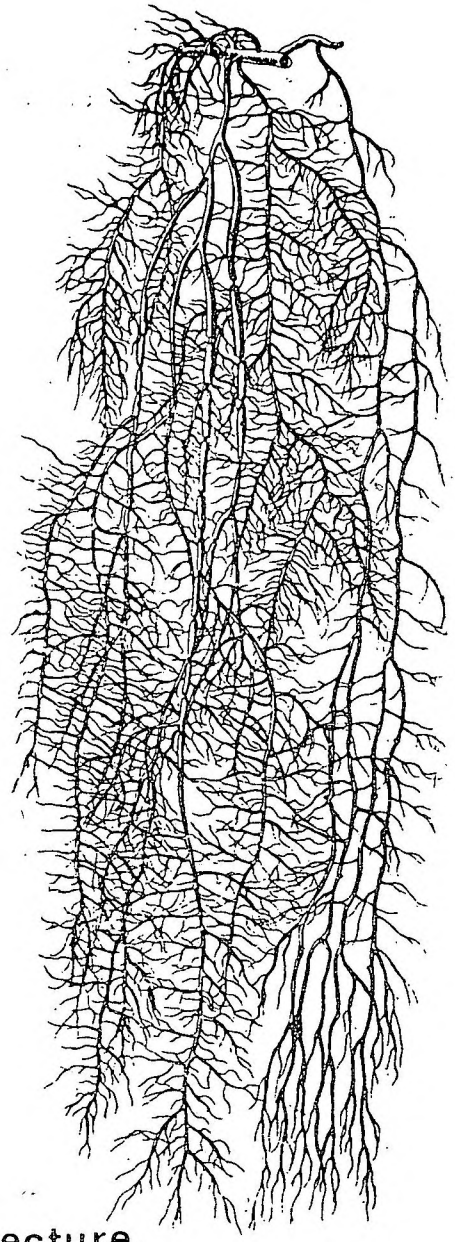
No. 48
Summer 1981

BRITISH LICHEN SOCIETY BULLETIN



Edited by O.L.Gilbert,
Dept. of Landscape Architecture,
The University, Sheffield S10 2TN

Lichen on farm roofs

Many new farm buildings are clad with coloured asbestos to improve their appearance. This is in line with the Design Council's publication 'Colour Finishes for Farm Buildings' (1975) in which they advise that roofs should, as a rule, absorb a high proportion of the light falling on them, in other words they should look dark when seen from the middle or far distance and appear darker than any vertical side cladding. Meeting these recommended standards when specifying asbestos for new buildings can mean considerable extra expense for farmers and landowners in painting or staining the sheets or buying integrally coloured ones. The Ministry of Agriculture, Fisheries and Food have recently published a colour illustrated Advisory Leaflet (No.753) on the subject entitled 'Lichen on Farm Roofs' which points out that natural colonisation by lichens can satisfy the design requirements regarding colour and reflectance.

Research for the leaflet was carried out in Bedfordshire and Huntingdonshire by P.G. Gibson, a senior surveyor in the Land Service of the Agricultural Development and Advisory Service. He surveyed the roofs of 40 randomly selected farm buildings clad with natural grey asbestos cement sheeting within the age range 0-16 years assessing their colour, lichen colonisation, surface pH and reflectance. It was found that for the first two years the roof colour remained near white or neutral grey and then changed progressively until by twelve years some 70% of the roof was covered by dark grey coloured lichens, mainly Phaeophyscia orbicularis, mixed with other subdued background colours and a small percentage of bright accent ones (Xanthoria, Caloplaca). The results show that lichens reduce reflectance in direct proportion to lichen cover (Fig.1). New asbestos cement sheeting had a surface reflectance of 0.54 which reduced to 0.30 within six years and approached 0.10 by sixteen years which is very close to the Design Guide recommended reflectance. The rate of lichen colonisation was relatively slow during the first four years but had attained 30% cover after eight years, 66% by twelve years and was in the region of 90% after sixteen years.

New asbestos cement sheeting from a wide range of manufacturers has a surface pH value of about 11.5. On aging this falls to below eight within five years, and, after a further eight years, to 6.5. The suggestion is made that pH controls the rate of colonisation in the early years, lichens not colonising readily when the pH exceeds 8. This observation clearly has implications for the widespread (but perhaps largely untested) belief that an application of dilute manure will help speed up the rate of lichen colonisation on natural grey asbestos roofed buildings in agricultural areas. Mr. Gibson has pointed out (pers.comm.) that farm roofs usually become rapidly eutrophicated by normal farmyard activities and he did not record any increase in the rate of lichen colonisation around stockyards, fertiliser stores

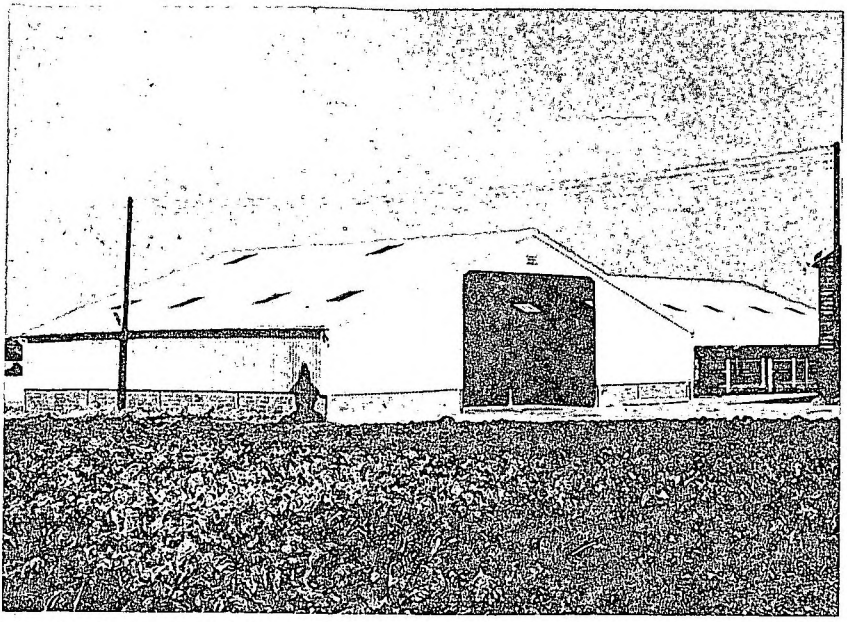


Fig.1 A group of farm buildings near Cambridge shortly after erection.

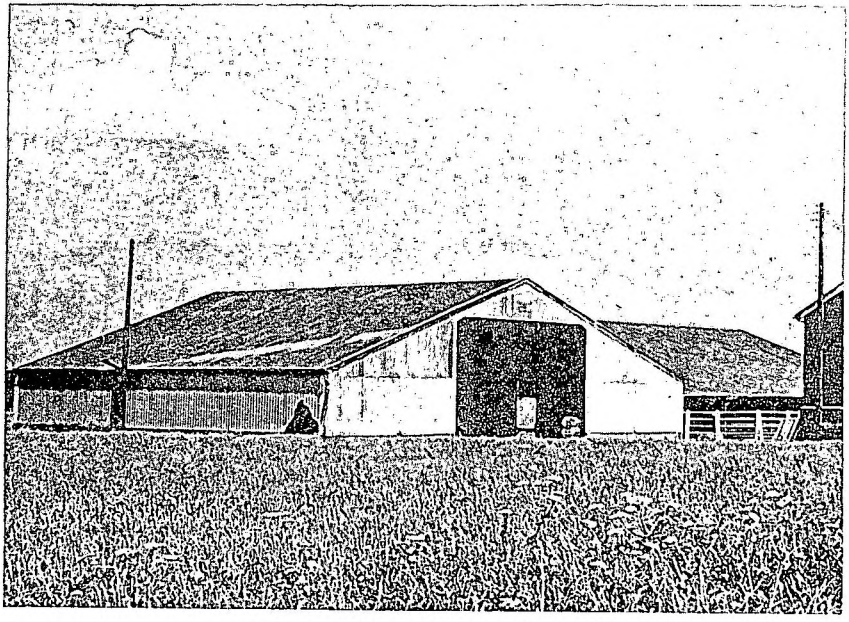


Fig. 2 The same buildings nine years later showing pronounced colour changes due to lichen growth. Note lichen-free streak on roof caused by toxic materials dripping off overhead wires.

or dust extractors. Hypertrophication tends to favour the development of green algae. To the standard question "How can we speed up colonisation?" the current theoretical answer would seem to be "By reducing the initially high surface pH".

The present methods of artificially achieving a coloured asbestos roof are expensive. The approximate extra cost (1979 prices) over natural coloured material for integral coloured sheeting is £1.25 m^2, for colour painted £1.00 m^2 and for staining £1.10 m^2. After approximately eight years, lichen colonisation in the study area had brought about sufficient change in both colour and reflectance of natural grey asbestos to ensure an acceptable appearance (Fig.2). The time taken to achieve this is very short in relation to the life span of the building. No harmful effects of lichen growth on asbestos were observed.

This research by the Ministry of Agriculture, Fisheries and Food, has received publicity in the columns of the 'Farmers Weekly', 'Estates Gazette' and various local papers as well as through Advisory Leaflet No.753. Planning authorities throughout the country have shown a great deal of interest in the publication of the leaflet.

I am grateful to Mr. P.G. Gibson who helped with the preparation of this article. - Ed.

Design Council (1975) Colour Finishes for Farm Buildings. Design Council, 28, Haymarket, London SW1Y 4SU Price £4.00.

Ministry of Agriculture, Fisheries and Food(1980). Lichen on Farm Roofs. Leaflet No.753, HMSO.Obtainable free of charge from MAFF (Publications), Tolcarne Drive, Pinner, Middlesex HA5 2DT.

Summer Lichen Ecology Workshop, BANGOR, Gwynedd, 22-29 August 1981

Leaders: Dr. A. Fletcher, BSc, MSc, PhD, FLS
Dr. A. Pentecost, BSc, PhD.

The workshop offers an introduction to the ecology of saxicolous lichen communities.

Bangor is in many ways an ideal base for such a workshop since over 1000 lichen species occur in the area, the range of habitats is very wide varying from rocky shores to mountain summits, also the region is largely unaffected by air pollution.In addition, we have at our disposal a well equipped laboratory with accommodation close by, and if the rigours of fieldwork prove too great, the towns of Bangor and Caernarvon offer a variety of cultural amenities, while the countryside is very popular with holidaymakers.

The workshop will include lectures, fieldwork and laboratory work. Lectures will deal with identification methods, ecological sampling methods and demonstrations of the factors affecting lichen distribution in "natural"habitats. Treatment of fieldwork results and the preparation of acceptable reports will also be dealt with.

Fieldwork will concentrate on visits to seashores and inland/upland habitats to compare and contrast the different communities encountered. Some quantitative work will be undertaken if weather permits. Laboratory work will include assistance with identification and methods of working-out fieldwork results and assessing their significance.

Dates: Saturday 22 August (arrive), Saturday 29 August (depart).
Costs: £11.00 per day, £77.00 per whole week. This includes full board with packed lunch, laboratory facilities, and evening bar in the very comfortable Normal College, Bangor. This college, one mile from Bangor, is directly fronting the Menai Straits, just below the Telford road bridge.

Members intending to be present at the meeting please inform Dr. A. Fletcher, Keeper of Documentation and Information Retrieval, Leicestershire Museums Service, 96 New Walk, Leicester, LE1 6TD, enclosing a deposit of £5.00 and stating if they are likely to have spare car seats. It would be appreciated if members could book by mid-July at the latest.

Autumn Field Meeting, DUNS, Berwickshire, Thursday evening 8 to Monday afternoon 12 October 1981

Duns, the county town of Berwickshire, is an ideal centre from which to explore the lichens of the Eastern Borders which have not received serious attention since Victorian times. The varied topography, historic parklands (pack your Border Ballads), wooded valleys, spectacular coastline and rocky outcrops suggest this beautiful area has a high potential for lichens. The Rathburne Hotel at Longformacus, 6 miles west of Duns, has been chosen as the headquarters, it has all the atmosphere of a Scottish country house, open log fires etc. Starts will be made from here daily at 9.30 a.m. Residential participants are asked to make their own bookings and to say if they are willing to share a twin-bedded room with another member. The proprietors have offered us a private room for the evenings so microscope work will be possible. On Saturday 10 October the grounds of Duns Castle will be visited, the venues for other days will be planned according to the weather; anyone not staying at the Rathburne Hotel and wishing to attend on a daily basis should telephone Mr.Coppins the night before.

Members intending to be present at the meeting, which will be held jointly with the Botanical Society of Edinburgh, should please inform the leader stating where they will be staying and if they are likely to have spare car seats.

Accommodation

Rathburne Country House Hotel, Longformacus, Berwickshire. Telephone 03617-232. £16 per day all found (£14 if sharing a room).

Contact the leader for details of cheaper accommodation.

B. J. COPPINS
Royal Botanical Gardens, Edinburgh
EH3 5LR.

Day excursion to Sevenoaks

A joint meeting with the Botanical Society of the British Isles, led by Mr. F.H. Brightman and Mr.J.R. Laundon, will be held on Sunday 19 July, 1981.

All groups of saxicolous plants will be studied. Meet near 'The Chequers', Market Place, High Street, Sevenoaks, Kent (grid ref. TQ 531547) at 11.00. The excursion will take place on foot, and a packed lunch should be brought.

Day excursion to Wimbledon Common

A joint excursion with the British Mycological Society will be held on Saturday 24 October 1981, under the leadership of Mr.P.W. James and Mr. J.R. Laundon to Wimbledon Common, London. Meet at the War Memorial, High Street, Wimbledon, at 1400 hrs. The party will study both lichens and fungi on the best remaining area of heathland in London.

Forthcoming Meetings

Field meetings planned for 1982 include a seven day spring meeting based on the Isle of Wight; details will appear in the next issue of the Bulletin.

The Annual General, Lecture, and Exhibition Meeting, will be held at the British Museum (Natural History), London, on Saturday 9 January, 1982.

Report on Annual General, Lecture and Exhibition Meetings, 10 January 1981

The Annual General Meeting attracted a record 52 members. Most of the business was straight forward; the elections, as usual unanimous, saw Dr. M.R.D. Seaward appointed Vice-president, and Council was strengthened by the addition of Prof. B. Fox, Mr.V. Giavarinj, Mr. P.W. James, Prof. D.H.S. Richardson and Dr. Pauline Topham. Fred Haynes, who has led the conservation activities of the B.L.S. for as long as anyone can remember retired as Chairman of the Conservation Committee and Frank Brightman retired as its Secretary. A summary of the achievements of this Committee can be found elsewhere in the Bulletin. They will be succeeded by Dr. A. Fletcher, who recently provided an account of 'Lichens and Conservation' to a sub-committee of the House of Lords. The meeting closed with the election to Honorary Membership of Dr. A. Vězda and Peter W. James; the conferring of this distinction, the highest our Society can award, was followed by prolonged applause.

Over seventy people attended the afternoon Lecture Meeting on 'Modern Approaches to Lichenology'. In the first paper Pauline Topham and David Hawksworth pointed out that accurate spore measurements are not easy to make and emphasised that at least 10 spores need to be measured before a mean can be arrived at. Computer packages are available to test the significance of differences in spore measurements, but the final evaluation still depends on humans.

There was some discussion about how a mature spore could be recognised but this did not seem to matter too much as the next speaker, Brian Coppins, played down the taxonomic importance of spore characters. He explained that about 15 years ago leading lichenologists started to follow other mycologists who were using features such as the excipulum, paraphyses, pycnidia, nature of the ascus wall and apex, tissue structure, pigmentation and ecological homogeneity to delimit genera. Examples from the Lecideaceae s.lat. were used to illustrate modern taxonomic concepts regarding genera. Considerable interest was shown in Alan Pentecost's simple deterministic model for simulating mosaic structures in crustaceous lichens. He demonstrated how lichens can grow round corners (not just radially) and so ambush competitors. His observations also revealed how vigorous species e.g. Parmelia spp. can pass over a slow growing mosaic like a storm causing disturbance and death, but in its wake the mosaic reforms. If left undisturbed, equilibrium states may persist for at least a human life span. John Birks discussed the theoretical background to the analysis of plant distribution patterns, explaining how it is possible to classify the distribution of taxa the distribution of regions, or both together which provides maximum insight. Whichever method is used, the difference between highland and lowland Britain comes out strongly. Analysis needs to be followed by interpretation which eventually requires the collection of experimental and phsyiological data. This was illustrated by an explanation of the distributions of Hymenophyllum tunbridgense and H.wilsonii.

Once again the Exhibition Meeting catered for many interests. An innovation was cups of lichen tea served by Mark Seaward from a packet obtained in West Germany. This revived memories of the large fruit cakes, decorated with lichens modelled in icing, which Nancy Wallace regularly brought as her exhibit.

BROWN, D.H. & MOXHAM, T. Library catalogue on Computer File.

FOX, B. Vorarlbergia renitens discovered in Britain at New Mills, Derbyshire. A specimen of this remarkable lichen with its miniscule perithecia which appear to be seasonal was exhibited together with scanning electron micrographs which have so far defied analysis - they seem to show diatoms as an integral part of the thallus.

FOX, B. Anglo-Scandinavian Oban Field Trip 1980; 34 colour photographs.

GILBERT, O.L. Citrine-green taxa in the genus Candelariella. Citrine-green counterparts of C. aurella, C. medians and C.vitellina were exhibited and interpreted as chemotypes.

HITCH, C. Thelomma ocellatum in Britain. The second and third British records of this species were shown, they derived from Suffolk and Shropshire. This inconspicuous lignicolous species has probably been overlooked.

PENTECOST, A. The Jubilee Quadrats. Colour photographs of the permanent quadrats established in Llanberis Pass during 1977, the jubilee year of Queen Elizabeth II.

RICHARDSON, D.H.S. Proofs of a forthcoming book 'The Biology of Mosses' to be published by Blackwells Scientific Publications.

RICHMOND PUBLISHING COMPANY. Bookstalls of over a hundred Natural History titles.

SEAWARD, M.R.D. Cups of lichen tea, (see 'Grapevine' for further details).

WALKER, F.JOY & GALLOWAY, D. Lichens at Large. A series of scanning electron micrographs of lichens showing how this technique is becoming increasingly useful to taxonomists.

New Honorary Members - P.W. James and A. Vězda

Peter James' interest in lichens was aroused by a member of the Sutton Coldfield Natural History Society sending him a specimen of Ramalina siliquosa while he was studying botany at Liverpool University. He soon realised there was a whole group of plants his course had ignored which indeed nearly everyone was ignoring. After starting a PhD on epiphytic lichens in the Lake Bala area of North Wales, he moved to the British Museum in 1955 where with his flair for taxonomy he quickly became an authority on the group just as it was recovering from 50 years of neglect. He acknowledges a great debt of gratitude to help from Ursula Duncan during this period. Once the British Lichen Society was formed he gave much of his time to assisting novices, becoming something of a youthful father figure who handled every lichen paper and nearly every lichen specimen. His ability and willingness to help members name their specimens attracted many beginners into the Society. There can be few members he has not aided personally, there are certainly no issues of the Lichenologist he has not devoted much time to and Council has benefited greatly from his wisdom. Peter James has written many important papers, high amongst which must be his work on lichen chimeras and his production of A New Check-list of British Lichens (1965) which dominated lichenology (not only in this country) for over 15 years. At the time of its publication he had already studied around 80% of the British species in the field especially in relation to their phytosociology. Unfortunately other responsibilities at the British Museum now tend to limit the time he can devote to lichenology. As relaxation Peter derives much pleasure from listening to music, Bach being a particular favourite, he is currently writing a short book on Bach's cantatas. It is difficult to imagine a more suitable honorary member.

Dr. Antonin Vězda, who works in the Botanical Institute of the Czechoslovakian Academy of Science, is known to British lichenologists chiefly through his numerous publications and his valuable lichen exsiccatum which is now the largest ever issued; Arnold stopped at about 1600 numbers. The keys to European lichens he has published jointly with Prof. J. Poelt are extremely useful, frequently providing the only modern keys to the genera covered. Whenever small species are involved Vězdas' name is likely to crop up, particularly in connection with the Gyalectaceae. Minute species in fact stand a good chance of being named in his honour, examples are the genus Vezdaea and the widespread British species Bacidia vezdae. He has studied marine and maritime habitats in Bulgaria, foliicolous lichens in the Caucasus and montane species in the Alps in addition to much material sent by foreign workers; however, Central and Eastern Europe are his main stamping grounds. There is a fine aesthetic element in his taxonomic work which aligns nicely with his interest in liliaceous flowers. In his garden near Brno he cultivates besides fruit many species of crocus, tulip, iris, snowdrop, Leucojum, etc. which are exchanged with his friends. His wife is a medical doctor; they have a son and daughter. He is fond of music. Dr. Vězda originally worked as a forester and was at that time also interested in bryophytes (many years ago he published a set of 'Bryophyta Carpatorum'), but we are fortunate that his interests eventually turned to lichens. Antonin Vězda is a very friendly and helpful man who has risen to great eminence in lichenology; we count it a privilege to have him as an Honorary Member of the British Lichen Society.

Grapevine

Accolades, thank Heaven and the oils of Academe, occasionally sound for lichenologists. Dr. Dougal Swinscow's recent D.Sc. from London University and Dr. Margaret Blackwood's elevation to the awe-inspiring rank of Dame for her unstinting service to Melbourne University are happy recognitions of dedicated and enriching application. Grapevine thanks and congratulates them on behalf of all lichenologists.

We are, after all, a breed apt to be viewed in the field as 'loitering with intent' and in society, even of botanical caste, as dealing in arcane niceties about what the world and his wife know all too well is merely bits and bats of one and the same weird crust. So that Grapevine was glad to derive a bonus of solace from a brief interlude in BBC's Wednesday Film on 18 Feb. last. 'Mr. Forbush and the Penguins', based on a book by Graham Billings, portrayed the zany Antarctic disorientations of a zoologist living amongst penguins. Grapevine's approval was hooked when into his claustrophobic world of ice and hostile skuas there entered, drawn by a team of dogs, a visitor from a not too distant work-station, importing a healthy note of friendship and stability and, coup de grâce, a lichenologist to boot!

Lichenological sanity seemed not so glaringly obvious to BBC's Sue Lawley recently. 'Nationwide' was keen to regale viewers with items revealing the unsuspected wonders 'On your Doorstep' ------ in lichenologese the feature's name would be 'Overlooked'. A research biologist took the notion literally and forwarded photographs veritably of his own doorstep (plus incumbent lichens) and surprised the team by inviting them to examine the steps outside their own BBC base. After this venture into urban lichenology, Sue's reported comment on return to the safety of the studio was 'I don't think we want any more people sending us things about fungus and that kind of stuff.'

Grapevine is also informed that David Attenborough is uncertain how to pronounce the word 'lichen'. He is not the only one. The Oxford Dictionary has at times listed only that pronunciation preferred in lichenological circles, making a rhyming pair of the last lines in Evelyn Waugh's squib to John Betjeman,

'I lie itchin'
Because of the imperfections of my kitchen,
While you are bikin'
Round Berks studying lichen.'

The new Collins Dictionary, however, like Chambers and others, lists this scientifically orientated pronunciation along with the more rurally esconced one rhyming with 'kitchen'. Dictionaries apart, both pronunciations are in usage and, like it or lump it, --- fortunately we have no Académie Anglaise --- English is stuck with them, although in our own charmed circles we shall no doubt go on confessing to a likin' for lichen.

A liking for lichen in a more testing sense was not all that evident at Mark Seaward's AGM tea-ceremony exhibit. Grapevine has it that the most favourable responses from tasters of the 100 per cent

Cetraria islandica brew (said to ' alleviate catarrh and other respiratory troubles, diarrhoea and loss of appetite') were that 'one or two people liked it, they thought it might do them some good, they were under the weather'. A non-lichenologist acquaintance of Grapevine's, a lifelong sufferer from sinusitis, initially agog to try 'absolutely anything if it will help', said after infliction of the mash that he thought once should be enough, thank you, and did not take a proferred further sample home for his own teapot.

VINIFERA

Country diary - 2: Norfolk

One of the delights of lichenology is that it is a pursuit which can be undertaken at any time of the year, in most weathers and often in interesting surrounds; there is also the possibility of the unexpected. It was with these thoughts that we set off on a cloudy damp day with a bleak north-easterly wind blowing off the North Sea to look at some churchyards. With over 650 medieval churches in the county there is plenty of choice, but we selected a small group close to Great Yarmouth which had been little studied.

Our first church set by a busy main road was approached along an avenue of lime pollards and these proved to have Schismatomma decolorans and Arthonia impolita in quantity. We entered the churchyard and started by examining the north wall, which was covered with Dirina repanda f. stenhammarii and dotted here and there were patches of Opegrapha chevallieri. An exciting find was Acarospora veronensis on one of the tombstones, a rarety in the county. The slates on the chancel roof were covered with a yellow-green lichen, which must have been Rhizocarpon geographicum, only its third county record. In good spirits we left the churchyard to the accompaniment of rooks heralding spring from a nearby rookery, and headed for our next church a few miles away. This was hidden by trees and approached across a ploughed field. It was too shaded to have much of interest, though Diploicia canescens was found colonising the lead and glass of two windows. However, surrounded by acres of hedgeless arable fields the churchyard was a sanctuary for wildlife, with song thrushes and blackbirds singing, and lesser celandines carpeting the ground.

Our next stop was a lonely church overlooking the marshes, where I had found the eastern speciality Lecanactis hemisphaerica on a previous visit. Here it grows under a small overhang on the west side of the tower. Ramalina duriaei was found growing on the porch wall, a sign that the sea could not be far away. The church itself was in poor repair with slates off the aisle roof. A notice said 'all contributions gratefully received' - they were needed.

Thence onto another lonely church a few miles away with a delightful round tower made with a mixture of flints and various erratics including granites and sandstones. It was interesting to see that few lichens colonised these, though Diploicia canescens picked out the ironstone nodules and plainly did well on this substrate. Caloplaca ruderum appreciated the crumbling mortar holding these stones together and was very fine. A 1696 headstone had a nice colony of Aspicilia calcarea, but the inscription itself

was still clear. A search of the slates on the porch revealed a further colony of Rhizocarpon geographicum. It is curious that Dawson Turner, the noted 18th century lichenologist living at Great Yarmouth, did not record it; is it a spreading species perhaps?

Our final stop was a big church set off a main road at the end of a muddy farm track, it served what is now only a small village and like many in East Anglia was largely built in the 14th century. It was exciting to find that it had a small ledge low on the tower and underneath it a very fine colony of Lecanactis hemisphaerica; its 6th known site.

With the weather closing in we left to drive home, satisfied at having added a little more to our knowledge of the county's lichen flora and at the same time we had enjoyed seeing some fine medieval buildings.

P.W. LAMBLEY

Lecanora esculenta - extensive tracts observed in Libya

It might interest you to know that I have just recently returned from Libya where I saw Lecanora esculenta in great abundance, and I even saw it being eaten by large flocks of sheep and goats where they had precious little else to eat! One area had a nearly continuous cover 70 km long by 40 km wide. Another area visited was supposedly much more extensive (as much as 700 km long and very wide) but I only saw one small part of it. The sheep like it and in fact leave other plants to graze on the lichen, and the shepherds even a hundred miles away know it and can tell one where it can be found. They normally go to those areas only in bad years when food is in short supply, but I saw three flocks in those areas in a rainy period, (late December - early January) when starvation was not a real factor. I was interested to note that the lichen is almost entirely free. I saw it only where there was an abundance of pebbles or small rocks, rarely surface outcrops, but it was difficult to find the development stages on rock from areolate crust to rounded excrescence and eventual freedom. I saw no evidence of spore formation. I believe that there is enough stability during the "wet season" for the lichen to be able to regenerate by fragmentation with perhaps the fragments being caused by the trampling of grazing animals.

HOWARD CRUM

Lichen conservation - achievements to date

From its inception the British Lichen Society has put conservation as a major aim, but it is one thing to declare an intention and another thing to carry it out. At that early stage in the Society's history there was only a vague idea as to the species indigenous to the country and their distribution was virtually unknown. Early excursions soon established that sites famous for flowering plants were not necessarily rich in lichens, a situation which left the Conservation Officer with an aim but no information on which to base any achievement. The mapping group began to

gather data and ultimately enough seemed to be known to justify the creation of a conservation committee. The first task undertaken was to codify the important sites and review the tentative ranking of such sites which had been proposed by the conservation officer and an ad-hoc selection of advisers. This pioneer listing was carried out before the Nature Conservancy had established a ranking of its own sites and in a period in which County Trusts were in their infancy. It says much for the intuitive hunch, experience and knowledge of these early committee members that none of these original sites have been down graded because better sites have subsequently been found. Sites of equivalent interest have been found, but the potential range of habitat had been correctly judged. In our recent review a few sites have had to be downgraded as a result of interference, while a rewarding list of new interesting locations require sifting and evaluating. Certainly our decision to review our sites every five years has proved to be necessary. To create a private list of desirable lichen sites is a start which only becomes useful if others know of our views and are awake to our interest. Hence each site was declared to the Regional Office of the Nature Conservancy, the County Trust and, where it seemed expedient, to the land owner. This process also turned out to be a useful form of self advertisement.

Lichens cannot match birds in popular appeal and the committee has given much time and thought to advertising the existence of lichens and their vulnerability to disturbance. What we have achieved seems little compared to the effort and enthusiasm expended. Most of our schemes have foundered on the economic shoals of the Society's budget. We have managed some simple leaflets, but their number and distribution has been less than we hoped. Ironically, the most successful piece of advertising was a product of Jack Laundon's editorship of the Bulletin for which he extolled the virtue of churchyards as a lichen habitat, a topic which caught the imagination of the media and brought a spate of enquiries. Most enquiries relate to topics which can now be considered standard. Commercial uses of lichens for dyeing or modelling raise questions of provenance and the intensity of collecting and call forth what are intended to be diplomatic letters to users. The occasional request for ways of encouraging lichen growth on new stonework are more than balanced by the problem of blocked drains which arise from excessive lichen growth on roofs. It is rewarding to find that societies sometimes approach us for lichen information that may relate to public enquiries over threatened sites. The Nature Conservancy now automatically consider lichens and this is in itself free advertisement. We hope that the posters of lichens to be issued by the British Museum, though they are not the conservation alert suggested by the committee,will increase public awareness of the existence of the group we study and enjoy. Often, during my long tenure of the conservation post, I felt that the body of lichenologists were most interested in the study of lichens and left their conservation to too few enthusiasts. With a new and enthusiastic leader I hope the committee will achieve a new impetus and the membership will rally to help meet the threats increasingly impinging on their chosen group.

F. HAYNES.

Lichen conservation and the British Lichen Society today

Since its inception in 1958, our society has played an active role in lichen conservation. Indeed, so important was this role, that the post of "Conservation Officer" was introduced in 1964, to be held by Fred Haynes until his retirement in 1980. During this period the society achieved a great deal. Lichen conservation interests were represented at a number of planning enquiries; financial support was obtained for many lichen conservation projects; links were established with other conservation bodies. But perhaps the most notable achievement was the listing of a large number of sites of lichenological importance, graded according to their International, National, Regional or County interest, and this list has proved to be of enormous value. I feel in consequence that we owe a considerable debt to, and must record our sincere gratitude to Fred Haynes for his leadership during this period. We must now, however, endeavour to follow on from his pioneering efforts.

As the newly elected Conservation Officer, I feel obliged to record my concern over lichen conservation. Since 1958 the pressures on lichen communities have grown. Firstly, commercial interests have increasingly endangered wildlife habitats. Secondly, planning enquiries are much more officious than before so that the lichen-conservator has now to prepare a case which will stand up to interrogation by lawyers. Thirdly, in a period of economic recession, funding for conservation is hard to obtain and national conservation organisations are struggling to perform their duties adequately. It follows naturally to me, that if the BLS is to adequately serve lichen-conservation, it must (a) become even more active, (b) be professional in its presentation of evidence, (c) assist the national conservation bodies as generously and constructively as possible.

To achieve these ends, I offer the following as a guideline to our activities in the near future.

A. Grading Sites of Lichenological Interest.
- Regrading existing sites of lichenological importance.
- Grading of new sites from evidence presented to us.
- Soliciting information on potential sites via contacts and representatives.
- Looking at new, or re-appraising existing known sites in the field.

B. Publicity.
- Regular contact with the Nature Conservancy and other conservation bodies.
- Contact with planning authorities and landowner
- Maintain lists of people possessing local or national lichenological knowledge who are willing to serve the lichen conservation effort
- Maintain a bibliography of lichen conservation matters.

C. Dealing with threats to lichen sites.
- Receiving information on threatened sites.
- Prepare constructive proposals to avert the danger.

D Maintain a code of conduct for lichenologists.

Some readers may be surprised to hear that much of the above is already being undertaken by the BLS Conservation Committee; a body of individuals convened since 1968, who collectively meet to discuss and decide action on problems as they arise. We do, however, need to become even more active in the future.

In consequence I would be interested to hear from BLS members who have ideas on, firstly, how we can best achieve the aims set out above, and secondly, who may be willing to act on the committee's behalf at a regional level. Perhaps we can create a system employing regional expertise; a network of contacts who can make known any threats to local floras or inform us of potentially valuable but as yet unthreatened sites of lichenological importance. I look forward to hearing from you, and will keep you informed via the BLS Bulletin at regular intervals.

A. FLETCHER.

Conservation problems in the New Forest

A number of threats to the New Forest environment are currently worrying naturalists, particularly lichenologists.

The first threat concerns the proposals by oil companies, supported by the Department of Energy, to prospect for oil. There is, it appears, good evidence of synclinal structures beneath the forest that may well contain quantities of oil that could be extracted on a commercial basis. The first site proposed for exploratory drilling, and to be the subject of a public inquiry in the near future, is in Denny Inclosure. This in itself is not an area of great ecological (or lichenological) interest, but it is the possible effect of the associated operations that is extremely worrying. Roads will have to be improved or constructed to provide access; if these are made up with limestone materials, pollution of the soils and forest streams and bogs would be likely to occur due to a rise in Ca CO_3 levels. Piped water may have to be provided at drilling sites, and this will have to be discharged, presumably into the watercourses. If a lime-rich water supply were used, the effect on Matley Bog some way down stream could be disastrous. Gases released in drilling might have to be burned off from flare towers. The composition of such gases as might be encountered is as yet uncertain, but they might well prove to be rich in sulphur thus creating air pollution of a natura disastrous to the rich lichen floras of nearby woods of international importance, such as Stubbs and Frame Wood. Escapes of any oil that might be found, prior to effective capping, could also be disastrous along miles of watercourses.

All this is only a beginning. If oil is found in appreciable amounts, pressure to extract it will be heavy at the political as well as at the economic level. This could mean a considerable number of well-heads in the forest which could prove environmentally catastrophic. It might prove possible to extract the oil (if found) from outside the forest by non-vertical bore holes, but the Dept. of Energy does not seem to regard this as easy, although there is technical evidence that it may well be feasible. The Minister of Energy recently stated that not even the New Forest could be immune from the pursuit of oil.

A further threat to the Ancient and Ornamental Woodlands concerns

a sequel to the effects of the 1976 drought, which killed or rendered diseased a very large number (thousands) of beech trees. The Forestry Commission, concerned about public safety, is currently felling what it considers to be dangerous dead or dying trees in areas that it considers to be under heavy recreational pressure. Correspondence is in progress on this subject with the Forestry Commission to try to clarify how far they intend to go in this direction, that is to say, what areas count as ones of heavy recreational pressure. Over 1000 trees have already been felled, some up to 100 metres or more from any road or car park, and there are reports that not all of these are dead or dying, or unsafe by normal criteria; but the work has apparently been contracted out to outside firms, who may well be less careful over which trees are actually felled than the Forestry Commission would have been. There is of course an obligation on highway authorities to fell dangerous trees by public highways; but there is no such obligation to fell trees away from highways. Indeed the Forestry Commission is charged by Acts of Parliament to protect and maintain the Ancient and Ornamental Woodlands and not to fell trees within them, except in very special individual cases. Negotiations are, however, proceeding over this matter.

The third threat in the Forest - a lesser one - concerns the clearance of scrub from lawns, and the improvement of their drainage. The main lichenological threat here concerns Prunus spinosa scrub areas rich in Usnea species, but this work also could have serious effects on insect populations, especially of dragonflies. Again, negotiations are in progress; but the outlook is uncertain.

It seems that lip-service is always to be paid to conservation by official bodies and the Government, but when it really comes to the crunch, is there no place in Britain that can be regarded as having immunity from development on environmental or scientific grounds? Every site, however nationally or internationally important on scientific or amenity grounds, appears liable to be sacrificed on the twin altars of mammon and politics - economic expediency! We hope we are wrong; only time will show. If oil was known, or suspected to be present under the nave or choir of Salisbury Cathedral or Westminster Abbey, would drilling take place there? One could always restore a building, however fine or ancient - the ancient woods of the Forest have taken since the start of the Flandrian to develop their present unique features, and any major damage could take hundreds, if not thousands, of years to repair.

F. ROSE.

Lichens and fish-flies

Michael Rogan (1833-1905) of Ballyshannon, Ireland, was one of the last great dressers of salmon and trout flies who relied proudly on natural materials. Founder of a dynasty that still flourishes, one of his main characteristics was an intense secretiveness about his methods of preparation of materials he employed in fly-designing, a taciturnity allied with a powerful dash of business acumen. In his book, Famous flies and their originators, Donald Overfield points out that the dyeing of materials and method of salmon-wing design were Rogan's two especial fortes. "Today", he writes, "one can buy all manner of colours that will do the job

tolerably well, but to see examples of the old dyer's work makes one wonder if we have progressed so far in that particular." For his actual dyeing and fastening Rogan worked "with the dyes of nature, the litchens, fustick, copperas and Brazil wood", achieving " a delicacy of shade and a subtlety of colour that has but rarely, if ever, been equalled". In his Book of Angling (1880) Francis Francis notes: "These crottle colours are most difficult to describe and unless the dyer got the colours from Rogan I should fear he would find it difficult to hit them." Rogan's dressing, for instance, of the Fiery Brown fly imparted an unprecedented brilliance that made the fly seem virtually his own invention. His fondness also for "the use of pig's wool shaved from the skin of a young suckling", a most taxing substance for the dyer, is another indication of his expertise in this branch of his art.

Today the Rogan flytying business continues to use the old man's methods, apart from the abandonment of ass's urine for the cleansing processes in favour of more scientific approaches. What remains difficult to approach more scientifically is the achievement of colours such as those induced by Rogan's traditional techniques. As Francis Francis put it: "I am afraid that, do what I can, the colours in all these flies will be found most difficult to hit off by description", and of one shade particularly: "This is a difficult colour to describe, as it is neither claret nor red, nor purple, nor puce, nor mulberry, nor mauve; it is more the old fashioned colour called Lake."

I am most indebted to Donald Overfield for his generous permission to quote freely from his volume on the history of flies and flytying. He tells me in a letter that he is sure that lichens and other natural substances "had been used for the colouring of the multitude of furs and fibres used in flytying long before the recorded history of flyfishing in this country started with Dame Juliana Berners' Treatise in 1496.

A. HENDERSON.

Lichen Wallchart

The British Museum (Natural History) in conjunction with the British Petroleum Educational Service have just produced a lichen wallchart (80 x 60 cm). It figures 50 epiphytic lichens in colour, mostly at x 2, with small areas magnified up to x 10 to x 30. The lichens, many of which are illustrated attached to twigs or branches, are arranged in order of their sensitivity to air pollution, a scale along the bottom allows their approximate extinction point to be read off. The chart is breathtakingly beautiful in its quality of reproduction, layout and true representation of species. The individual paintings by Claire Dalby are the best you are ever likely to see; I challenge any lichenologist not to smell damp woodland while examining the lichen-clad twigs or to half-reach for a hand lens to check on some detail. The portrayal of Lecanora chlarotera, Platismatia glauca, Graphis elegans, G. scripta and the magnification of Parmelia pastillifera are my own favourites. The chart should stimulate much interest in the group at an educational level as well as provide endless pleasure to seasoned lichenologists.

The 'Lichens and Air Pollution Wallchart' can be obtained from British Museum (Natural History) Publications, Cromwell Road, London, SW7 5BD, price £1.25 (post and packing 45p extra). There is a lower price available to educational establishments of £1 inclusive of postage and packing if purchased through BP Educational Service, P.O. Box 5, Wetherby, West Yorks. LS23 7EH or BP Educational Service, Britannic House, Moor Lane, London, EC2Y 9BU. An information booklet should be available in late 1981; as yet no price has been decided upon.

One-day symposium on the Conservation of Flowerless Plants, LONDON, 26 September 1981

In the autumn of 1981 the Linnean Society is arranging a one-day symposium on the Conservation of Flowerless Plants at its rooms in Burlington House, London; it will concern itself with lichens, mosses, algae and fungi. The Symposium will take the form of a number of short contributions from invited speakers with time for discussion. The programme commences at 10.00 a.m. on Saturday, 26 September and finishes about 4.30 pm; there will be a field meeting the next day for those interested. The fee of £2.50 includes tea and coffee. Further details from the Executive Secretary, The Linnean Society of London, Burlington House, Piccadilly, London, W1V OLQ.

Secretary's report for 1980.

The membership once again showed a healthy increase during 1980, rising from 548 to 574. The number of new members was 53, a decline from the 63 recorded during 1979. The deaths of Dr. L. Gallé of Szeged, Hungary, and Mr. D.G. Smith of the Nature Conservancy Council, Bolton, are recorded with deep regret.

Field meetings were held at Fontainebleau and Normandie in conjunction with the Association Francaise de Lichénologie, and at Ludlow in Shropshire. Day excursions were held in the New Forest, on the Isle of Thanet, and at Ruislip. Mr. Brightman, Dr Gilbert, Dr. Hawksworth, Mr. Lambley, Mr. Laundon, Madame Letrouit, and Dr.Rose are thanked for arranging and leading these excursions. The customary annual general, lecture and exhibition meeting was held in London.

Three issues of The Lichenologist were published. The Royal Society is thanked for a grant and loan towards the checklist which appeared in the journal. The Editor Dr. Hawksworth, and the Assistant Editors, are thanked for all their work in seeing the three issues through the press in such good time. Two numbers of the Bulletin were issued, and special thanks are due to Dr. Gilbert for taking on the writing and editing; it is pleasing to note that the high standard has been maintained and valuable new features added. The lichen atlas is now at the printers, and our Mapping Recorder Dr. Seaward, as well as Dr. Hitch, Mr. James, Dr. Rose, Dr. Hawksworth and others concerned with the project, are thanked for all their onerous work and patience. The Society's prospectus has been revised and reprinted.

Three Council meetings were held; I regret that Dr.Topham, Mr. Manning and Dr. Sherwood found it necessary to resign from their appointments. The Conservation Committee met several times

and has put forward important proposals to Council to serve as a basis for the future. As regards conservation, the Amey Roadstone Corporation have modified the line of their proposed gravel extractions at Dungeness in order to protect an important lichen area. Mr. Haynes and Mr. Brightman are, I believe, retiring as the main officers of the Conservation Committee, positions they have held for many years, and they merit a special vote of thanks for all their work on our behalf. I end by thanking you all most sincerely for your help and co-operation during the year.

J.R. LAUNDON
Honorary Secretary

(This report was presented at the Annual General Meeting on 10 January 1981).

Subscriptions - a reminder

Would members who have not yet paid their subscriptions please do so as soon as possible. The rates for Ordinary Members are now £10. or £25. per year; Junior Associate Members (under 21, or under 25 if receiving full-time education) pay £1. and receive only the Bulletin. Subscriptions should be sent to Mr.P.W. Lambley, Castle Museum, Norwich, NR1 3JU.

New, rare or interesting British lichen records

It is intended that this will become a regular feature aimed at keeping members in touch with our rapidly increasing knowledge of the British lichen flora. Please send in your most interesting recent records, or discovery of old collections, for inclusion in the next Bulletin. Layout and detail should be similar to those below; ecological and interpretive notes welcome; nomenclature to follow 1980 check-list.

Bacidia epixanthoides V.C. 11, South Hants: New Forest. V.C.8, South Wilts: Longleat Park Woods, 1980, F. Rose det.B.J. Coppins. This old forest species was formerly believed to be confined to northern Britain.

Cetraria commixta V.C. 69, Westmorland: scarce on ridge above Brown Cove, Helvellyn, 35/338157, 860m, 1980, O.L. Gilbert.

C. hepatizon V.C. 70, Cumberland: frequent on Sharp Edge, Blencathra, 35/327284, 730m, 1980, O.L. Gilbert. With Pseudephebe pubescens and Cornicularia normoerica.

Cladonia fragilissima. V.C. 57 Derby: in open acidic grassland, Oyster Clough above the Snake Pass 43/118901, Oct. 1979, W. Purvis and O.L. Gilbert. V.C. 58 Cheshire: damp sandstone ledge by waterfall, Arnfield Brook, Longdendale, 43/031994, 1981, W. Purvis. Believed to be the second and third records from England, (grayanic acid demonstrated by t.l.c.)

C. rangiferina V.C. 69, Westmorland: locally frequent on Cliburn Moss, near Penrith, 120m, 1980, R.W.M. Corner. This second record

for England has surprisingly come from a lowland peat 'moss' which contains several other relics in its flora e.g. Cetraria islandica (till c.1936). The only Welsh locality, Tregaron Bog, is also at a low altitude.

Collema glebulentum V.C. 69, Westmorland: very rare where water trickles down cliff face, Brown Cove, Helvellyn, 35/339154, 840m, 1980, O.L. Gilbert. First English record, det. B.J. Coppins. Adjacent crevices with Catapyrenium lachneum and Lecidea hypnorum suggest rocks slightly calcareous; normally found in Scottish Highlands.

Cyphelium notarisii V.C. 28, West Norfolk: now known from 4 sites on the north Norfolk coast between Burnham Market and Cley-next-the-Sea, 1980. P.W. Lambley and T. Ottley.

Lecanactis amylacea thought extinct in Britain till 1977 has now been refound in V.C. 69, Easterness: Cawdor Wood. V.C. 95, Elgin: Darnaway Forest. V.C. 73, Kirkcudbright: Glenlee Park. V.C. 9, Dorset: Melbury Park and at two sites in the New Forest. Often sterile, it can be recognised as a flowery white crust peppered with lightbrown dot-like soralia in dry crevices or underhangs on the bases of old oaks. F. Rose.

Lithographa tesserata V.C. 70, Cumberland: sheltered gully on Fleetwith Pike above Honister Pass, 35/220137, 1980, O.L. Gilbert. This species is not infrequent on the Borrowdale Volcanic Series.

Lobaria pulmonaria V.C. 10, Isle of Wight: on at least 13 Fraxinus in North Park Copse, Swainston, 1980. Dominant on several trees with Dimerella lutea, Catillaria atropurpurea, etc. in this medieval deer park relic. C. Pope and F. Rose.

Peltigera leucophlebia V.C. 57, Derbyshire: Back Dale, nr.Buxton 43/094705, a small patch in broken limestone turf, 1981, Margaret Shaw. First record (of P.aphthosa agg.) from Derbyshire for over a hundred years.

Stereocaulon alpinum V.C. 105, West Ross: terricolous, a component of Rhacomitrium heath, Meall Dubh, nr. Falls of Glomach, 28/010247, 550m, April 1980, W. Purvis, BM. The compilers of the 1980 checklist omitted this species as named material in the BM was, in their opinion, too poor for a certain identification. The above collection, which has abundant rose-coloured tomentum and has been checked by P.W. James, re-establishes it as a native British species.

Teloschistes flavicans V.C. 3, South Devon: near Cullompton, 31/093.030, many small specimens on Fraxinus along field boundary, 1980, Barbara Benfield. Farmer notified and agreed not to start his muck-spreader till he was past the trees.

Thamnolia vermicularis V.C. 69, Westmorland: rare in summit grassland on west side of Keppel Cove, Helvellyn, 35/340164, 850m, 1980, O.L. Gilbert. Alectoria nigricans and Baeomyces placophyllus also present.

Two British woodland sites have now exceeded the 200 taxa per km^2 threshold of diversity - Glasdrum National Nature Reserve, Argyll and Melbury Park, Dorset. These are the highest densities yet recorded anywhere in Europe for epiphytic lichen taxa and perhaps indicate more nearly the former richness of the primaeval forests of Britain in epiphytic lichens. P.W. James and F. Rose.

British Museum Saturday closure

As an essential economy measure the Department of Botany, British Museum (Natural History), London, closed to general public enquiries on Saturdays from 1 January 1981. The department remains open for such purposes on Mondays - Fridays. Special arrangements are, however, in operation for the benefit of visitors who give reasonable advance notice of their wish to use the department's facilities on particular Saturdays. The museum's British lichen herbarium has now been arranged by the 1980 checklist, and any person wishing to consult it should contact a member of the lichen section (Mr. P.W. James, Mr. J.R. Laundon, Miss F.J. Walker), so that an appointment might be arranged.

Information wanted on lichen growth rates

I am endeavouring to compile a world-wide compendium of lichen growth rates. To date I have information on about 250 species gleaned mainly from the literature. If you know of obscure publications or have access to unpublished reports which mention figures for lichen growth-rates I would be glad to hear of them. Your results and co-operation will be much appreciated.

T. Moxham, School of Biological Sciences, University of Bath, Claverton Down, Bath, BA2 7AY.

For Sale

A nice copy of Leighton, W.A. The British species of Angiocarpous lichens elucidated by their sporidia, pp 101, 30 hand-coloured plates. Ray Society 1851. Contact A.C. Jermy, British Museum (Natural History), tel. 01 589 6323 ext. 428. Price £17.50.

New members

The following members joined the Society between November 1980 and April 1981. FM = family member.

Mr. G. Baron, 73 Guibal Road, LONDON SE12 9LY.
Mr.T.A. Barrett, 153 Minerva Way, CAMBRIDGE CB4 2TZ.
Dr. Francesca R. Blatchley, 3 Durham Avenue, BROMLEY, Kent BR2 0QA.
Dr. G.W. Buck, School of Botany, Trinity College, DUBLIN 2, Irish Republic.
Mr. T.W. Chester, 19, Lawyers Close, Evenley, BRACKLEY, Northamptonshire.
Mr.E.V. Clark, Mount Vernon, Lyme Road, Higher Poynton, STOCKPORT, Cheshire.
Mr. S. Clayden, Institut Botanique, Université de Montreal, 4101 Est, rue Sherbrooke, MONTRÉAL, Québec, Canada HIX 2BZ.
Mrs. C. Dalby, 132 Gordon Road, CAMBERLEY, Surrey GU15 2JQ (FM)
Mr. P. Diederich, 93 route de Luxembourg, 7373 LORENTZWEILER, Luxembourg.
Mr.D.P.Edmonds, 13 Campton Avenue, KINGSWOOD, New South Wales 2750, Australia.
Miss S. Gowan, Botany Division, National Museum of Natural Sciences, National Museums of Canada, OTTAWA, Canada KIA OM8.
Dr. D. Jackson, Rilla Tor, Henwood, LISKEARD, Cornwall PL14 5BP.
Mr.E. D. Kerruish, 3 High View Road, DOUGLAS, Isle of Man.
Dr. M.D.E. Knox, Botany Department, University of the Witwatersrand, 1 Jan Smuts Avenue, JOHANNESBURG 2001, South Africa.
Mr. D.V. Le Mare, 2 Crossing Cottages, Coal Road, Marwood, BARNARD CASTLE, Co. Durham DL12 8RP.

Mr. M.M.H. S. Meelad, P.O. Box 2226, MAKKAH, Saudi Arabia.
Mr. D. Morris, 20 Place Village, 38170 SEYSSINS, France.
Mrs. A.M. O'Dare, 13 Barrows Road, CHEDDAR, Somerset BS27 3AY.
Dr. Evelyn W. Paterson, Leuchlands Croft, Whitecairns, ABERDEEN AB4 OUT.
Mr. D. Pirrie, 8 Bricksbury Hill, Upper Hale, FARNHAM, Surrey GU9 OLZ.
Mr. P. Ranta, Kalevankangas 12, SF-33540 TAMPERE 54, Finland.
Mrs. D.E. Rumpus, Pound Green, Huish Episcopi, LANGPORT, Somerset TA10 9HH.
Mr. J. Selfe, 5 Northville Road, Filton, BRISTOL BS7 ORQ.
Mr. B.E. Tabor, 39 Buckland Rise, PINNER, Middlesex HA5 3 QS.
Mr. A. Tehler, Upplandsgatan 13A, 11123 STOCKHOLM, Sweden
Mr. B. Theo, 13 rue de la Pleupleraie, 35760 St.Gregoire, RENNES, France.
Professor R. Tomaselli, Universita Degli Studi di Pavia, Strada Nuova 106, 27100 PAVIA, Italy.
Miss H.D. Towner, 109 London Road, MAISTONE, Kent.
Dr. G. Vobis, Fachbereich Biologie (Botanik), Lahnberge, D-3550 MARBURG/LAHN, West Germany.
Miss A.K. Wallace, Botanisk Institutt, Postboks 12, N-5014 BERGEN-UNIVERSITET, Norway.
Mr. P.P. Wilson, c/o 37 Hillside Road, SUTTON COLDFIELD, West Midlands B74 4DG
Dr. Isabel A. Woolf, 80 Tapton View Road, CHESTERFIELD, Derbyshire S41 7JH(FM)
Mr. D.J. Tantony, 1 Grenada Road, Charlton, London, SE7 7BY.

Literature on lichens - 36

Lichenologist 12(3) was published on 13 December 1980, and 13(1) on 28 February 1981. From 1981 the Nordic Journal of Botany replaces Botaniska Notiser, Botanisk Tidsskrift, Friesia and the Norwegian Journal of Botany, all of which have ceased publication.

AHMADJIAN, V. & JACOBS, J. B. 1981. Relationship between fungus and alga in the lichen Cladonia cristatella Tuck. Nature, Lond. 289: 169 - 172. [Controlled parasitism.]

ARVIDSSON, L. & GALLOWAY, D. J. 1981. Degelia, a new lichen genus in the Pannariaceae. Lichenologist 13: 27 - 50. [Three species; discussion of distribution in relation to Gondwanaland.]

BOISSIERE, J. C. 1980. Un vrai Basidiclichen européen: l'Omphalina umbellifera (L. ex Fr.)Quel. Etude ultrastructurale. Crypt. Bryol. Lichén. 1: 143 - 149.

DEMOULIN, V., HAWKSWORTH, D. L., KORF, R. P. & POUZAR, Z. 1981. A solution of the starting point problem in the nomenclature of fungi. Taxon 30: 52 - 63. [The Linnaean starting point date of 1753 is proposed for all fungi, with provisions for the conservation of names used by Fries and Persoon.]

DIBBEN, M. J. 1980. The Chemosystematics of the Lichen Genus Pertusaria in North America North of Mexico. Milwaukee Public Museum, Milwaukee. [Detailed taxonomic monograph of 66 species.]

DONKIN, R. A. 1980. Manna: an historical geography. Biogeographica, The Hague 17. [Includes section on Lecanora esculenta, etc., with details of aerial falls in western Asia.]

EDWARD, N. 1980. Two's company: the double life of lichen. The Countryman 85(3): 114 - 119. [Popular review.]

FLETCHER, A. 1980. Marine and maritime lichens of rocky shores: their ecology, physiology and biological interactions. In PRICE, J. H., IRVINE, D. E. G. & FARNHAM, W. F. (Editors) The Shore Environment 2: 789 - 842. Academic Press, London & New York.

GALLOWAY, D. J. 1980. The lichen genera Argopsis and Stereocaulon in New Zealand. Bot. Notiser 133: 261 - 279. [Taxonomic account of 11 species.]

GALLOWAY, D. J. & JAMES, P. W. 1980. Nomenclatural notes on Pseudocyphellaria in New Zealand. Lichenologist 12: 291 - 303. [List of 30 species, including 13 new combinations.]

GIBSON, P. G. 1980. Lichen on Farm Roofs. Ministry of Agriculture, Fisheries and Food, Pinner, London Borough of Harrow. [Leaflet 753; available free of charge. Lichens quickly produce a dark colour on asbestos cement roofs which is visually acceptable in the landscape and meets Design Council standards. Twelve colour photographs showing changes in colonisation over 16 years.]

GILBERT, O. L. 1980. A lichen flora of Northumberland. Lichenologist 12: 325 - 395. [590 species plus 12 lichenicolous fungi. History of study and account of lichen habitats.]

HALE, M. E. 1980. Generic delimitation in the lichen family Thelotremataceae. Mycotaxon 11: 130 - 138. [Includes 135 new combinations.]

HALE, M. E. 1981. Pseudocyphellae and pored epicortex in the Parmeliaceae: their delimitation and evolutionary significance. Lichenologist 13: 1 - 10.

HARNEY, T. 1981. Living inside rocks: a study of lichen and algae. Smithson. Inst. Res. Rep. 32: 5 - 6. [Lichens found "literally living inside rock" on superficially bare surfaces in Antarctic's Transatlantic Mountains, an area previously considered to be without life. Photographs.]

HAWKSWORTH, D. L. 1980. Recommended abbreviations for the names of some commonly cited authors of fungi. Rev. Pl. Path. 59: 473 - 480. [Includes many lichenologists; the principles and most names in the list conform with that given by Laundon in Lichenologist 11: 1 - 26 (1979).]

HAWKSWORTH, D. L. & SHERWOOD, M. A. 1981. Proposals for nomina conservanda and rejicienda for ascomycete names (lichenized and non-lichenized). Taxon 30: 338 - 348. [21 proposals.]

HILDRETH, K. C. & AHMADJIAN, V. 1981. A study of Trebouxia and and Pseudotrebouxia isolates from different lichens. Lichenologist 13: 65 - 86. [Keys to species. "Identical phycobiont species were isolated from widely different lichens."]

HOOKER, T. N. 1980. Lobe growth and marginal zonation in crustose lichens. Lichenologist 12: 313 - 323. [Investigation of 'annual rings' etc. in Antarctic lichens.]

JONES, D., WILSON, M. J. & TAIT, J. M. 1980. Weathering of a basalt by Pertusaria corallina. Lichenologist 12: 277 - 289. [SEM study. Etching was "brought about principally by the oxalic acid secreted by the mycobiont."]

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KÄRNEFELT, I. 1980. Lichens from western North America in Macaronesia and west Mediterranean region. Bot. Notiser 133: 569 - 577. [Includes distribution maps and discussion of the causes of the disjunction.]

KAUPPI, M. & KAUPPI, A. 1978. Infrared color photography for the examination of lichens used in pollution damage experiments. J. biol. photogr. Ass. 46: 105 - 107. [Infra-red was superior to conventional colour photography in the evaluation of the condition of lichens.]

KROG, H. & ØSTHAGEN, H. 1980. The genus Ramalina in the Canary Islands. Norw. J. Bot. 27: 255 - 296. [Taxonomic account of 29 species.]

LAWREY, J. D. 1980. Correlations between lichen secondary chemistry and grazing activity by Pallifera varia. Bryologist 83: 328 - 334. ["Slugs ... appear to make food choices that are based at least in part on lichen chemistry."]

LINDSAY, D. C. 1980. Lichens. In CLARK, M. C. (Editor) A Fungus Flora of Warwickshire: 232 - 243. British Mycological Society, London. [County lichen flora.]

MOXHAM, T. H. 1981. Lichens in the perfume industry. Dragoco Report 1981 (2): 31 - 39. [At least 9,200 tons of Evernia and Pseudevernia are commercially harvested each year.]

ØSTHAGEN, H. & SUNDING, P. 1980. Tornabea, nom. nov. for Tornabenia Trevisan (Lichenes), non Tornabenea Parlatore (Umbelliferae). Taxon 29: 687 - 689. [Tornabea Østh. is proposed as the correct name for the lichen genus Tornabenia, and Tornabea atlantica (Ach.)Østh. and T. ephebea (Ach.)Østh. are new combinations. Tornabea therefore takes precedence over the earlier, but invalid, 'Tornabeniopsis Follm.']

PROCTOR, M. C. F., SPOONER, G. M. & SPOONER, M. F. 1980. Changes in Wistman's Wood, Dartmoor: photographic and other evidence. Rep. Trans. Devon. Ass. Advmt Sci. 112: 43 - 79. [Remarkable comparison of old and recent photographs taken from 16 viewpoints showing significant growth in the vegetation. Discussion.]

ROSE, C. I. & HAWKSWORTH, D. L. 1981. Lichen recolonization in London's cleaner air. Nature, Lond. 289: 289 - 292. [Comparison of corticolous lichens at 29 sites in NW London with 1970 data.]

SEAWARD, M. R. D. 1980. The use of lichens as bioindicators of ameliorating environments. In SCHUBERT, R. & SCHUH, J. (Editors) Bioindikation auf der Ebene der Individuen: 17 - 23. Martin-Luther-Universität, Halle-Wittenberg. [Discussion of re-invasion of Lecanora muralis and Usnea spp.]

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SEAWARD, M. R. D. 1980. Lichen mapping scheme: second progress report for Ireland. Ir. Nat. J. 20: 164 - 165.

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SHERWOOD, M. A., HAWKSWORTH, D. L. & COPPINS, B. J. 1980. Skyttea, a new genus of odontotremoid lichenicolous fungi. Trans. Br. mycol. Soc. 75: 479 - 490. [Taxonomic account of seven species.]

SKYE, E. 1980. Continued investigations of epiphytic lichen flora around Kvarntorp in Närke. Acta phytogeogr. suec. 68: 141 - 152. [Changes in the lichen flora following a decline in air pollution.]

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WILSON, M. J., JONES, D. & RUSSELL, J. D. 1980. Glushinskite, a naturally occurring magnesium oxalate. Mineralog. Mag. 43: 837 - 840. [Magnesium oxalate dihydrate formed at lichen/rock interface on serpentine.]

WIRTH, V. 1980. Flechtenflora. Ökologische Kennzeichnung und Bestimmung der Flechten Südwestdeutschlands und angrenzender Gebiete. Ulmer, Stuttgart. [Lichen flora of S.W. Germany; keys and ecology, etc.]

J. R. LAUNDON

Keys to British Lichens

The next issue of the Bulletin will contain the first of a series of keys to British lichens. It will start with Parmelia by P.W.James.

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