

BRITISH LICHEN SOCIETY

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President: O. L. Gilbert, Ph.D.

British lichen sites supreme

The conservation of habitats of special interest for wildlife, either for particular plants or animals, or as good examples of particular types of plant and animal communities, is an activity that has been very much in the minds and activities of naturalists and ecologists for many years.

The setting up of the Nature Conservancy (now the Nature Conservancy Council) and the formation of local, usually county, conservation trusts is the result of this concern. The conservation of cryptogamic plants, however, has had less emphasis in the past than that of other groups of organisms, perhaps because less was known about their identification, distribution and ecology, and there were fewer naturalists interested in them than in flowers and animals.

However, the situation has changed in Britain in the last ten years with regard to lichens, largely as a result of the intensive field work and enthusiastic interest of members of the British Lichen Society. As interest in lichen ecology and in lichen phytosociology has grown, it has been realised that lichen habitats are of importance from a conservational viewpoint in their own right.

It was feared ten or twelve years ago that much of our formerly rich lichen communities had been ruined by pollution, especially in England, but fortunately - though much damage has occurred in the Midlands and in the east - much still remains of great interest even in south-east England. The Nature Conservancy has played an important part in this new knowledge; once the Conservancy was led to realise the ecological significance of lichens, it commissioned members of the British Lichen Society to undertake widespread surveys of lichen habitats. The World Wildlife Fund has also been of great assistance in covering the expenses of members in this vital work. Much invaluable information on lichen habitats has also been produced as a by-product of the Society's mapping scheme and biological flora, which has caused members to survey parts of Britain hitherto unknown (or unknown since last century) for their lichen populations. In 1974 the Society set up a Conservation Committee to co-ordinate this work, and it is this committee which has recently been able to make detailed recommendations on sites of major lichenological importance.

Perhaps the most important observation that has emerged is that the British Isles not only still has many magnificent habitats for lichen communities and rare lichen species at the national level, but has an outstanding representation of many species and communities in comparison with the rest of Europe. In other words, the British Isles has a remarkable and unique series of lichen sites of international importance.

As might have been expected, the greatest importance of the British Isles lichenologically lies in its unique representation of oceanic communities and species in a European context; south-west Ireland and the western coastal zone of Scotland are outstanding in this respect. At one time it was thought by many that the oceanic areas of west Norway and western France (Brittany and Normandy) were probably far richer in oceanic lichens than western Britain, but the reverse now proves to be the case. Although many of the species that are hyper-oceanic in

Europe are now known to occur widely in other parts of the world, especially in the mountains of the tropics and in some subtropical oceanic islands (e.g. Canaries, Azores), the actual associations are in many cases unique to Europe, and within Europe best represented in the British Isles.

Why should this be so? Norway is apparently rather too far north for some southern oceanic species, but in any case the country has suffered far more modification of its old broad-leaved forests - the main habitat for many species of this group - than has western Scotland or even other parts of Britain. Brittany in western France is still very rich in oceanic species, but again most of the remaining forests have been extensively managed, with the elimination of most older trees and of fallen timber; also mossy rock habitats and ravines are poorly developed there as compared with most of highland Britain. The western Pyrenees and the north coast of Spain are undoubtedly still very rich in places, but they are not very well known lichenologically at present. There has been much forest modification there too, but probably the main factor that militates against the presence of many species in abundance there that are common still in west Scotland and in south-west Ireland is the tendency to hotter drier summer conditions at the lower latitude of north Spain and south-west France. Other factors that contribute to the lichenological importance of the British Isles are the complex and varied geology, the southward extension of many northern species, and the occurrence of southern species exceptionally far north for the latitude.

The recent survey work in Great Britain indicates that this island, and the adjoining islands of the Inner Hebrides, to a lesser degree, are richer in relics of old primary broad-leaved woodlands that have been relatively unmodified by forestry techniques than any other part of western or central Europe, at least north of the Pyrenees. Though most of the sites are not large individually, they include collectively a considerable area of little-altered ancient woodlands. These, presumably because of the continuity of the forest environment in terms of 1) a humid microclimate, 2) enough light in glades and gaps, & 3) the continued presence of ancient trees, still retain finer assemblages of epiphytic and lignicolous lichens, often with excellent representation of oceanic or southern-oceanic and even endemic elements, than can be seen elsewhere in western Europe in such luxuriance or numbers of taxa per site. At present, in Great Britain and in the Inner Hebrides, there are 92 known broadleaved woodland sites with over 100 epiphytic lichens recorded per square kilometre. Of these, 42 are in England, 9 in Wales, and 36 in Scotland. There are in addition seven old pine forest areas with more than 100 epiphytic lichen taxa per square kilometre. One site (Glasdrum National Nature Reserve) has 208 epiphytic taxa recorded; several have over 170, and nearly half of the sites have over 150. As these figures are certainly an underestimate, at least as far as Scotland is concerned, it is interesting to compare them with areas in western Europe. In France north of the Pyrenees, there are only five forests with more than 100 epiphytic taxa per square kilometre known at present; one is the Forêt de Fontainebleau; the other four are in Brittany. In Belgium and the Netherlands no sites with 100 or more epiphytic taxa are known; in Denmark (after recent intensive field work) only two sites with over 100 epiphytic taxa are known, and none yet in the broadleaved forests of Norway.

The forest sites in the British Isles of international importance fall into three categories:

1. Remote little-disturbed ancient woodlands especially on scarps and in ravines, such as Camasine oak-wood and Glasdrum Wood in Scotland, and the Dizzard Cliff woodland in Cornwall.
2. Ancient parklands or deer forests which, although modified by management, have great age and continuity of habitat, such as Boconnoc Park, Cornwall, Horner Combe in Somerset, and the New Forest, Hampshire.
3. High-level oak-woods with associations of species only poorly developed outside Britain, such as Black Tor Copse on Dartmoor.

Recent studies have revealed that magnificent relics of the lichen flora of the old Caledonian pine forest remain in the Scottish Highlands. This flora is akin to

that of the boreal pine forests of Norway, but in the west Highlands has a unique assemblage of oceanic species that are rare or absent in Scandinavia. Guisachan, Strathfarrar and Coulin Forests are perhaps the best remaining examples.

Besides woodland areas, other types of sites rank as of international importance in the British Isles. These include some maritime cliff areas that appear to be richer in their range of species than sites elsewhere in Europe, due partly to varied geology and aspect, and partly to the geographical position of the British Isles. In several places in west Scotland extraordinary assemblages of both forest and maritime rock lichens occur together on sheltered rocks by the sea, for example at Balnabraid Glen in Kintyre; nothing quite like these assemblages can be seen elsewhere in Europe. Bird roost sites on the coast also have remarkable lichen communities, as for example, Skomer in Wales. A unique site for terricolous and epiphytic lichens is Denge Beach in Kent, the largest shingle beach in Europe; unfortunately this is deteriorating rapidly owing to disturbance to the water-table and to the shingle itself, although it is supposed to be a nature reserve. The southern English lowland heaths still retain some of the best oceanic Cladonia communities in west Europe, as so much heathland has been destroyed or modified on the continent; the New Forest, which contains the largest extent of oceanic lowland heath in west Europe north of the Landes in France, holds perhaps the best examples of this habitat for lichens. Finally, although alpine lichen habitats are far more extensively developed in Scandinavia, the Alps and the Pyrenees, the mica-schist communities of Ben Lawers and the adjacent hills have an assemblage of lichens unique to Europe.

Some work has also been done by the Conservation Committee on the collection of data on continental sites of international importance, and a preliminary list of sites in France, Denmark and Norway that seem to be of potential or certain importance in this regard has been compiled.

F. ROSE & P.W. JAMES

Subscriptions

The 1978 subscription, due 1 January 1978, is £7.00 for ordinary members, £1.00 for junior associate members and £0.25 for family members, a rise of £2 for ordinary membership from 1977. The U.S. dollar rate is \$15.00 for ordinary members. Reading circle subscriptions are £1.00 per year. Subscriptions should be sent to the Assistant Treasurer, Mr P. W. Lambley, British Lichen Society, c/o Castle Museum, Norwich, NR1 3JU, United Kingdom, except for members living in North America, who should send theirs to the Regional Treasurer (North America), Dr J. W. Sheard, Department of Biology, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 0W0, Canada. Please note that acknowledgements are not sent unless requested because of postage costs.

Nominations for Officers and Council Members

Nominations for Officers for 1978 and Council Members for 1978 - 79 should be sent to the Secretary before 24 December 1977 on the form at the end of this Bulletin. No person may be nominated without their consent. Any number of nominations may be entered, but not more than one per position. Mr R. H. Bailey, Mr S. R. Davey and Dr Pauline B. Topham retire from the Council and are not eligible for re-election.

Mapping meeting 6 January 1978

A meeting of persons interested in mapping to discuss problems and policy will be held on Friday 6 January 1978 from 10.30 until 12.00 in the Education Section's Laboratory (off Whale Hall, ground floor), British Museum (Natural History), Cromwell Road, London SW7 5BD. Items for discussion should be sent to the Mapping Recorder, Dr M. R. D. Seaward, Postgraduate School of Environmental Science, The University, Bradford, West Yorkshire BD7 1DP, before 10 December 1977 for inclusion on the agenda. Non-members are welcome.

Annual General, Lecture and Exhibition Meeting 7 January 1978

The Annual General Meeting will be held at 10.30 on Saturday 7 January 1978 in the Conversazione Room (at end of Insect Gallery, ground floor), British Museum, (Natural History), Cromwell Road, London SW7 5BD. The nearest Underground (metro) station is South Kensington, and Cromwell Place connects with the museum. It is hoped that all members will endeavour to attend.

Agenda

1. Apologies for absence.
2. Minutes of the last Annual General Meeting.
3. Matters arising.
4. Reports of the Officers.
5. Proposed change in the Rules.

Council proposes that the Society should be able to manage conservation areas should the need arise. Delete existing Rule 2 and substitute the following:

2. Objects

To promote and advance all branches of the study of lichens especially in relation to those of the British Isles. To encourage and actively support the conservation of the lichen flora; and where appropriate to establish, own and maintain conservation areas.

In furtherance of these objects but not otherwise to:

- (a) Publish results of investigations and other relevant work in the Society's publications to the extent that the Council of the Society and Editor deem to be suitable; such publications to be available for sale to the public.
- (b) Facilitate the exchange of information among lichenologists by organising field meetings, conferences, lectures, exhibitions and by other means.
- (c) Aid in the maintenance of adequate representative collections of British lichens in the national and other public herbaria.
- (d) Maintain a library of books and lichenological journals. These to be made available to non-members at the discretion of the Librarian who shall be responsible to the Council.
- (e) Raise money by any other means.

6. Proposed change in the Rules.

Council proposes that nominations for Vice-president should in future be submitted by the membership. Delete existing Rule 7 and substitute the following:

7. Election of officers

The President shall be nominated by the Council and elected for a term of two years by a majority vote of those present and voting at an Annual General Meeting of the Society. Nominations for the Vice-president and all other officers shall be in writing, submitted with the consent of the nominee, and shall be received by the Secretary at least two weeks before an Annual General Meeting. The Council shall have power to make nominations at any time prior to an Annual General Meeting. The Vice-president shall be elected for a term of two years and all other officers for a term of one year by a majority vote of those present and voting at an Annual General Meeting.

7. Place, dates and leaders of annual general, spring, summer and autumn meetings 1979.
8. Election of Auditor.
9. Election of three members of Council.
10. Election of Officers.
11. Election of Vice-president (Council's nomination: Dr F. Rose)
12. Election of President (Council's nomination: Mr F.H. Brightman)
13. Any other business.

J. R. LAUNDON
Honorary Secretary

Following the Annual General Meeting there will be an exhibition meeting from 11.30 until 12.30. Members are kindly requested to make a special effort to contribute exhibits of lichenological interest. Demonstrations should include a title and name of exhibitor.

The lecture meeting will continue in the afternoon in the same building. The meeting is entitled TERRICOLOUS LICHEN COMMUNITIES. Non-members are welcome. Please display the enclosed poster, kindly prepared by the President. The full programme is as follows:

- 10.30 Annual General Meeting
- 11.30 Exhibition Meeting
- 12.30 Lunch. Members are kindly requested to make their own arrangements. The next restaurants Barino (1 Harrington Road) and Daquise (20 Thurloe Street) are recommended.
- 14.00 Lecture. D. S. RANWELL (Institute of Terrestrial Ecology): Terricolous lichens on coastal heath and dunes.
- 14.35 Lecture. R. S. DAVEY (Hampshire County Museums Service): Lichens of the chalk in central southern England.
- 15.10 Tea interval (Tea gratis)
- 15.30 Lecture. P. W. LAMBLEY (Norfolk Museums Service): Lichens of the Breckland.
- 16.05 Lecture. O. L. GILBERT (University of Sheffield): Lichens of the Derbyshire limestone plateau.
- 16.40 Close.

Day excursion to the New Forest March 1978

A day excursion in the New Forest, Hampshire, will be held on Saturday 25 March 1978 under the leadership of Dr F. Rose, in conjunction with the Southampton Natural History Society. Meet at Beaulieu Road Station at 11.05. Train leaves Waterloo, London at 9.30 for Southampton arriving at 10.40; change at Southampton for 10.48 train which arrives at Beaulieu Road at 11.04. Gum boots and packed lunch are essential. The morning will be spent at Tantony Wood and Frame Wood; the afternoon at Bramshaw and Great Woods. Please note that collecting will be restricted to the common lichens only. There are return trains from Beaulieu Road at 45 minutes past each hour. Please check train times before departure.

F. ROSE

Spring field meeting in Tenerife April 1978

The spring field meeting of the Society will be held at Puerto de la Cruz, Tenerife, Canary Islands, from 5 - 19 April 1978. Members travelling from Britain will be flying from Luton on 5 April by Cosmos, and staying at Las Torres apartment-hotel in Puerto de la Cruz; further details may be obtained from Frank H. Brightman, c/o British Museum (Natural History), Cromwell Road, London SW7 5BD, who would also like to hear from members who propose to travel by different routes and to stay elsewhere in Tenerife.

F. H. BRIGHTMAN

Day excursion to Surrey May 1978

The fifteenth annual "wall-tour" with the Kent Field Club led by Mr F.H. Brightman and Mr J.R. Laundon will be held on Sunday 7 May 1978. All groups of plants will be studied on walls and other saxicolous habitats. Meet at Lingfield Station, Surrey (grid TQ 394438) at 11.00. Bring packed lunch. Train leaves Victoria at 10.09 calling at East Croydon at 10.27 arriving Lingfield at 10.58. Please check train times before departure.

Summer field meeting in mid Wales June 1978

The summer field meeting will be held in mid Wales from Friday evening 16 June until Friday morning 23 June 1978 under the leadership of Dr F. Rose. The headquarters will be the Llysdinam Field Centre, Newbridge on Wye, Powys LD1 6NB (telephone Newbridge on Wye 308) situated two km from Newbridge. The charge for staying at the field centre is £5 per week, which includes accommodation in small dormitories and use of kitchen and laboratories. Persons staying at the centre must provide their own food and cook it themselves, or alternatively a cook could be hired if there is sufficient demand, at a cost of about £21 per week full board per person. Members must bring their own sheets and pillow-cases.

Accommodation is also available in the neighbourhood and members can obtain a list of hotels and guest houses from the Mid Wales Tourist Council, Town Hall, Llandindrod Wells, Powys. Accommodation in Newbridge is as follows, prices for 1977:

New Inn, Newbridge on Wye (telephone: Newbridge on Wye 211). 2 single, 7 double.
£5.00 + VAT bed and breakfast.

Crown Inn, Newbridge on Wye (telephone: Newbridge on Wye 373), 1 single, 2 double.
£3.50 bed and breakfast.

Members must book their own accommodation stating that they are attending the field meeting of the British Lichen Society, complete the form at the end of this Bulletin, and meet outside the Llysdinam Field Centre at 9.30 on Saturday 17 June. There are many good sites in the area that are either little known or quite unknown lichenologically. Dolerite rock outcrops, such as Aberedw Rocks, and many relic woodland areas in ravines will be visited. The few woodlands already slightly known (e.g. west of Beulah) are very rich. There is much mapping work to be done. Members could have a very interesting and cheap excursion, with plenty for beginners and advanced workers alike. The meeting will be followed by a weekend at Worcester (see below).

F. ROSE

Weekend field meeting in Worcester June 1978

A weekend field meeting will be held at Worcester from Friday evening 23 June until Sunday evening 25 June 1978 in conjunction with the meeting in mid Wales (see above). The leader is Mr R. H. Bailey. The Star Hotel, Foregate Street, is the headquarters and members will meet outside here at 9.30 on Saturday 24 June 1978. Members must book their own accommodation and complete the form at the end of this Bulletin. Hotels are listed in the AA and RAC handbooks, and the town hall should be able to supply a list of accommodation available at modest cost. Two hotels are as follows:

Star Hotel, Foregate Street (headquarters) (telephone: Worcester 24308). 12 single, 10 double, 11 twin. Bed & Breakfast £7.50 + 10 per cent service for single room without bath; £12.00 + service for double room without bath; rooms with baths extra. AA two-star. 1977 prices.

Giffard Hotel, High Street (telephone: Worcester 27155). 60 single, 6 double, 36 twin. Bed £14 single, £18 twin; breakfast from £0.95, evening meal £3.50. AA three-star.

Although much of Worcestershire, lying so close to the industrial Midlands, is not a county with a rich lichen flora, the city of Worcester has easy access to a wide variety of habitats in Gloucestershire, Herefordshire and Salop. In the southern and western parts of Worcestershire the Cotswold Hills and the Malverns provide a wide variety of saxicolous habitats. The Cotswolds support a large number of calcicolous species on the Jurassic oolites and the softer Cornbrash. The hard, ancient, rocks of the Malverns and the thin acid soils developed thereon provide habitats for a wide variety of crustose and foliose lichens including a number of Cladonia and Umbilicaria species rare elsewhere in Midland England. There will also be opportunities to examine the lichen flora in wooded valleys on the Cotswolds and in churchyards.

R. H. BAILEY

Autumn study meeting at Loch Lomond October 1978

A field meeting and study weekend will be held jointly with the Botanical Society of Edinburgh Cryptogamic Section in the Loch Lomond area from Friday morning 6 October to Monday evening 9 October 1978. Pauline Topham and Frank Brightman are leaders. John Mitchell, Warden of the Loch Lomond National Nature Reserve, will be our guide to sites of interest and importance in the area on all four days. The headquarters will be the Winnock Hotel, The Square, Drymen, G63 QBL. Bed & Breakfast is £7.90 with a reduction to £6.90 if you share a twin-bedded room. Early booking is essential; if you are prepared to share let the manager know. A room for the study of specimens has been set aside. Those attending must complete the form at the end of this Bulletin.

F. H. BRIGHTMAN

Arrangements for the main autumn field meeting of the Society, based on Whitby and led by Mr A. Henderson, are not yet fully detailed, but it will be held on the weekend of 20 - 22 October 1978. The intention is to visit representative areas of the North Yorkshire Moors, which have received little lichenological attention in recent years, and to explore some of the haunts of W. Mudd.

A. HENDERSON

Lichen courses 1978

DEVON. Slapton Field Centre, Slapton, Kingsbridge, TQ7 2QP. 23 - 30 August 1978.

Lichens. D. L. Hawksworth.

DYFED. Orierton Field Centre, Pembroke. 26 July - 2 August 1978. Lichens. P.W. James.

SURREY. Juniper Hall Field Centre, Dorking. 19 - 21 May 1978. Lichens of London.

F.S. Dobson.

The wardens at the field centres will supply further details; members should ask for information regarding any bursaries and grants which may be available.

Lichenologist published

Part 1 of volume 9 of The Lichenologist was published on 18 April 1977. Any paid-up ordinary member for 1977 who did not receive a copy should inform the Assistant Treasurer, Mr P. W. Lambley, British Lichen Society, c/o Castle Museum, Norwich, NR1 3JU.

Mr James stands down as editor

Mr P. W. James announced at a meeting of the Society's Council on 23 September 1977 that he was standing down as editor of The Lichenologist because of other commitments. Mr James has been editor of the journal since its inception in 1958, the first issue appearing in typed litho within a few months of the formation of the Society. In 1959 the journal changed to letterpress and in 1965 the size of page was increased. Later the Society went into partnership with commercial publishers, firstly Blackwell (in 1968) and then Academic Press (in 1974). Mr James saw The Lichenologist through all these changes and his critical editing of all manuscripts has ensured that the journal has long been regarded as the world's leading serial for lichenology. Mr James has the added distinction of being the Society's longest serving officer, almost 20 years, being the last of those originally appointed at the inaugural meeting on 1 February 1958 to relinquish his post. The Society owes a great debt to Mr James for all the hard work, considerable effort and personal sacrifice which he has put into the job throughout this long period of time. The Assistant Editor, Dr Hawksworth, will continue with the editing of the journal until a new editor is appointed at the Annual General Meeting on 7 January 1978.

Books on lichens - 8

The Observer's Book of Lichens by K. L. Alvin has now been published and is available in many bookshops price £1.10. Although not directly stated in the book, this is an extensively revised second edition.

The Richmond Publishing Co. Ltd., Orchard Road, Richmond, Surrey TW9 4PD (telephone 01-876-4091) are publishing a limited facsimile edition of Acharius's Synopsis Methodica Lichenum (1814) for £27.95 for orders received by 28 February 1978, £39.35 thereafter. A limited facsimile edition of Turner and Borrer's Specimen of a Lichenographia Britannica (1839) is also being prepared, price £19.95 until 31 March 1978, £26.65 thereafter; this work has an unfortunate history in that it reached the proof stage by 1812 but was not published for another 27 years. The company have recently issued a new catalogue listing a large number of lichenological and mycological titles which will be sent to any member on request.

A. Britain blamed for acid rain

Britain exports more sulphur dioxide pollution than any other nation, according to the findings of an Organisation for Economic Co-operation and Development report published in July 1977. The country has played a major part in the poisoning of fish in the lakes and streams of Norway by the acid rain which is produced from the sulphur pollution. The report, the result of five years of research, shows that sulphur dioxide is carried for hundreds of miles by the wind, and Norway receives 250,000 tons of sulphur pollution per year in this way, whilst emitting a total of only 91,000. Because of its geographical position in relation to the westerly winds which predominate over the British Isles, Britain receives one million tons, but emits 2.8 million. Trout and salmon are now extinct in many of southern Norway's lakes and streams as a result of the pollution being washed into these habitats. Indeed, the Norwegian Society for Conservation of Nature state that "thousands of lakes are now empty of fish." The report must be a blow to the Central Electricity Generating Board, who have long tried to maintain that the high chimneys of their power-stations distribute the sulphur over a wide area, so that it becomes almost harmless or even beneficial by the time it reaches ground level.

B. Rhein polluters named

In June 1977 the Internationale Arbeitsgemeinschaft der Wasserwerke im Rheineinzugsgebiet named the chief water polluters of the River Rhein (Rhine). These are six all told, and they are listed by them in order of descending offenders: Mannheim cellulose works (Germany), Rhone Poulenc Alsace (France), Strasbourg cellulose works (France), Bayer AG at Leverkusen near Köln (Germany), City of Strasbourg (France) and City of Basel (Switzerland). The IAWR has called on the authorities of the riparian states to compel these polluters to limit their operations or purify their effluent.

Letters to the editor

Field meeting in Spain

Sir, - your correspondent is somewhat severe on the accommodation at Nuria during the Spanish field trip. The sudden change from Mediterranean to montane must have induced a feeling of gloom, or else his experience of youth hostels and climbing huts must be very limited.

The hostel at Nuria formed one wing of a granite building, with a luxury hotel and a monastery in other wings, and accommodation for some hundreds. It was opened out of season specially for us, and whilst the quarter-mile of cinereo-fuscous terrazzo in the echoing corridor was sombre, it was not unduly dusty, and the fleas that tease in the high Pyrenees were not in evidence. What did impress me was the absence of litter in the area surrounding what was clearly a place of pilgrimage and a tourist attraction, and the unfailing way in which our Spanish hosts produced a communal rubbish bag at lunch-time. Other parties please copy!

Yours faithfully,

PAULINE TOPHAM

27 Oxford Street, Dundee.

Free rail travel for bikes

British Rail now allows bicycles to be taken free on almost all trains, instead of for half-fare as hitherto. A bicycle is often the best means of transport for the lichenologist, and members are urged to take every advantage of British Rail's new offer by taking their cycle with them in the guard's van when travelling by rail. It is advisable to place a tie-on label on the bike showing the destination. The British Cycling Bureau has long negotiated for a reduction in the cost of rail travel for cycles, but the final outcome exceeded their expectations, because they had been suggesting a flat rate of about £0.20 for taking a bike by train any distance. London Transport still charge half-fare for taking bicycles on the Underground. Bikes may be taken only on the District and Metropolitan lines between 10.00 - 16.00 and after 19.00 on Mondays - Fridays, and at any time on Saturdays, Sundays and Public Holidays.

Jubilee quadrats in Snowdonia

In April 1977 some permanent quadrats, called the jubilee quadrats, were set up in the Snowdonia National Park near Llanberis, Wales. Some deep markers were drilled into boulders of rhyolite and dolerite with the aid of a Kango drill and a portable generator (Fig. 1). Each of the 37 sites was carefully chosen to obtain a variety of mosaic patterns and different stages of colonisation. The quadrats measure 24 x 16 cm and contain 43 species of lichen and three of moss. This summer, solar radiation levels at the sites were estimated using a computer program recently designed for a similar scheme. The quadrats were placed away from footpaths and tourist sites, and the substratum is so hard that the markers should last several millenia. It is hoped that the sites will be visited throughout the next century and beyond.



FIG. 1. Allan Pentecost drilling the markers for the first permanent quadrat in the Llanberis Pass, Gwynedd. Photograph: M. C. Richards April 1977.

The object is to examine the processes involved in lichen succession and mosaic formation. Rock surfaces provide one of the simpler systems for the study of colonisation, as the species interactions occur chiefly in two dimensions, rather than three. The author hopes that work at these sites will solve problems regarding the structure and development of lichen mosaics.

A. PENTECOST

Spanish lichens for sale

In January 1977 Mr K. Redshaw informed me that some cork tiles sporting lichens were on sale at the Status Discount Warehouse in Leeds. The store management and the importing firm, Siesta Cork Tiles of Croydon, helped to make possible a brief examination of 60 representative tiles, and five of the more richly lichenous were studied more closely.

The firm's spokesman tells me the tiles are produced at a factory near Porto, Portugal, the supply of cork bark originating in Spain and Portugal, either in large quantities from plantations, or smaller casual purchases from individual gardens. The tiles are one by-product among many of the cork industry, a means of utilising the waste parings, etc., from the cleaning and sorting processes. They are of the coarse texture associated with the first stripping of a tree, usually when it is aged about 20 years, and called 'male' or 'virgin' cork. Later strippings, at

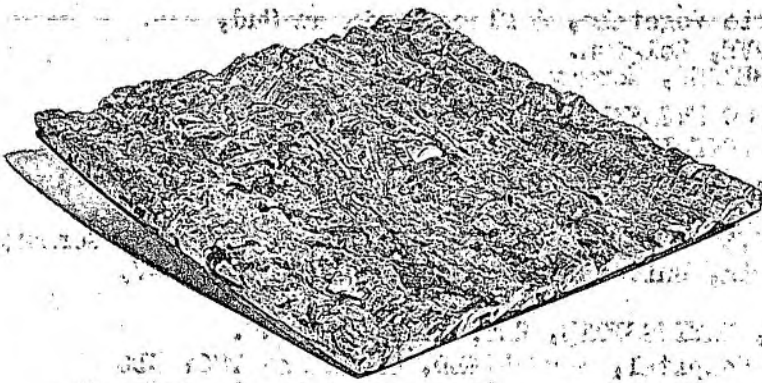


FIG. 2. A lichenous cork tile. Photograph: A. Thompson, 1977.

intervals of normally from eight to ten years, yield progressively higher qualities of 'female' cork.

Each tile consists of a square of hardboard - 3 - 4 mm thick, with sides of 30.5 cm. Upon this there is mounted, held by strong adhesive, an all-over covering of outer-bark parings. Thus each tile has the finished appearance of one continuous, flattened square of bark (Fig. 2).

For the producer the presence of lichens on the parings seems an accidental, if welcome, feature, though trouble is clearly taken to achieve an attractive appearance. Lichen cover, on an estimate from the 60 tiles seen, ranges from virtually none to 15 per cent. On some areas of tile, however, the presence of exposed rhizinae and other fragments of thalli indicates that the original lichen coverage was considerably more extensive. The species on the five tiles examined closely are such as one might expect to encounter in arbitrarily collected material of such provenance. Evernia prunastri, Parmelia aspera, P. caperata, P. perlata, Ramalina calicaris, Usnea hirta, and U. rubiginea are frequent macrolichens, with Lecanora chlarotera agg., Lepraria candularis, Ochrolechia tartarea and Pertusaria amara occasional among the microlichens present. As "sellers" the macrolichens are, in the main, the most decorative, but some crustose species, particularly Ochrolechia tartarea, can rival them in effect.

Although at the time of my two visits to the warehouse, trade in the tiles (originally priced at £1 each, but since remained at 50p each) did not seem booming, general opinion among potential buyers was approbatory. "Look nice and natural, don't they?" was a typical comment. From a strictly lichenological angle, however, both adjectives are rather inappropriate as a description of undated, unreferenced, Spanish/Portuguese herbarium material that shows all the wear and tear of transit to a Leeds stockist.

A. HENDERSON

New Members

The following joined the Society between March and October 1977. F.M. - Family Member.

- Mrs J. Bailey, 22 Cainhoe Road, Clophill, BEDFORD.
Mrs F.M. Cable, 113 Stephens Road, Ealing, LONDON W13 8JD.
Mr P.E. Cable, 113 Stephens Road, Ealing, LONDON W13 8JD. (F.M.)
Mr P.R. Chapman, 28 Braemar Avenue, Wimbledon Park, LONDON SW19 8AZ.
Mr C. Curtis, 2 Manor Road, BARTON, Nottinghamshire NG11 0AA.
Dr Chantal Delzenne, Résidence Croisette, 1/55 rue J. Vallés, 59120 LOOS LEZ LILLE, France.
Mr B.C. Eversham, 60 King Edward Road, Thorne, DONCASTER, Yorkshire.
Mr T. Feuerer, Hansastr. 138/44 8 MÜNCHEN 70, Federal Republic of Germany.
Miss C.T. Fields, Department of EPO Biology, University of Colorado, BOULDER, Colorado 80302, U.S.A.
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Expenditure & Income Account for the Year ending 31 December 1976

1975	Expenditure	1976	1975	Income	1976
£		£	£		£
	Academic Press:		860	Members' Subscriptions	2124
1433	The Lichenologist	1755	14	Reading Circle	23
	Subscriptions paid:		9	Lichenologist sales	449
26	Revue Bryol et Lich.	39	2	Duplicated keys	3
22	American Bryologist	19	9	Check lists	9
7	Council for Nature	7	3	B.M.S. publications	3
-	do. Donation	10	2	Dr. U.K. Duncan's book (net)	1
3	Biological Council	6	8	Donations	-
-	Inter. Mycol. Assoc.	10	91	Interest received:	
166	The Bulletin (net)	213	91	Bank	83
45	Stationery	49	56	Central Investment	5
43	Postage	82	20	Cambridge Bonds	106
10	Devon Trust booklets (net)	3	4	Refund of Income Tax	41
-	Insurance	10	4	Sundry receipts	25
-	Sundry Payments	1			
323	Excess of Income over Expenditure	668			
<u>2078</u>		<u>2872</u>	<u>2078</u>		<u>2872</u>

	WORLD	WILDLIFE	FUND	
Payments authorised	1973	250	Grant Received	1973
Do	1974	250	Do	1974
Do	1975	155	Do	1976
Do	1976	600		
Balance in Hand		<u>245</u>		
		<u>£1500</u>		<u>£1500</u>

	ROYAL	SOCIETY	GRANT	
Binding the Sowter collection		92	Grant received	120
Balance in Hand		<u>28</u>		
		<u>£120</u>		<u>£120</u>

BALANCE SHEET AS AT 31 DECEMBER 1976

<u>Liabilities</u>		<u>Assets</u>	
Subscriptions paid in advance	62	Investments:	
World Wildlife Fund	245	City of Cambridge	
Royal Society Grant	28	Local Bond 1976/78	1000
Bank Overdraft	566	Cash:	
General Fund at 31/12/75	1045	Bank Deposit A/C	1548
Add Excess of income over Expenditure	<u>668</u>	Canadian Imp. Bank	3
	1713	National Giro	59
		In Hand - Dr. Brown	4
	<u>£2614</u>		<u>£2614</u>

S.N. Tallowin
Hon. Treasurer
8 June 1977

Audited and in my opinion a correct record of the Accounts of the British Lichen Society.
R. T. Ashby Hon. Auditor
1 July 1977