, and (who knows?) it may even help bring in subscriptions a little earlier.... To be serious, feedback on this experiment will be much appreciated.

### **Membership number**

As part of redeveloping the Society's computer system, I have assigned a 4-digit membership number to every member. (This is not the same as the 6-digit number which the Cambridge University Press assigns to recipients of the *Lichenologist*.) Indeed, if you are paying by standing order, using a draft mandate which I sent you, your bank will already attach this number to your payments.

You will find your number on the address label of this copy of the *Bulletin*. Could you please make a note of it, and quote it, together with your surname whenever you make a payment to the Society? For example, my own personal reference is *Stevens-4573*.

This personal reference helps me enormously when I have to identify the hundreds of payments which appear in the Society's bank statements as the result of bank transfers.

Will Stevens

## **BLS AGM 13-14 JANUARY 2006**

### **PRELIMINARY NOTICE**

### **VENUE: THE NATIONAL MUSEUM AND GALLERY, CARDIFF**

In 2006 the AGM will be held outside London for the second time, in Cardiff, capital of Wales. The National Museum and Gallery is located in the spacious civic centre of Cardiff, and houses natural sciences, archaeology and art (including the best collection of Impressionist works outside Paris) in the same building. The Cryptogamic Herbarium is well-curated, accessible and actively used, and can be consulted during the weekend, together with the associated library. The Herbarium includes 45,000 lichens, including the bulk of Francis Rose's collections, and 280,000 bryophytes (the second largest bryophyte collection in the British Isles).

### **Exhibition**

Members are encouraged to submit posters, exhibits and displays on any aspect of lichenology. The exhibition will be available for viewing on Friday evening and again on Saturday.

### **Friday events**

On Friday evening Prof. Pier Luigi Nimis (Trieste) will deliver a keynote lecture on

'Lichen Communities', then there will be a buffet supper with an opportunity to view the lichen exhibits.

### **Saturday events**

The AGM will take place on the morning of 14 January, in the Reardon Smith Lecture Theatre. The Lecture Session takes place on the afternoon of 14 January. The theme of 'Lichen Communities' is developed, with speakers discussing recent examples of their work, and some of the theoretical and practical problems encountered. It is hoped that the weekend will provide a stimulus for collaboration between people working in this field, and encourage the development of a modern account of the lichen- and bryophyte-dominated communities of Britain.

On **Sunday** a field excursion will be arranged.

**Travel and accommodation:** Cardiff is easily reached by road, rail, and air. For accommodation, travel information, or to request a map and visitor information, phone Cardiff Visitor Centre on 029 2022 7281; or logon to [www.visitcardiff.com](http://www.visitcardiff.com) or [www.touristnetuk.com/wa/cardiff](http://www.touristnetuk.com/wa/cardiff) for information on accommodation, maps, travel and attractions. A list of B & Bs will be available from the organiser (Alan Orange, Department of Biodiversity, National Museum and Gallery, Cardiff CF10 3NP, tel. 029 20 573264, [alan.orange@nmgw.ac.uk](mailto:alan.orange@nmgw.ac.uk)).

## **EARLY NOTICE: PHOTOGRAPHIC EXHIBITION**

### **Theme: Lichen communities**

You are invited to share your favourite images of lichen communities with other members at our next AGM Members' Exhibit (January 2006).

This is your opportunity to exhibit the images you have taken at a field meeting - or a special one from your archives. With the advent of digital techniques the scope for producing superb prints has expanded enormously. Remember this summer to take photographs for the AGM!

### **EXHIBIT YOUR PHOTOGRAPHS OF LICHEN COMMUNITIES**

- Both colour and black and white prints are welcome
- Any size or format is acceptable up to A4 (mounted), and up to four prints

- Captions: for each photograph submit in 14 pt the title, your name and a brief explanation (up to 30 words) of why you took the image
- Notify Barbara Hilton by 31 December, if possible, of the number of prints being submitted, to ensure exhibition space
- Bring photographs at the start of the Annual Meeting and collect on the final day (Alternatively, send the photographs to Barbara Hilton and enclose postage for return)

While every care will be taken of your photographs, no responsibility can be taken of photographs submitted for exhibition

Barbara Hilton, Chair, Education and Promotions Committee  
 Beauregard, 5 Alscott Gardens, Alverdiscott, BARNSTAPLE EX31 3QJ  
 bphilton@eclipse.co.uk

### LIBRARIAN'S REPORT 2004

Approximately 100 items have been requested in 2004, some from members overseas.

Small numbers of donations have been received (Mark Seaward, D. Richardson)

Thanks to Joy Ricketts, Ivan Pedley, Steve Price and Rose Golding for their help of sorting out the reprint collection. Now we are down to a mere 2m of shelves of reprints which need inserting into the main sequence.

#### Computer Database.

A computer database is available on MS-ACCESS, thanks to the work of Sidney Cosgrove. This contains 5000 entries up to AD 1985, identical to the microfiche which some may remember. It is still my intention that this database will become available to all members on the Website. But -

- over 2000 post-1985 items still need adding to get it up to date.
- I need advice from our overworked webmaster (vacancy) on how they can get into the website.

So, I have been going slow on this project. However, I'm grateful for the offers of help from all over the country, to enter reprints into home computers. Unfortunately, I

have been unable to decide on a labour saving method for getting reprints and books out to people. It would be much better if someone local to Leicester could take this on.

In the meantime, the library is there to use. Just contact me and I'll lend what we have.

Dr Anthony Fletcher

### **BIOSCIENCES FEDERATION - REPORT FOR 2004.**

Founded 2003: 'The umbrella body for biological organisations in the UK'. The Federation intends to provide a unified voice for bioscientists. We joined in its foundation year, obtaining a discount subscription based on numbers of UK full members, so our membership is not subsidised by overseas members. There are now 33 member organisations, plus an additional 46 affiliated through the Institute of Biology membership.

I am the BLS contact. The system works by the BSF circulating draft reports or questionnaires directly to member contacts. I respond directly to issues, or redirect them to BLS members with special expertise. It should be noted that many issues are not responded to because they are not directly relevant to the BLS, even though I may have a personal view. I'd like to thank David Hill, Peter Crittenden, Barbara Hilton, Ishpi Blatchley and Sandy Coppins for their assistance. I attend 2-3 meetings per year, depending on the agenda. The next is 15<sup>th</sup> January 2005.

Specialist BSF Committees now include the following, of which two are directly relevant to the BLS and now have BLS representatives.

Education - issues are redirected to the BLS Education & Promotions Committee

Environment & Sustainability - delegate is David Hill

European Liaison Group

Animal Science Group.

All responses to Government organisations were co-ordinated and drafted by the IoB Scientific Policy Officer, Catherine Joynson (see IoB report below). Its important to note that the BLS, with its tiny membership of just over 600, has an equal voice with the IoB (60,000+ members), SGM, etc.

All current committee work is directed towards increasing the impact by the Federation on the Government and the EU. This involves influencing government policy and integrating the BSF into the policy-making process. So, the BSF 'Science Policy Review' is in preparation ready to influence the next general election. We made a BLS response but it was comfortably accommodated within the draft policies.

Currently the BSF is drafting a report on Government Science funding policies since 1997, with respect to Biosciences.

What impact has the BSF made ? The Research Assessment Exercise: Commons Science & Technology Committee report quoted the BSF response 8 times.

### **Institute of Biology**

We have been members of the IoB Environment Committee for many years. I took on the role as BLS representative while serving as BLS Conservation Officer. I attend 2 meetings per year, plus the annual Affiliated Societies Forum.

The IoB is a member of the BSF, but with its strong administrative base, has provided support for the BSF while it gets organised. A prime role has been the collation of BSF responses. The IoB website lists 16 such reports for 2004 and 21 in 2003, about half a dozen of which merited BLS input.

My role on the Environment Committee is to represent the BLS, and to feed it with ideas and comments and to respond to draft reports and other issues. Of particular interest has been my agitation on behalf of the 'Decline in Systematics' issue. If you remember, the BLS fired the first shot in 2001, circulating a letter to the Government Chief Scientific Advisor, which culminated in the House of Lords debate and report 'What on Earth' (May 2002). This is printed on the HoL website, together with the Government's response. One of the main proposals from HM Government was to set up a working party to deal with the issue, convened by DEFRA. Despite several contacts by the IoB and myself, no progress has been made and the issue, as far as we can see, has grown cold. So, we have drafted a fresh letter of concern to the Chief Scientific Advisor, to go out in the next couple of weeks. Watch the national press who are also being informed.

Further important work this year has been in preparing a Science Policy Review, paralleling that of the BSF, in time for the next government election.

The next big task will be serving on a working group devoted to the 'Issues surrounding environmental impacts of renewable energy and issues surrounding

bioindicators'. Lichenology can make a big impact here. I expect to be contacting individuals and the Conservation Committee in due course.

To close, I am pleased that the BLS continues to have a high standing in the national bio-scientific community; despite our small size, we have a big voice ! However, our continuing engagement depends on information from our members. Please contact me on any issue which concerns you and I will see how we can introduce it into the biosciences community.

Dr Anthony Fletcher

### **SNH GRANT TO BLS FOR SCOTTISH LICHEN DATABASE AND TRAINING**

Third 6 month claim – progress so far (March 2005)

Now that the fieldwork season has drawn to an end, training of Lichen Apprentices tailed off through September and October, with a final flurry at Coulin Pinewood, where Site Condition Monitoring (SCM) was carried out. The Dumfries and Galloway SCM sites (including the Water of Ken complex) were successfully undertaken by three Lichen Apprentices (Andy Acton, John Douglass and Joe Hope), with Brian Coppins on hand for two days. Andy Acton also carried out SCM in Glen Nant SSSI, and Joe Hope tackled Glen Affric. The training of Lichen Apprentices has been a great success story, and the BLS are extremely grateful to SNH for providing this unprecedented opportunity to ensure young, active lichenologists are around to carry lichenology forward in the future.

John Douglass (Lichen Apprentice who works as a Ranger for South Lanarkshire Council) is bringing lichen-awareness into his work, through giving talks and training at local schools and within the Ranger service. He is also integrating lichens into general habitat surveys in relation to Sites of Importance for Nature Conservation (SINCS), as well as churchyards and cemeteries and in relation to planning applications. Peder Aspen continues to steadily promote the embryo Scottish Churchyard Lichen Group.

A three-day Lichen-awareness course was carried out in Braemar in the late autumn, organised by NESBReC (North-east Scotland Biological Recording Centre). This was aimed at familiarising local recorders with lichens in their area, but also training as to how to collect, identification procedures, correct ways to curate specimens, how to use the BLS referee system and how to send in records. Brian Coppins also undertook training of Historic Scotland Rangers at Holyrood Park.

Much of the emphasis of the project has become very much focussed on data inputting, towards producing a Site-based Scottish Lichen Database. The project received a significant boost in early 2005, when Mark Seaward (BLS Mapping Recorder), undertook to extract and photocopy all BLS Scottish record cards held at Bradford (apart from cards already in our possession, e.g. Brian Coppins and Francis Rose), resulting in over 1,000 cards. There is a gradually increasing band of inputters now drawn into the project: Christine Matheson (Brian Coppins' record cards, Ursula Duncan's typed species lists), Rose Pride (data from Tony Fletcher's files, Francis Rose's record cards), Peder Aspen (Brian Coppins' Fife cards), and Jacqui Middleton, Stephen Ward and Rebecca Yahr all entering data from batches of BLS record cards from the Bradford archive.

Another important data batch arrived from Alan Orange at National Museum at Cardiff, who sent a spreadsheet with Scottish lichen data gleaned from databasing herbarium material, plus Scottish records from Alan's lichen reports.

Sandy Coppins

#### NEW MEMBERS

Mr R Burghause, An den Reben 30, D-55122 Mainz, GERMANY

Mrs R H Carter, 6 Church View, Wooton, Northampton, NN4 7LJ

Mr U de Bruyn, Margaretenstrasse 46, D-26121 Oldenburg, GERMANY

Dr C Dolnik, Nordseestr 4, D-24107 Kiel, GERMANY

Dr Arve Elvebakk, Department of Biology, University of Tromso, N-9037 Tromso, NORWAY

Mr T Hasse, Hensenstr. 184, D-48161 Münster, GERMANY

Mr R Key, MP, 4 Old Street, Salisbury, SP2 8JL

Dr B Krzewicka, OS. PRZY ARCE 19/46, PL-31-845 KRAKÓW, POLAND

Ms S Lang, Caeciliastr 20, 76135 Karlsruhe, GERMANY

Mr C Levy, 8 Susan Close, Hucknall, Notts, NG15 8DG

Mr C Maughan, 4 Vicarage Lane, Humberston, LEICESTER, LE5 1EE

Mr T Maxwell, 12 Stockwell Park Crescent, Stockwell, LONDON, SW9 0DE

Mr P McInnes, 10 Marionville Crescent, Edinburgh, EH9 6AU

Dr G Neuwirth, A-4910 Ried, Rabenberg 41, AUSTRIA

Mr J O'Reilly, 60A Heathfield Road, Acton, London, W3 8EJ

Mrs E M Paton, 5 Bairnkine Cottages, Jedburgh, TD8 6PH

Mr J F Vigay, 14 Victory Avenue, Horndean, Hampshire, PO8 9PH

Ms E Wiklund, Dept of Ecology and Environmental Science, Umea University, SE-90187, SWEDEN

Dr E Zimmermann, Hauptstrasse 67, 4584 Lüterswil, SWITZERLAND

### **NOMINATIONS FOR THE URSULA DUNCAN AWARD**

Please can we have nominations for the Ursula Duncan Award for outstanding services to the Society. For full details of the Award and how to nominate someone, contact the Secretary: Mrs P.A. Wolseley, Department of Botany, The Natural History Museum, Cromwell Road, London SW7 5BD. (Tel. 0207 942 5617, fax 0207 942 5529, email [bls@nhm.ac.uk](mailto:bls@nhm.ac.uk))

### **PUBLICATIONS AND OTHER ITEMS FOR SALE** (Subject to availability)

(All prices include postage and packing - U.S. Dollar rates are double the Sterling Rate)

For publications and other items please send orders to **Brian Green, 3 Tyn y Coed, Carneddi, Bethesda, Gwynedd, LL57 3SF, UK**, E-mail [brian@regreen.co.uk](mailto:brian@regreen.co.uk) Sterling Postal Orders, or cheques in Sterling or US Dollars 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. *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.* Purchases in US dollars can be made through the Americas Treasurer. Cheques should be made out to 'British Lichen Society' and sent to J W Hinds, 254 Forest Avenue, Orono, Maine 04473-3202, USA.

#### **Publications**

*Bulletin* back numbers each £1.00

Please check for availability.

*The Lichen Flora of Great Britain and Ireland* (1992) edited by Purvis, Coppins, Hawksworth, James and Moore.

for members £35.00

for non-members £55.00

*Lichen Atlas of the British Isles* edited by Seaward

Fascicle 2 (*Cladonia* Part 1: 59 species)

for members £7.50

for non-members £10.00

Fascicle 3: The Foliose Physciaceae (*Anaptychia*, *Heterodermia*, *Hyperphyscia*, *Phaeophyscia*, *Physcia*, *Physconia*, *Tornabea*), *Arctomia*, *Lobaria*, *Massalongia*, *Pseudocyphellaria*, *Psoroma*, *Solorina*, *Sticta*, *Teloschistes*

for members £7.50

for non-members £10.00

Fascicle 4: *Cavernularia*, *Degelia*, *Lepraria*, *Leproloma*, *Moelleropsis*, *Pannaria*, *Parmeliella*

for members £7.50

for non-members £10.00

Fascicle 5: *Aquatic lichens and Cladonia (part 2)*

for members £8.00

for non-members £10.00

Fascicle 6: *Caloplaca*

for members £8.00

for non-members £10.00

Identification of (UK) *Parmelia* Ach. on CD-Rom - ISBN 0 9523049 4 5

for members £8.00

for non-members £13.00

for multiple users at one site £24.00

browser for Acorn computers free

Microchemical Methods for the identification of Lichens

for members £8.00

for non-members £11.00

(Airmail, additional at cost)

28 page Booklet "Lichens & Air Pollution" by James

each £1.50

Key to Lichens and Air Pollution by Dobson

each £2.00

*Lichens on Rocky Shores*

A1 Dalby 'Wallchart' each £6.00

A4 laminated Dalby 'Wallchart' each £1.50

Key to Lichens on Rocky Shores by Dobson  
each £2.00

Proceedings of the symposium 'Taxonomy, Evolution and Classification of Lichens and related Fungi - London 10-11 January 1998' (reprinted from *The Lichenologist* Vol 30)

for members £8.00

for non-members £13.00

*Bibliographic Guide to the Lichen Floras of the World* (second edition) by Hawksworth and Ahti (reprint from *The Lichenologist* Vol. 22 Part 1).

each £2.00

*Checklist of British Lichen-forming, Lichenicolous and Allied Fungi* by Hawksworth, James and Coppins (1980).

each £2.00

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

for members £7.00

for non-members £9.00

Lichen Habitat Management Handbook

for members £10

for non-members £15.00

*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

*Horizons in Lichenology* by Dalby, Hawksworth and Jury (1988).

each £3.50

Aide Mémoire: *Usnea* by P W James

for Members £3.90

for non-members £5.90

A Field Key to Common Churchyard Lichens by F.Dobson Members £5.50 Non-members £6.50 Postage £1.50

A Guide to common churchyard Lichens. By F.Dobson  
Each £2.50

A Conservation Evaluation of British Lichens by R.G. Woods & B.J. Coppins  
Members £4.00 Non-members £6.00

Indices of Ecological Continuity for Woodland Epiphytic Lichen Habitats  
Of the British Isles by A.M & B.J. Coppins  
Members £3.50 Non-members £6.00

*Lichen Photography* by Dobson (1977).  
(Photocopies of A4 sheets) £1.00

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

British Lichen Society Car Sticker  
5 colour 4" diameter self-adhesive plastic each £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.  
Colours available: maroon, navy blue, brown, black and charcoal £7.00

Sweatshirts with breast pocket size embroidered motif of BLS logo.  
Light-grey, Navy-blue, Bottle-green, Red: £16.00

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

T-shirts with screen-printed full chest motif of BLS logo encircled by the words 'British Lichen Society'. Please specify size and colour options.  
Light-grey, Navy-blue, Bottle-green, Tangerine (One old stock Yellow - small).  
£10.00

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

#### Hand lenses

Gowlland 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 £12

#### **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.

Postage - please add the appropriate postage below (ties and badges are post free).

UK £1.00 Overseas surface rate £2.00 Overseas airmail £5.00

### **SUBMISSION DEADLINE**

Please would intending contributors to the Winter 2005 issue of the Bulletin submit their copy to the Editor by 21 September. It would be helpful but by no means essential for authors of longer articles prepared on a word processor to supply a copy on a 3.5inch floppy disc in addition to hard copy. This should preferably be in MS Word, but can be in RTF. Word Perfect, any format from an Apple Mackintosh. Alternatively it can be sent by e-mail to [plambley@aol.com](mailto:plambley@aol.com) as an attachment. This should preferably be in MS Word.

## BRITISH LICHEN SOCIETY OFFICERS 2005

**PRESIDENT** Dr D J Hill, School of Biological Sciences, University of Bristol, Woodland Road, Bristol, Avon, BS8 1UG.

**VICE-PRESIDENT** Mrs P Wolseley, Department of Botany, The Natural History Museum, Cromwell Road, London, SW7 5BD.

**SECRETARY** Mrs P Wolseley (address above)

**TREASURER** Dr R M H Hodgson, Gorslands, Axtown, Yelverton, Devon, PL20 6BU.

**ASSISTANT TREASURER AND MEMBERSHIP SECRETARY** Mr W G R Stevens, 29, Limerick Road, Redland, Bristol, BS6 7DY.

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

**REGIONAL TREASURER (Eurozone)** Dr P Scholtz, Paetzstrasse 37, D-04435 Schkeuditz, Germany

**MAPPING RECORDER AND ARCHIVIST** M R D Seaward, DSc, FLS, FIBiol, Department of Environmental Science, The University, Bradford, West Yorkshire, BD7 1DP.

**BIOBASE RECORDER** Ms J Simkin, 41 North Road, Ponteland, Newcastle upon Tyne, Northumberland, NE20 9UN.

**SENIOR EDITOR (LICHENOLOGIST)** P D Crittenden, PhD, School of Life Science, The University, Nottingham, NG7 2RD.

**BULLETIN EDITOR** P W Lambley, The Cottage, Elsing Road, Lyng, Norwich, NR9 5RR.

**CONSERVATION OFFICER** B W Edwards, DERC, Library Headquarters, Colliton Park, Dorchester, Dorset, DT1 1XJ.

**CURATOR** R K Brinklow, BSc, Dundee Museums and Art Galleries, Albert Square, Dundee DD1 1DA.

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

**WEBMASTER** Prof CW Smith, Penyllan, LeinthalStarkes, Ludlow, Shropshire, SY8 2HP.

**FIELD MEETINGS SECRETARY** S R Davey, 10, Cottage Home, Common Lane, Ditchling, Hassocks, Sussex, BN6 8TW.

**MEMBERS OF THE COUNCIL**, Dr G Stevens, Dr S LaGreca, Mr J R Laundon, Mr J I J Middleton, Mr A Orange, Mrs J E Ricketts, Mr J Skinner, Dr S D Ward.

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

## CONTENTS

PAGE NO.

Oliver Lathe Gilbert Obituary	R Gilbert & W Purvis	1
January Meetings		
AGM		6
Afternoon session talks		
Priority woodland lichens	AM & B J Coppins	10
Lichens & global warming	A Aptroot	14
Field visit to Kew	P James & P Wolseley	17
Ursula Duncan Awards : Frank Dobson	A M Coppins	22
What is the role of secondary substances in rock-inhabiting crustose lichens?	L Spier	24
Notes on <i>Placynthium garovaglioii</i> in the British Isles	Per M Jorgensen	26
BLS Undergraduate Student Bursary Report	C Rowley	28
Churchyard News	I Pedley	29
Letter to the Church Times	I Blatchley	36
Symposium on Atlantic Oakwoods		37
Microscopes for Sale	D Hill	60
Workshop Report Marine & Maritime Lichens	A Fletcher	38
Field Meeting in Nottinghamshire	A Fletcher	53
Lichens in Literature:11		61
Review: Churchyard lichens	P Lambley	62
Literature Pertaining to British Lichens – 36	B J Coppins	63
New rare and interesting lichens		70
<b>Society business</b>		
From the Assistant Treasurer	W Stevens	96
BLS AGM 2006 Preliminary notice		97
Early notice Photographic exhibition	B Hilton	98
Librarians Report 2004	A Fletcher	99
Biosciences Federation Report 2004	A Fletcher	100
SNH Grant to BLS	A M Coppins	101
New Members		103
Nominations for the Ursula Duncan Award		103
Publications and other items for sale		104
Submission deadline		108

---

BULLETIN 96 Issued by the British Lichen Society (Registered Charity No 228850) c/o Department of Botany, National History Museum, Cromwell Road, London, SW7 5BD (Telephone 0171 938 8852). Edited by P W Lambley, The Cottage, Elsing Road, Lyng, Norwich, NR9 5RR. The views of contributors are not necessarily those held by the British Lichen Society.

