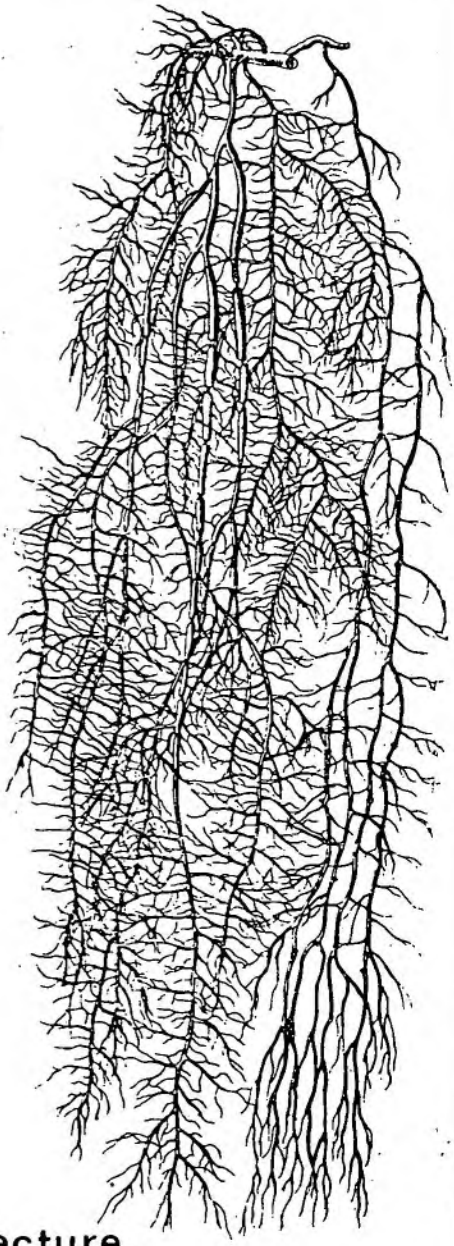
No.52

Summer 1983



BRITISH LICHEN SOCIETY BULLETIN

ACAROSPORA KEY

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The Atlas at last

It is more than twenty years since a few of us first mooted the possibility of a lichen mapping scheme for the Society, and to this end a sub-committee consisting of Jack Laundon, John Sheard and myself was created to look into the feasibility of such a project. Our conclusions were favourable and we presented our case to the Council on 12 April 1963, at which I was nominated Mapping Recorder. An appeal to interested persons was launched through the Bulletin in July of that year; the response was encouraging. A "general mapping card" listing 154 easily identifiable lichens was prepared as a matter of urgency.

Our knowledge of lichens grew almost daily and the card became obsolete very quickly, field mappers spending most of their time completing in longhand that part of the card left blank for "other species". Nevertheless, it provided the necessary impetus to get the scheme off the ground and a steady stream of returned cards started to arrive on my doorstep, (including a set of cards faithfully tracking David Hawksworth's honeymoon itinerary in Scotland).

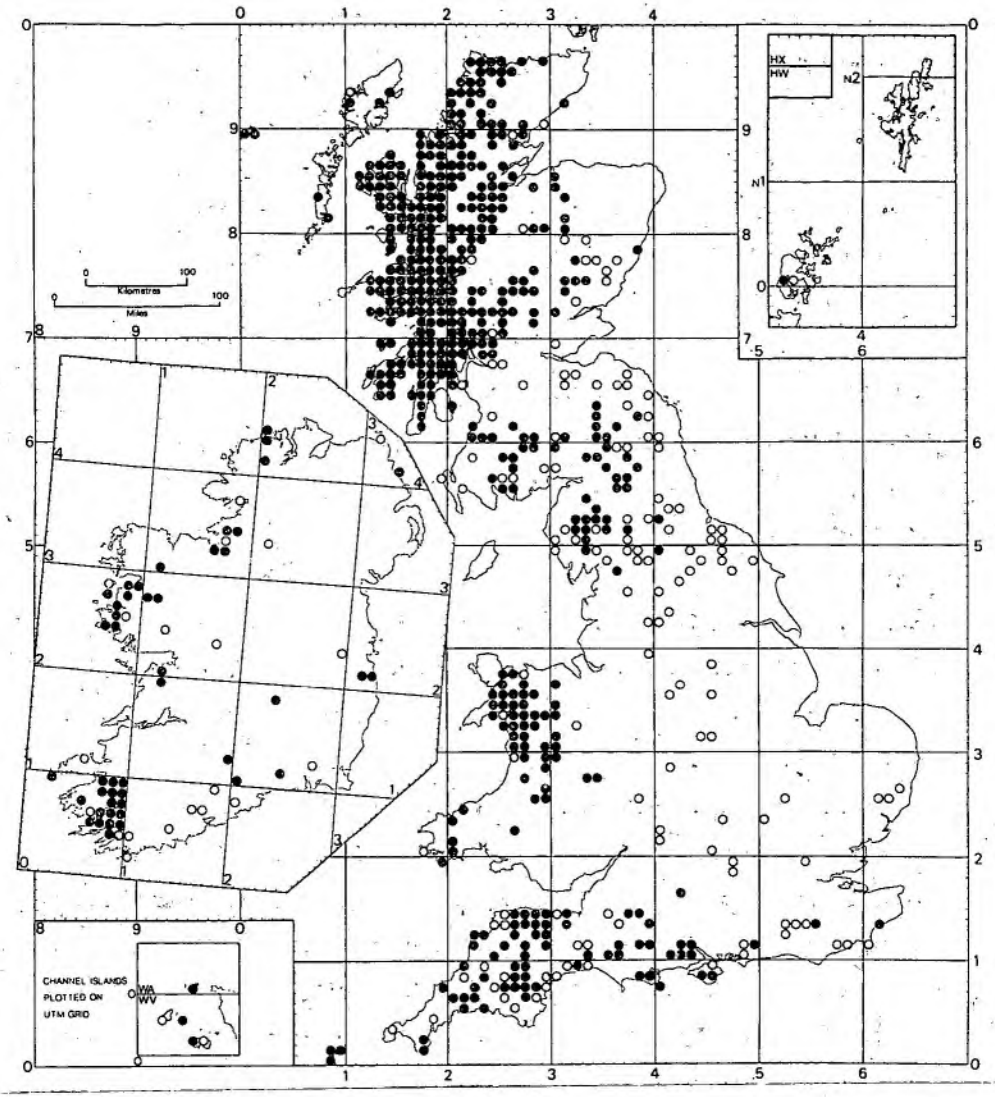
At the same time an individual scheme was launched in August 1964 whereby members "adopted" certain genera or species for special attention, with a view to early publication in support of monographs, etc. The list of individual mappers grew and this increased the flow of records dramatically; an agreeable spin-off was the increased contact between members and the added stimulus given to field meetings. The first published

maps incorporating members' returns accompanied Sheard's monograph on Rinodina, which appeared in the Lichenologist in 1967. Since that date, numerous monographs and special distribution maps drawing heavily on information derived from the mapping scheme have appeared in the Lichenologist and elsewhere.

One thing became clear from all aspects of the work connected with the mapping programme: a broad spectrum, both amateur and professional, of the Society's membership was actively involved. The growth of the Society owes much - and will continue to do so - to promoting this type of project.

A revised general card listing 728 species was prepared by Peter James , Jack Laundon and myself in 1968 using the Check-list published in 1965 and the proofs of Ursula Duncan's Introduction to British Lichens (which was not actually published until 1970). This new card was made available to members in November 1968. It proved a tremendous asset to field recording and for the storage of information by museums and data banks. It has stood the test of time well, but with the publication of the new Check-list in 1980, a further revision is obviously a priority, especially since the blank space is no longer adequate for the many Micarea and Bacidia species brought to our notice by Brian Coppins!

Since its inception, the work of the mapping scheme has been supported by grants, and we are indeed grateful to NERC for their magnificent support; individuals have also received



76 *Loberia pulmonaria* (L.) Hoffm.

The most typical member of the *Loberion* and (outside north-west Scotland, where it is still a colonising species) an excellent old woodland indicator. On many species of broad-leaved trees, but very rare on *Alnus*. Very pollution-sensitive (not in areas over 35 $\mu g\ m^{-3}$ mean winter levels of SO_2) and, in areas of moderate pollution, more or less confined to more basic bark (pH 5.5) of old *Fraxinus*, *Acer*, *Ulmus*, etc. Apparently not seen on conifers in Britain, but common on native *Abies* in old European montane forests. More tolerant of dry conditions and high light levels than other *Loberia* spp., often on old trees in ancient open parkland like *L. amplissima* (map 73), but also occurs on mossy rocks and on sheltered coastal rocks especially in north-west Britain. Rarely fertile now, except in west Scotland and north Wales. It is still common to abundant in the west and central Scottish Highlands and occasional to frequent in south Scotland, north-west England, north-west Wales, south-west England and eastwards to the New Forest, but rare to very rare in south Wales and the south-east (Kent, Sussex). In Ireland it is abundant in the south-west, but scattered and rare elsewhere. It was formerly generally distributed, but is now extinct in central and eastern England; there are unlocalised 19th century records from Lincolnshire, the Isle of Man, etc. It has declined greatly both spatially and in abundance in England and is of relict nature in many sites at the eastern edges of its range. Often very small-lobed in drier areas, it assumes a sub-fruticose, robust form in moist regions. Widespread in Europe, but of sub-oceanic-montane pattern; extinct over most of the northern European plain south of Schleswig and east to west Poland due to pollution and changes in forest management; in the Mediterranean zone confined to old forests in the hills, but still in some dry but ancient relict *Quercus* forests near the coast. Also found in north Africa, Asia and N. America.

financial assistance for their fieldwork from NERC, the World Wildlife Fund and the Royal Irish Academy. A major NERC grant supported a 2-year post-doctoral fellowship for Chris Hitch at Bradford University. Chris and I set about the task of producing the first volume of the Atlas, which has always been envisaged as the culmination of the mapping programme. It was apparent that the vast amount of information accumulated could not be satisfactorily dealt with by manual methods and therefore computer facilities were called upon; these were generously provided by Bradford University's Computer Centre, through the good offices of Stanley Houghton. It was found that the punched-card operators could not easily read the general mapping card, so we designed a data transfer sheet with the help (and financial support) of IBM. For the next few months the hard-worked punched-card operators produced batch upon batch of output: 10 punched cards were required for each 10 km x 10 km grid square. Punched-card work is not infallible and all line-printed output had to be validated by Chris and myself, as one minor mistake could have a knock-on effect, resulting in an overall error amounting to a staggering 30%. (Today, the information at Bradford University is viewed directly on a video-screen enabling inaccuracies to be easily spotted and altered immediately, so all laborious punched-card work has been rendered unnecessary).

Locational data stored in the computer were employed in the preparation of preliminary distribution maps (for each of the 700 taxa listed on the transfer sheets) by means of a line-printer, those for Ireland being prepared separately since the

two grid systems are not compatible. 250 of these maps were selected for possible inclusion in Volume 1 of the Atlas and were circulated amongst twenty prominent British lichenologists. They returned them, duly annotated - the highly informative ones sent in by Francis Rose, with dozens of extra dots and the margins crowded with annotations, are worthy of preservation in the Society's archives.

By June 1980, we were ready for publication with 176 of the circulated maps thought to be worthy of inclusion. Monks Wood could not themselves handle computerized data at that time, and furthermore, were unable to provide facilities for automatically producing the maps; Chris and I, therefore, with occasional help from Bradford University students, set about the laborious task of producing the maps by hand. How we cursed the Letraset which became hot and sticky beneath our fingers, and attacks of spots-before-the-eyes were worse than any suffered by heavy drinkers! In the meantime, we were indebted to Peter James, David Hawksworth, Francis Rose, Brian Coppins, Oliver Gilbert and Tony Fletcher for preparing the first drafts of the rubrics to accompany the maps. In September of that year Chris triumphantly drove our precious cargo of completed maps to Monks Wood.

With the Society's part of the work complete, we now suffered a series of frustrating delays and assorted set-backs, particularly at the hands of the printers: reasons given included "the chief operative has broken his leg" and "a rush government printing job relating to the Health and Safety at Work Act for the Falkland Islands has priority" (surely a premonition of the fate awaiting the islanders!). The Mapping Recorder's temper

grew increasingly frayed, and even a stiff gin began to lose its soothing effect; the telephone link between Bradford and Monks Wood became a very "hot line" indeed!

After 25 months, longer than the gestation period for an elephant, the Atlas finally saw the light of day. Rejoicing was somewhat tempered with disappointment over the format. Nevertheless, despite its resemblance to a holiday brochure (heightened by the parsimonious use of only two staples, making it less than suitable for library use), the mix-up over the Skye records for Parmelia caperata (the footnote to map no.92 should be ignored), and the mysterious Irish lake which appears on map no.98 - errors not attributable to the editors - the Atlas is still an outstanding achievement which reflects the energy and enthusiasm of the British Lichen Society.

And now for volume 2.....

M.R.D. SEAWARD

(Ed. - Copies of the Lichen Atlas with its coloured cover depicting Haematomma ventosum, several pages of introductory matter, and 176 maps, each with an informative text, can be obtained by writing to the Institute of Terrestrial Ecology, 68 Hills Road, Cambridge CB2 1LA. The cost to BLS members is £3.00 + £0.85 postage and packing. When ordering, please state you are a member of the Society. The cost to non-members is £4.50.)

Summer Field Meeting, EXETER, Devon, Sunday evening 24 to Saturday 30 July 1983

The meeting which will be led by David Hawksworth, is to explore the area around Exeter and East Devon. Accommodation has been arranged at Halls of Residence, Exeter University with the use of microscopes in a laboratory. The cost of bed, breakfast and evening meal is £11 per day plus VAT. There may be a charge for the use of the laboratory but that is being negotiated. Lunches will be arranged on a day to day basis. The provisional programme includes visits to Exeter Forest which covers a vast area on the Haldon Hills; a large private estate and parkland called Whiteway House on the Ordnance map; Steps Bridge - a National Trust woodland beside the River Teign; S.S.S.I gravel beds in the Lympstone Common - Bystock area, and finally a trip to Dartmoor.

It is hoped that members will be able to provide transport to save the cost of hiring coaches. Bookings, as early as possible, to S.N. Tallowin, Lakeham Farm, Higher Ashton, Exeter, Devon, EX6 7RB. who will endeavour to arrange alternative accommodation for anyone requiring it.

Autumn Field Meeting, LAKE DISTRICT: October 1983

The Autumn Meeting of the Society will be held in the Lake District from 1.0 p.m. Friday, 28th October to approx 1 p.m. Monday 31st October 1983. The headquarters will be Gosforth Hall Hotel, Wasdale Road, Gosforth, Cumbria (proprietor Mr. David Balfour) Tel: 094 05 322. A special reduced price of £15 per day has been arranged, which includes bed and breakfast and evening meal. Packed lunches will be available. If cheaper

bed and breakfast accommodation (£6.50 - £8.50) in the area is required, please contact Mr. Balfour who can arrange this also.

Gosforth Hall Hotel is a seventeenth century Jacobean Manor House, set in its own grounds near the River Irt. By M6 motorway, use either the coast route via A590 via Newby Bridge, Bootle and Ravenglass from Exit 36, or the more tortuous country route via Kendal, Windermere, Wrynose and Hardknott Passes from Exit 37. The nearest station is Seascale, and anyone requiring a lift from the station is asked to contact either of the organisers.

It is planned to concentrate on underwork sites, varying from a coastal dune reserve, forests, metalliferous sites and a high altitude site. O.S. maps 1:50,000 Nos.89 and 90. Please let either Ivan Day (Wreay Farm, Shap, Penrith, Cumbria) or Brian W. Fox (Tryfan, Longlands Rd., New Mills, Stockport, Ches) know whether you intend to come, where you have booked in and whether you will have any car space available for local transport.

Other Forthcoming Meetings

A weekend meeting in south-west Scotland is planned for 13-17 October 1983. It will be led by Pauline Topham and Frank Brightman. Members should assemble on the Thursday evening at the Galloway Arms Hotel, Victoria Street, Newton Stewart, Wigtownshire. Further details from Frank Brightman, 59 Rosendale Road, London, SE21.

Field meetings in 1984 will include a spring visit to the west of Ireland, while the summer meeting will concentrate on Cader Idris. The AGM, lecture and exhibition meetings will be at the British Museum (Natural History) on Saturday 7 January 1984. Following the popularity of the arrangements for the Jubilee, a Friday evening (6 January) get-together is planned; this will feature a book auction at which early numbers of the Lichenologist will be up for sale.

Report on the Jubilee Symposium and Special Dinner

A detailed account of these events is being prepared for The Lichenologist. Suffice to say that the standard of papers

at the Symposium was high and for many of those present the Special Dinner was particularly memorable. In the speeches following the dinner Dougal Swinscow reminisced about the time when he and Hildur Krog were bombarded with canisters of C S gas and strafed by rubber bullets when on a collecting trip in Africa. David Smith FRS modestly informed us that his greatest contribution to lichenology had been not applying for the vacancy at the British Museum which Peter James eventually filled. Frank Brightman, a veteran of Arthur Wade's Malham courses, provided several examples of Arthur's humour. For example, when pestered to name a 'lichen' found on an archaeological dig he came up with Lepraria neolithica. Peter James related several anecdotes and emphasised the contribution made by Ursula Duncan. Mark Seaward was an able Master of Ceremonies and many toasts were drunk to the future of the Society.

Report on the Annual General, Lecture and Exhibition Meetings

8 January 1983

Fifty-four people attended the A.G.M. Business was in the main non-controversial. Joy Walker was elected to the new position of Assistant Secretary and Frank Brightman, Brian Ferry and William Purvis will be strengthening Council. A special vote of thanks was proposed for Peter James who is standing down as an editor of The Lichenologist after 25 years service. He will be replaced by Brian Coppins and Alan Pentecost. The most pleasurable business was the election of our founder Dr.T.D.V. Swinscow to honorary membership. The proposal which gives an insight into Dougal's involvement with the society is quoted

in full on page 12. The Mapping Recorder, Mark Seaward, was congratulated on the Lichen Atlas of the British Isles Vol.1 which had been published a few days earlier; fifty copies were sold during the day.

The afternoon Lecture Meeting on 'Favourite lichen sites: a personal selection' packed the demonstration room with a record 75 people. In the first talk Oliver Gilbert described an expedition undertaken the previous summer to the Cairngorm plateau where, on windswept cols, in Juncus trifidus heath and around late snow patches a spectacular lichen flora occurs including several species of exceptional rarity in Britain. Jack Laundon outlined the importance of Dungeness leaving nobody in doubt that for many reasons it is a site of National Nature Reserve quality. Its lichens include Cladonia mitis and formerly sheets of Lobaria pulmonaria grew on the shingle. The present conflicts of nature conservation, gravel extraction, bird farming and water extraction were vividly explained.

Peter Lambley defined Breckland as an area of pine shelter-belts and rabbits. Its rare terricolous lichens such as Buellia asterella, Squamarina lentigera and Psora decipiens appear to be more mobile than was once thought. In fact most of the lichenologically important areas have experienced shifting sands and extensive land use change in the relatively recent past. In the final lecture Peter James explained why he had been unable to resist the lichens of the Isles of Scilly during what was intended to be a holiday. With the help of excellent slides we were treated to a tour of this sub-Mediterranean archipelago where many of our most beautiful lichens seem to have their

headquarters. Though only a secondary habitat the gardens on Tresco added 150 spp to the flora of that island. In his summing up Tony Fletcher dwelt on the fragility of many of the sites mentioned.

A highlight of the Lecture Meeting was the tea interval when the Jubilee Cake, baked and appropriately decorated by Peter James, was cut.

The Exhibition Meeting was well subscribed. The bookstall, as usual, did brisk business possibly to the neglect of some of the other exhibits. The following members are thanked for contributions:

BARLOW, S.L. & FERRY, B.W. Ecology of Dungeness.

BOWEN, H.K.M. Thai lichens: 14 packets identified to genus.

DALBY, C. Lichen illustrations. A selection of superb water colour portrayals of lichens; several for sale.

DALBY, C & DALBY K. Lichens in a west Norwegian woodland.

FILDES, JOY R. An unusual substrate for lichens; lichens colonising a canvas bag included Psilolechia lucida.

HAWKSWORTH, D.L. Drawings of lichenicolous fungi.

JAMES, P.W. Lichens from the Isles of Scilly; herbarium sheets.

RICHARDSON, D.H.S., DOWDING, P. & E. NI LAMHNA. Air quality monitoring of Cork City, Ireland by 400 school children.

RICHMOND PUBLISHING COMPANY. Bookstall displaying many volumes of interest to lichenologists.

SWINSCOW, T.D.V. Paired or single species in Stereocaulon ? S. meyeri, S. ramulosum and apparent intermediates.

TOPHAM, P. Check list of the lichen flora of the Balaeric Isles prepared by computer.

WALKER, F. JOY Album of colour photographs taken at the Llangollen field meeting.

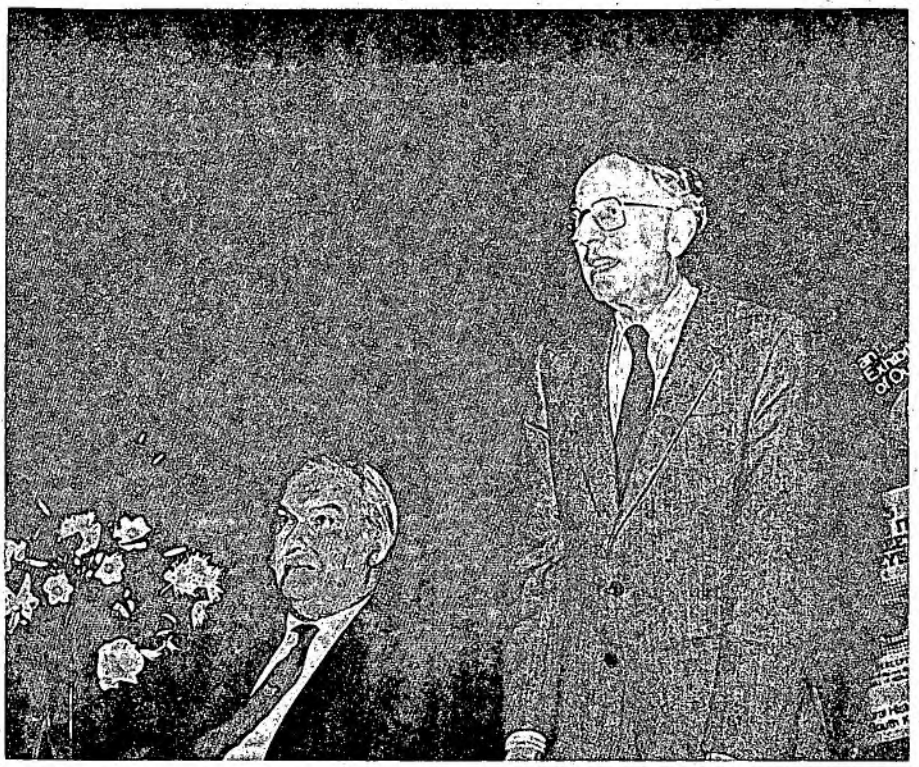
WOODS, R.G. Lichen mapping in mid-Wales.

WOODS, R.G. Red data book of Brecknock lichens: 144 spp selected for inclusion.

Election of Honorary Member: Dr. T. D. V. Swinscow

"It gives me great pleasure to propose Dr. Dougal Swinscow for honorary membership - I can think of no person more suitable on this the occasion of our Silver Jubilee.

Dougal was active in other branches of cryptogamic botany before he took up the study of lichens. He joined the British Pteridological Society in 1952 and published two papers in the British Fern Gazette in 1953. His last paper on ferns appeared in 1958. Dougal joined the British Bryological Society in 1954, and published 'A Bryophyte Flora of Hertfordshire' in 1959. When he turned his attention to lichens he found that there was no society to join, but this small matter did not deter him - he founded one. In the autumn of 1957 he sent duplicated letters to all persons in Britain who he knew were interested in lichens, proposing that a 'British Lichen Society' be formed. He then arranged for those interested to meet here at the museum on 1 February 1958 where he circulated a set of draft Rules. These were adopted and they still form the Rules of the Society, apart from minor alterations. By profession Dougal is a medical doctor and was Assistant Editor of The British Medical Journal,



Dougal Swinscow delivers his speech at the Jubilee Dinner, the listener is Frank Brightman (Photo B.W. Fox)

where he still works part-time in his retirement. One of his medical articles is entitled "So-called accidental suffocation of infants". It was due to Dougal's thorough groundwork that the infant British Licen Society avoided suffocation to become an international learned society and to bring us all together today".

J.R. LAUNDON.

Grapevine

A few opening words in telegraphese on the Jubilee celebrations. Fine chairmanship, impressive symposium, enjoyable A.G.M., excellent overall backing. Mention of individual contributions beyond this is invidious, but such quirksomeness is the prime purpose of this column's anonymity.

William Purvis deserves at least a new pound piece size B.L.S. medallion for bravery in the face of friends. His talk on a Scandinavian metalliferous site was not only placed as ice-breaker for the symposial day's activities but marked his own maiden venture as a B.L.S. speaker. Dougal Swinscow's post-dinner speech proved that to angle in so ample a mind is willy-nilly to net un embarras de richesses. In the words of Ezra Pound, 'The days are not long enough, and the nights are not long enough'. In the appreciative applause that followed, Grapevine detected in not a few directions that long lichenological ground-bass sigh that means 'Thank the good Lord that someone has made sense of pyrenocarps for lesser mortals'.

Grapevine's first prize must, however, go jointly to the Antipodean contributors. In one afternoon they contrived to present the meeting with the vastness of the problems they face,

and with the history and human wealth of the lichenological saga of their continent. It is a joy to know that the indomitable principle of eccentricity woven through the story of British lichenological characters has been as rifely manifested on the other side of the globe. The unwritten World-wide Encyclopaedia of Lichenology will surely demand for one of its volumes the commissioning of a latter-day Aubrey.

Auntie Beeb's stuntedly rural child, 'Gardeners Question Time' (9th March) showed ambivalence bordering on schizophrenia. Grapevine's ears, lulled by the programme's customary vocal monotony, were alerted by reflex as the word, 'lichens', struggled from the set. Daphne Ledward loyally stuck to tarwash as the best treatment, but Geoffrey Smith ruptured the even tenor of the programme's way with lichens by poeticising over their beauty "at times" in sunlight. "You can understand the poets writing about the beauty of these lichens on the fruit-trees with the daffodils under them". He added that certain ancient gentlemen had informed him that red spider mite" wasn't a pest of fruit-trees until we began spraying and removing lichen". The Neudorff Company of West Germany, suppliers to organic gardeners, have heard no such thing and rest with dear Daphne. Their current calendar's February hint, 'Protecting bark from the cold', explains that, before painting, from soil to first branches must be cleaned with a wire brush. "If moss-like lichens have become established, these must also be scrubbed off".

Grapevine has for several years admired the work of the sculptor Richard Long, who seems now to have 'arrived' with a bang. The

repositioning of stones, which is essential for some of his work, raised a philosophical point in conversation the other day. A strict conservationist held that such 'disturbances of the landscape' (Long's own phrase) are inexcusable and should certainly not be welcomed by any naturalist. Grapevine, on the other hand, opined that Long's work, so immersed in the tradition of man's relationship with the landscape, is about ends quite as lofty as those pursued by a scientific collector who removes material for lab or herbarium. Grapevine and pure conservationist ultimately decided upon a compromise settlement, a mutual agreement with Leonardo's statement, recently quoted approvingly by Henry Moore, that "in the lichen lines on a wall an artist should be able to discover a whole landscape". What lichenologist could put it better?

VINIFERA

Country Diary - 5 : Cornwall

To our satisfaction, a phone call to the estate office had resulted in an invitation to meet the owner at the rear entrance of the Castle at 2 p.m. From here we were ushered into the study and told in rapid succession that lichens grew everywhere on the estate, they were killing the trees in the orchard and she couldn't imagine why we wanted to know about them. After attempting to explain the interest lichens held for us and the special nature of the parkland habitat we probed gently for information on the origin of the name Crosspark Wood which had caught our attention on the map; to our satisfaction we learnt that it was indeed once the site of an old deer park. We were granted free reign of the estate for the afternoon - excepting

the pheasant rearing areas - and initially pointed at the Undercliff, a steep oakwood hanging above a bend in the River Tamar. On the way out I noticed Debrett's Etiquette and Manners open on a side table - had the owner been checking on the correct treatment to be meted out to lichenologists?

Even through steady rain the Undercliff looked superb; we lengthened our stride. However, closer acquaintance showed that it wasn't quite steep enough to discourage management, the wood being penetrated by tracks and containing a proportion of planted trees such as beech and sweet chestnut. It wasn't without interest however, the sheltered side of the larger oaks carried sheets of Lecanactis premnea, L. subabietina and Enterographa crassa, while the bases of several were 'whitewashed' with Schismatomma niveum which is faintly pink when fresh. Three years after this lichen had been described, an absolutely pure white Schismatomma was found in Somerset which had to be named S. virgineum! On the whole the trees seemed a bit young and the wood too uniform for Lobarion to be present; we felt the area might have been clear-felled last century. A few trees at the edge of the wood however were clothed with Rinodina roboris which increased our optimism that ancient woodland might be close by.

We next turned our attention to woodland lying inside the old deer park. Though occupying a steep side valley, Crosspark Wood itself contained large blocks of larch so we didn't spend valuable time examining it as the 'American Garden' looked more promising. This is an area of huge old oaks quite close to the Castle which had, in early Victorian times, been lightly embellished with North American conifers to satisfy the then current fashion for

creating specialist collections of foreign plants. Inside, narrow paths threaded between vast mossy trunks but most were heavily shaded by rhododendron and bamboo while ivy invested the few well lit boles. The oaks had a spongy bark reminiscent of trees in the New Forest which gave rise to a confident prediction of finding at least Arthonia vinosa and Pachyphiale cornea which was not realised, though a small patch of Dimerella lutea came to light. Fragments of Usnea articulata and U.ceratina on the floor of the wood suggested that epiphytes were well developed in the upper canopy.

As we drove away, soaked to the skin, with hardly a tobacco tin of specimens between us, we cursed Repton and the other landscape improvers who had worked at the Castle and reflected on the eccentricities and disregard for fashion required of a landowner if his woods are to remain good for lichens.

Educating Katrina

The other day my daughter, who is attending school in Edinburgh, brought home her reading book which consisting of informative articles. One about lichens titled - The Window Eaters - certainly taught me a thing or two.

"Imagine that you woke up one morning and found that your bedroom window had gone. Not the wooden or metal frame but just the glass. What would you think? Had some mysterious person crept up in the night and silently removed the window pane? But whatever for? Or maybe there was a prehistoric monster, with a taste for glass, going round eating people's windows while

they were asleep? Ridiculous! No, not quite, for there is something that does travel round eating glass and lots of other indigestible things as well. It is a vegetable, the hardiest vegetable pirate known. It is called lichen.

There are very many different kinds of lichen and they are all big eaters. Lichen seems to be able to eat anything anywhere. It can nibble happily away in the Polar snows. It can chew away at granite on the high mountains. Neither Arctic cold nor tropical heat makes any difference to its appetite. It is particularly fond of glass. Fortunately, it is a very slow eater, taking perhaps two hundred years to have a church window for breakfast. It likes church windows, not because the stained and coloured glass tastes nicer, but because they are rarely cleaned. A window cleaned at York Minster was found to have twenty-three different kinds of lichen on it.

Fortunately, lichen, like some small boys and girls, does not like soap and water very much. So if windows are washed regularly the lichen, which at first is almost invisible, will disappear. It does not like soot, either. So Westminster Abbey's windows used to have less lichen on them than windows out in the country. Now, however, many cities are becoming smokeless and sootless and the lichen is attacking again. So look out for this vegetable pirate. Make sure that your window cleaner calls frequently or else maybe one morning you will wake up and ...."

PER M. JORGENSEN

The Lean years - 4

Early in 1936, when 14 years old, I was attracted by a small

plant on Mousehold Heath in north-east Norwich, but had no idea of its identity. At Norwich Castle Museum E.A. Ellis told me it represented squamules of a lichen of the genus Cladonia. I examined specimens in the museum gaining some idea of the names and appearances of several lichens and began to collect them during cycling trips.

Ronald Burn, studying lichens in neighbouring Suffolk (with the help of A. Boistel's Nouvelle Flore des Lichens) became a regular correspondent and friend, and gave me a microscope and many lichens. His notes on specimen-packets might include his opinion of a gamekeeper who found him trespassing, comments on the name given to the species by the original author, or a summary of information received from experts.

Aubrey Ronald Graham Burn (1887-1972) a native of Old Deer, Aberdeenshire, entered St. Chad's College, Durham, in 1907, graduating B.A. Hons. (Theology). After working in Glasgow he came to live with his father, the rector, at Whatfield Rectory, Suffolk. He joined Suffolk Naturalists' Society in 1931, and, an energetic cyclist, at first concentrated on flowering plants, scouring the countryside for taxa new to Suffolk. By 1933 his crusade embraced lichens and he exhibited "Cladonia fimbriata Fries subsp. fibula Nyl., a form new to Suffolk".

After the death of his father, Burn left Suffolk for Oxford, where he worked as Specialist Reader for Classics at the University Press from 1938, retiring 30 years later, aged 80. Until at least 1948, weekends and holidays were devoted to collecting trips in Oxfordshire, Berkshire, Buckinghamshire and

several parts of Wales. He continued to share his interest in lichens with, among others, J.P.M. Brenan and Miss Ursula K.Duncan, whose early lichen studies he encouraged. He used A.L.Smith's Handbook and Monograph which he dubbed "Wee Smith" and "Big Smith", details of taxa not in these volumes being obtained from expert correspondents.

His inscription on a packet containing a collection from elm bark at Water Leys, Studley, v.c. 23, 8.5.1938, shows something of his method.

> Physcia subdetersa Nyl. = rather bared. Sor. were yellow when fresh. This is what Harmand gives as f. enteroxanthella of grisea - and so does Lynge (the best lichenist now Zahl.is dead, says Lamb) owing to its sorediate character. But in his other (Ls de France) book, which I lack, he puts it from its dark underpart with pulverulenta as var. leucoleiphes f. ent. (Hmd) Oliv.Watson say it is Smith's subdetersa despite corticolous habitat.

Lamb was Dr. I. Mackenzie Lamb (Department of Botany, British Museum) who was meticulous in attention to specimens. Some of the lichens I sent Lamb came from E.A. Ellis, Captain Maurice Cockle and Miss E.R. Noble, all living in Norfolk. Afterwards, when at the Farlow Herbarium, Harvard, Lamb presented me with many magnificent Cladonia specimens and I sent him my British Stereocaulon gatherings.

I established contact with Dr. Walter Watson (1872-1960) in the late 1930's, remaining in touch until about 1950 when he was finishing the Census Catalogue of British Lichens. Having myself

worked for many years in schools, I still marvel at the quality and extent of the contributions made to botany by this gifted teacher, eventually head of the science department at Taunton School.

Watson was familiar with the work of foreign lichenologists, but was no slavish follower. My ignorance evaporated further when his annotations included the symbols P+ and P- and he explained the use of parapheny lenediamine as a colour reagent and sent me a tiny box of the crystals.

After wartime service in the RAF, I suggested to Collins that I contribute to the New Naturalist series and was asked to submit a synopsis and specimen chapter of a book on lichens. My first chapter, The History of British Lichenology, was approved by both Dr. Watson and the publisher's editor, John Gilmour. Although keen to complete the work, as a freelance writer with a very small income I enquired about a publishing contract and cash advance, - a serious mistake! I had already had to take a teaching post in Norfolk when Gilmour told me I obviously did not want to do the book and the project was dropped.

I spent 1952-7 busily occupied with teaching. Then in 1958 there arrived out-of-the-blue a reprint of a paper on Huntingdonshire lichens. I knew nothing then of its author, J.R.Laundon. Enquiry brought a letter from John L. Gilbert at Kew Herbarium, who told me a British Lichen Society had been formed that year. I joined and came in from the wilderness.

S. A. MANNING

Lichen dyes can be abandoned

Yet another book has appeared commending lichen dyeing. It is the Craft of the Dyer : colour from plants and lichens of the north-east by Karen Leigh Casselman (Toronto, University of Toronto Press) 1980. The introductory matter is competent enough, the advice on equipment, dyeing procedures, the use of mordants and so on is sound and no doubt the recipes given will produce the results claimed for them. It is in the section on Plants for Dyeing (pages 83-222) that we meet with a farrago of inaccuracies, half-truths and errors that is in desperate need of ruthless editing. The ten-page entry on lichens and the remarks on the subject give grave cause for concern. The plants most strongly recommended are species of Umbilicaria (especially U. mammulata and U.deusta); the quantity needed is 250 g of the dry lichen for each kg of wool to be dyed. Peltigera aphthosa is recommended to be used at the rate of about equal weights of lichen and wool. In connection with Lobaria pulmonaria there is talk of pulling it off trees with a rake; it may be necessary to use up to ten times as much of this lichen as wool to be dyed. Other species suggested are Cladonia alpestris and Usnea species. Even the Canadian stands of these lichens cannot be expected to survive exploitation at this rate, and in Europe the consequences would be disastrous.

It is clear from the rest of the Plants for Dyeing section that to obtain strong colours one has merely to rely on a few species of plants that have been so used from time immemorial, for instance madder (Rubia tinctoria to give red, weld (Reseda luteola)

to give yellow and woad (Isatis tinctoria) to give blue. If, in North America, sumac (Rhus glabra and related species) which yields various shades of brown be added to this short list, and bearing in mind the variations that can be obtained by using different mordants, the amateur dyer is provided with a palette capable of achieving as broad a spectrum of colour as could be desired. All these plants can readily be grown in gardens and are a self-renewing resource. This of course is not true of lichens; no-one has so far succeeded in cultivating them, they grow very slowly and cannot be self-renewing when harvested in the quantities described in this book. Undoubtedly some species yield pale, subtle shades that are attractive to craft workers, but with ingenuity these can be imitated using combinations of other natural dyes the use of which will not lead to the extinction of the plants concerned.

Elsewhere in the book the author explains how she obtained colours as varied as yellow, orange, rust-red, green and brown using ordinary onions obtained from a greengrocer, so there is plenty of scope for trials to be made with plant materials readily at hand. Everyone interested in lichens and their conservation should press home the point that all the colours produced by lichen dyes can be obtained from other plant material without causing any harm. Lichens should be crossed off the list of dye plants entirely.

FRANK BRIGHTMAN

They keep a welcome in the hillsides

The Llangollen Field Meeting will be remembered for more than the 200 odd lichens recorded. On the first morning we had arranged

to visit the second most notable parkland in the area having been refused permission to examine the best. The owner of our new objective however had been pleased to accommodate the BLS and was well prepared. For example, on arrival four of our strongest members were commandeered to carry a heavy roll of carpet from the ground floor to the top of the mansion. Later Geoffrey Dobbs was obliged to forgo his lichenology in favour of giving free expert advice on some diseased beech trees in a distant part of the estate and it was only by being extremely firm that he escaped spending the afternoon examining diseased larches!

We knew we might have difficulty obtaining access to the estate woodlands so had been careful to play up the importance of the party by introducing Professor this and president that. This ploy failed totally. First we were followed round by a gamekeeper on a motor-bike with a shotgun over his shoulder, and secondly the owner took it upon himself to reserve lunch for us in the best hotel in Corwen. Fortunately the more charming members of the party got this booking converted into bar snacks.

The weather for most of the meeting was the worst I have experienced for many years, as Autumn meetings are traditionally blessed with mild, mellow conditions. At one moorland rendezvous two cars waited 15 minutes for each other in dense mist only 20 yards apart. On another occasion we fought our way, in heavy rain, up a limestone valley dashing from boulder to boulder to avoid being blown over. The four Australians in the party were too numb to complain.

The Bryn Derwen Hotel was an instant success. However wet and cold we returned we were rapidly made comfortable. As we were the only guests the manager rearranged the dining room tables into a hollow E so we could eat together. The house wine flowed freely and helpings were generous. The ultimate occurred when Frank Brightman selected fruit salad for pudding and was given the entire bowl full. Several days after the meeting when I was about to write to thank the proprietor for his outstanding hospitality, he wrote to say how much he had enjoyed having us. Truly they keep a welcome in the hillsides.

A further note on lichen-scrapers

Tim Moxham notes (Bulletin 50) that lichen-scrapers are still in use commercially in the Mediterranean region. The situation is very different in Britain, where even museums seem non-plussed to produce one. I have, however, received two interesting informal communications concerning lichen-scraping and gathering.

Mr. Robert Smith of Auchindrain Museum, Argyll, tells me that their lichen-scraper is better described as "an implement for scraping lichen -- an old metal spoon". Two elderly local people confirmed using such implements when gathering for dyeing. Mr. Smith adds that from his own experience "If I had to gather lichen for a living, I would carry several sizes of spoon -- a small one for irregular rock and thin lichen, a larger for wood. Held with the thumb inside the bowl, the tool is ideally suited for a gathering motion, like that used with a sickle or scythe, and the curve of the bowl gathers the lichen much more neatly than

any straight chisel-like implement. And a straight-edged tool is practically useless on any curved or irregular surface".

Mr. Gavin Sprott, National Museum of Antiquities, Edinburgh, comments in a compilation of Scottish information that "the only tools mentioned are metal spoons used in the Western Isles. Scraping with no description of tools is mentioned over a wide area, including Galloway, the Highlands and Northern Isles. An alternative technique mentioned for South Uist is that of peeling the lichen off dry in thick sheets, which was handy for the way in which the dye pot was packed. Some tool such as a knife may have been used to ease the layer off in one piece. One illustration of lichen gathering shows it being scraped off into a bucket. The gathering of dry lichen to produce a supplementary income was once widespread. It was rolled into balls for export. In Fair Isle it is described as being steeped in lukewarm urine for three weeks, rolled into hard dry balls in which condition it would keep for years."

Mr. Smith further points out that " five or six generations ago, metal spoons were rather rare items in the West Highlands, especially among the social classes who would be gathering lichen. The usual spoon materials, horn or wood, would provide very inefficient expensive tools. At various times up to about a century ago there was an astonishingly large amount of lichen gathered. I think that tools other than metal spoons must have been used. One guess which may be on target is based upon the

basic requirements of metal and curvature: a bit of 1" broad hoop iron bent into the same sort of curve as a butter-scraper".

Women gathering lichen at Roineval, Leverburgh, 1939. Photograph by Angus M. MacDonald, Stornoway, Isle of Lewis.

My indebtedness to Mr. Smith and Mr. Sprott for their information and permission to convey it to readers of the Bulletin is obvious; and for her generous grant of permission to use here the print 'Women gathering lichen at Roineval, Leverburgh, 1939' (National Museum, Scotland: CLA C6830), I should like most particularly to thank Mrs.R.M.MacDonald, the widow of the photographer, Angus M MacDonald ARPS of Stornoway.

A. HENDERSON

Acid Rain : lichens and 'occult precipitation'

A new pathway has been discovered for the transfer of pollutants from the atmosphere to vegetation. Dry deposition (gaseous absorption) and wet deposition (in rain) have been extensively studied, but a recent paper in Nature * has quantified deposition by a third pathway. Vegetation exposed to wind-driven cloud, fog and mist intercepts water drops which are not collected efficiently in standard rain gauges. Measurements of this 'occult precipitation' on Great Dun Fell, Cumbria, U.K. suggests that when this pathway is taken into account wet deposition estimates of pollutants have to be revised upwards by about 20%. Furthermore, sulphate levels in 'occult precipitation' on Dun Fell in mid-June 1982 showed that concentrations were high when compared with typical averages for rainfall in the area and its pH corresponded to the most severe acid precipitation reported from Scandinavia, North America and Scotland. Deposition of nitrate - recently identified as an important constituent of acid rain in Scotland - was similar to levels for sulphate.

As wind-driven droplets are captured particularly efficiently by trees and exposed outcrops this would appear to offer an explanation of why lichens in exposed upland habitats, especially twig epiphytes, are so sensitive to sulphur dioxide air pollution. The scavenging of water droplets from cloud is probably most important for fruticose lichens which would appear therefore to be exploiting what is often the most polluted and acidic water source available. It should be remembered that though awareness of this new habitat factor helps to explain many field observations it is only one constituent of the complex of

interactions which occur between lichens and a polluted environment.

* G.J. Dollard, M.H. Unsworth & M. J. Harve. Pollutant transfer in upland regions by occult precipitation. Nature 307, 17 March 1983, 241-243.

Goats eat lichen on the island of Rhum, Inner Hebrides

The goat population of Rhum numbers in the region of 250 animals which live on the steep sea-cliffs surrounding the island and use the caves on the shoreline as shelter at night. Last winter Iain Gordon, who is studying the herd, on several occasions observed the goats grazing on seashore lichens. The species involved are Anaptychia fusca and Xanthoria parietina which are removed from the rocks by rasping with their bottom incisors. Lichen has only been observed to be eaten when other sources of food, mainly Calluna and Erica spp., are in short supply. Though sheep living on small Hebridean islands are known to graze lichen during the winter, this seems to be the first record, from Britain at least, of feral goats (Capra hircus) doing the same.

Conservation of lichens of lowland heathland

The completion of the Woodland Lichens Working Party Report (Bulletin 50) stimulated considerable interest within official circles. Indeed so much so, that the Nature Conservancy Council has awarded a further grant to the Society, of £1350, to prepare a similar report dealing with lichens of lowland heathland.

Why the interest in lowland heathland?

Both NCC and various members of the BLS have expressed concern over the lack of information on such sites and have noted that they are disappearing before we have had time to record whether they are important or not. I am sure all BLS members are aware of the destruction caused by the ploughing, drainage, spraying and fertilising of terricolous sites, not to mention grazing and trampling. The issue of the fragility of lowland heathland was recently raised in relation to Scottish machair (Bulletin 51). What we are in danger of losing by this activity are rare lichen communities containing some of our best loved genera, for example, Peltigera, Fulgensia, Cladonia, Solorina, Toninia and a host of others.

In March a 7-man working party was set up to evaluate relevant sites. Information was also obtained by circulating a large number of members. So far we have listed over 330 sites, ranging from coastal dunes and shingle to maritime and "waved" heath, inland brecks, acid and calcareous heath and grassland (up to about 1000 feet), mineral-rich spoil and railway ballast. By February 1984, when the report will be submitted, we will have a much clearer idea of what should be conserved, and more important, why. If you know of any sites you think we may have missed or if you discover any this summer, please let me know.

TONY FLETCHER

Post of Archivist created

At the Silver Jubilee AGM the post of Archivist was created. The librarian has been asked to fill this post for the present time as the library already holds a nucleus of relevant

official documents e.g. Minutes of Council and general meetings. It is however hoped to build up the holding of more personal information. The archivist would therefore be grateful to receive any suitable material from members. Naturally items associated with the establishment of the society would be especially valuable. For example at the moment I do not have a list of the 25 who attended the founding meeting at the British Museum, or those who were approached but could not get there. Documents relating to the mapping scheme, symposia, field meetings (especially items by organisers), and to occasions when evidence has been given to enquiries in the name of the Society would all be valuable. Donations of material would be most appreciated but members may prefer to loan items which I will attempt to get copied (including photographs). Any press cuttings mentioning the society would also be useful. Other original ideas will be gratefully received - who possesses the earliest subscriptions reminder?

Now is the time to catch up on 25 years neglect of the history of our society by sending material to the archivist and by remembering him in the future.

DENNIS BROWN

Department of Botany,
The University, Woodland Road,
Bristol, BS8 1UC.

Secretary's report for 1982

The Society has now existed for 25 years and seems assured of a good future. Unfortunately, 1982 has not been one of our best years, the membership now being in decline. At the beginning of the year we had 597 members, this total having fallen to 578 by

the end of December, a drop of 19. This is the first decline in the membership since 1974. With the subscription increasing in 1983, it appears possible that there will be a further fall. The number of new members joining during 1982 was 46, in comparison with 58 for 1981. Life membership for persons over 60 was introduced. The deaths of Professor R. Tomaselli of Pavia, and Mrs. A.P. Sykes of Halifax, are reported with regret.

The small attendance on longer field excursions again caused problems. The meeting in the Isle of Wight was shortened to three days, and 10 persons took part. The Algarve meeting was cancelled, chiefly because of transport and accommodation difficulties. However the autumn meeting at Llangollen was well attended, and a summer weekend was held in Dublin, as well as day excursions to Suffolk, the New Forest, and Richmond Park. Again a joint workshop with Bristol University was held. Mr. V. J. Giavarini, Dr.O.L.Gilbert, Dr. D.L. Hawksworth, Dr. D.J. Hill, Dr. C. J. B. Hitch, Mr.P.W. James, Mr. P.W. Lambley, Mr. J. R. Laundon, Dr. C.R. Pope and Professor D.H.S.Richardson are thanked for arranging and leading these meetings. The annual general, lecture, and exhibition meeting was held in London in January. The Council met on three occasions and adopted a workshop broadsheet.

The number of parts per year of The Lichenologist to be published was fully discussed, the membership being consulted by ballot, it was agreed to maintain three issues. The editors of both the journal and Bulletin, Drs. D.L. Hawksworth and O.L. Gilbert, are thanked for all their hard work on our behalf. The Conservation Officer, Dr. A. Fletcher, and his committee, have been especially active, providing a detailed report on woodland sites for the Nature Conservancy Council. The NCC is thanked for a grant of

£500 for this work. The other officers are also thanked for all they did for the Society, and special thanks are extended to Peter Lambley, who has one of the heaviest work loads in dealing with subscriptions and sales.

J. R. LAUNDON
Honorary Secretary

(This report was presented at the Annual General Meeting on 8 January 1983).

A comment on the tools of our trade.

The article on this subject in Bulletin 51, prompts me to add a few comments on the collection of saxicolous lichens. As an experienced geologist (but only a tyro lichenologist) I am concerned with two important aspects of collecting.

Firstly, personal safety - on no account should a household hammer ever be used on hard rocks. It will inevitably splinter with disastrous consequences. I have found that the standard 1lb geological hammer is perfectly adequate for most purposes, especially if combined with a small cold chisel. Some protection for the eyes is desirable, although it must be admitted that few collectors wear anything more effective than ordinary spectacles. The experience of a friend, who lost one eye through the impact of a rock splinter, has taught me caution.

The other point is that of conservation. Anyone who has seen the scars on some of the granite tors of Dartmoor, produced by hammer-happy students, will appreciate the necessity of confining such damage to the absolute minimum. And, of course, there is no justification for inflicting damage to a wall or building -

even if it does involve leaving that desirable specimen *in situ*!

E. N. MASSON PHILLIPS

Miscellaneous

Vacancy on Expedition to Spitzbergen 1984

Is there any lichenologist/botanist interested in joining a small party of naturalists and mountaineers intending to visit Svalbard (Spitsbergen) for 6-8 weeks during the summer season of 1984? A small and informal expedition is planned, but all participants must be prepared to share fully in the responsibilities of planning and running the expedition, as well as contributing their own field work. Owing to the nature of the terrain, it would be an advantage to have some mountaineering experience. If you are interested then please contact Adrian Plant at 26 Tittensor Road, Clayton, Newcastle, Staffs. ST5 3BS.

Saturday work at the British Museum (Natural History)

The Department of Botany, British Museum (Natural History), London is open to visitors for research purposes on Saturdays provided prior notice is given to the Keeper's secretary before the previous Thursday afternoon. The Department is closed on all Saturdays occurring at a Bank Holiday.

Notice of Book Sale

The Society will be holding an evening Conversazione and Book Sale to benefit the Society's funds at the British Museum (Natural History) on 6 January 1984. Nearer the time please send any Natural History books to be sold to Frank Brightman

(c/o British Museum (Natural History), Cromwell Road, London, SW7 5BD) or details of those you could bring with you (title, publisher, date) together with suggested minimum price. Further details in the Autumn Bulletin.

New, rare or interesting British Lichen records

Acarospora benedarensis V.C. 52, Anglesey: on soil, seashore cliff top Hen Borth 1976. First record since the type gathering at Howth Head, Dublin where it was refound in 1975. A. Fletcher.

Arthothelium ruanum V.C. 69, 70, Cumbria. Found on hazel in two widely separated woods; Clinty Ford Wood, nr. Kirklinton and Glass Knott in the Rusland Valley where it is abundant. These records bridge the disjunction between North Wales and South-West Scotland. Ivan Day.

Cladonia luteoalba V.C. 55, Leicestershire: Benscliffs Rocks, Charnwood Forest, 1980. The most south-easterly British record, marks the edge of the 'highland line'. A. Fletcher

Collema tuniforme V.C. 57, Derbyshire: abundant on an asbestos roof (possibly first record from such a habitat), Monyash Village 1983. O.L. Gilbert

Parmelia subargentifera Nyl. V.C. 91, Kincardine: on ash in parkland, The Burn, near Fettercairn. January 1983. New to the British Isles (see p.41) B.J. Coppins

Peltigera venosa (blue-green morphotype) V.C. 49: Snowdon, Llyn Lydaw 1981. Collected for the first time in Britain as an interesting Leptogium! Det. P.W. James. A. Fletcher

Ramalina farinacea V.C. 63: Central Halifax, one thallus c. 1.5 cm high, near base of Millstone Grit wall, April, 1983. P.R. Stewart & A. Henderson.

Rinodina calcarea (Arnold) Arnold V.C. 32, Northamptonshire: Grafton Underwood, 42/9280, on oolitic limestone of churchyard tomb, 1982, C.J.B. Hitch; Det. B.J. Coppins and H. Mayrhofer. First British record. Could be mistaken in the field for R. teichophila or a large form of R. gennarii, but is easily identified microscopically by its spores, which have a thick outer wall (that often becomes $\pm$ detached in squash preparations), and measure 17 - 25 x 10 - 16 um. This species is widely distributed in middle and southern Europe. B.J. Coppins

Sarcopyrenia gibba V.C. 52, Anglesey: on a limestone rock beside a path, Plas Newydd. The 6th record since the type gathering in Cumberland. A. Fletcher.

Stereocaulon nanodes V.C. 57, Derbyshire. On the sandstone kerb of a grave where it receives drip from iron railings, Monyash Village, 1983. Elsewhere in the county it occurs on leadmine spoil and basalt outcrops. O.L. Gilbert.

Teloschistes flavicans V.C. 52, Anglesey: Porth Dafarch 1976. Relocated after a nine year search; the most northerly British locality. A. Fletcher

Umbilicaria polyphylla V.C. 52 Cheshire: sandstone rocks, Bidestone, The Wirral, 30m, 1983. B. Fox and O.L. Gilbert.

New members

The following new members joined the Society between November 1982 and March 1983. R = rejoined.

Mr. D. Christie, 4, Wheatfield Road, EDINBURGH, EH11 2PS.

Mr.T.P. Davis, 10 Bellevue Terrace, Gews Corner, CHESHUNT, Herts, EN8 9BX.

Mr.W.N.Fisher, 54 Drummond Drive, NUTHALL, Notts. NG16 1BL

Miss R.M. Hadden 15 Shouldham Street, LONDON W1H 5FG

Mr. N. Hladun, Department de Botanica, Facultat de Biologia, Universitat de Barcelona, Diagonal 645, 4º, B, BARCELONA-28, Spain

Dr. M. Hoffmann, Onafhankelykheidslaan 24, B-900, GENT, Belgium.

Mr.P.C.Holland, Flat 9, Pinewood Court, 23 Clarence Avenue, Clapham, LONDON, SW4 8LB.

Mr.P.M. Holt, Dryden Spinney, South End, KIRTLINGTON, Oxford (R)

Mr.K.Homble, S-Kringler, N-2030 NANNESTAD, Norway.

Mr. C. S. Hyun, 303-25, Sangdo-3 Dong, Dongjak-Gu, SEOUL 151, South Korea.

Mr. I.G. Instone, 192, Leeds Road, Kippax, LEEDS LS25 7EL.

Dr. S.L. Jury, Dept. of Botany, Plant Science Laboratories, The University of Reading, Whiteknights, READING, Berks.RG6 2AS

Miss D. A. Levison, 12 Bullroyd Avenue, BRADFORD, West Yorkshire BD8 OAX.

Mr. O. Löfgren, Täljstensvägen 9B, S-752 40, UPPSALA, Sweden.

Mrs. E.J. McDonnell, Dungeon Cottage, Cocklake, WEDMORE, Somerset.

Dr. N. Milletti, Piazza Mascagni, 28-50127, FIRENZE, Italy.

Miss A. Mimmack, Imperial College, Silwood Park, ASCOT, Berks, SR5 7PY.

Dr. P. Patwardhan, Dept. of Mycology, M.A.C.S. Research Institute, Law College Road, PUNE, 411004, India.

Mr.C.I.Rose c/o London Wildlife Trust, 1 Thorpe Close, LONDON, W10 (R)

Mr.K.A. Sandell, 95 Porter Road, BASINGSTOKE, Hants, RG22 4JR.

Dr. N.K.G. Smith, Blenheim Mount, St. Anns Hill, NOTTINGHAM NG3 4LA(R)

Dr. I. Tavares, Herbarium, Dept. of Botany, University of California, BERKELEY, California, 94720, U.S.A.

Mr.P.D.Wakeman, 52 New Road, ASCOT, Berks, SL5 8QQ.

Dr. G.M. Wakley, Holly Cottage, 12 Lynch Crescent, WINSCOMBE, Avon BS25 1AS.

Lichenologist 14(3) was published on 22 December 1982 and 15(1) on 11 April 1983.

ARVIDSSON, L. 1982. A monograph of the lichen genus Coccocarpia. Opera bot. Soc. bot. Lund 67: 1 - 96. [21 species.]

CHATER, O. 1982. Life in the graveyard. Nat. World 6(Winter 1982): 17 - 19. [Churchyards and burial grounds as important habitats for wildlife, etc.; references to lichens.]

DEGELIUS, G. 1982. The lichen flora of the island of Vega in Nordland, northern Norway. Acta R. Soc. scient. litt. Gothoburg. (Bot.) 2: 1 - 127. [668 species.]

DIBBEN, M. J. 1982. Evolutionary trends within the Pertusariae (lichenised fungi). J. Hattori bot. Lab. 52: 343 - 355.

ELIX, J. A. & STREIMANN, H. 1982. New lichen records for Australia. J. Hattori bot. Lab. 51: 69 - 97. [51 lichens new to Australia.]

GARTY, J., PERRY, A. S. & MOZEL, J. 1983. Accumulation of polychlorinated biphenyls (PCBs) in the transplanted lichen Ramalina duriaei in air quality biomonitoring experiments. Nordic. J. Bot. 2: 583 - 586. ["The present investigation demonstrates the feasibility of using lichens as PCB monitors in air."]

HAWKSWORTH, D. L. 1982. Notes on British lichenicolous fungi: IV. Notes R. bot. Gdn Edinb. 40: 375 - 397. [11 species new to Britain, including six new species and one new genus: Everniicola D.Hawksw.]

HAWKSWORTH, D. L. 1983. A key to the lichen-forming, parasitic, parasymbiotic and saprophytic fungi occurring on lichens in the British Isles. Lichenologist 15: 1 - 44. [Key to 218 fungi; 141 spore-drawings. Four new combinations.]

HENSSEN, A. M. & JAMES, P. W. 1982. The lichen genus Steinera. Bull. Br. Mus. nat. Hist. (Bot.) 10: 227 - 256. [Monograph of four species.]

HORSTMANN, J. L., DENISON, W. C. & SILVESTER, W. B. 1982. $^{15}N_2$ fixation and molybdenum enhancement of acetylene reduction by Lobaria spp. New Phytol. 92: 235 - 241.

JAHNS, H. M. 1982. The cyclic development of mosses and the lichen Baeomyces rufus in an ecosystem. Lichenologist 14: 261 - 265. [Short three-year cycle.]

JAHNS, H. M. & OTT, S. 1983. Flechtenentwicklung an dicht benachbarten Standorten. Herzogia 6: 201 - 241. [Development cycle of fruiting bodies in Baeomyces and Cladonia.]

JONES, D., WILSON, M. J. & LAUNDON, J. R. 1982. Observations on the location and form of lead in Stereocaulon vesuvianum. Lichenologist 14: 281 - 286. [Appreciable lead, originating from dust from a horizontal flue, associated with the hyphae, is recorded in material from Arkengarthdale, Yorkshire.]

JØRGENSEN, P. M., VĚZDA, A. & BOTNEN, A. 1983. Clathroporina calcarea, a misunderstood lichen species, and a note on the genus Clathroporina in Europe. Lichenologist 15: 45 - 55. [Clathroporina calcarea is placed in the synonymy of Belonia nidarosiensis (Kindt)P.Jørg. & Vězda, comb. nov.]

KILIAS, R. 1981. Revision gesteinsbewohnender Sippen der Flechtengattung Catillaria Massal. in Europa. Herzogia 5: 209 - 448. [Monograph. 15 European saxicolous species . British checklist changes: Catillaria atomarioides (Müll.Arg.)Kilias (an addition), Micarea subnigrata (Nyl.)Coppins & Kilias (Catillaria subnigrata), Tylothallia biformigera (Leighton)P.James & Kilias (Catillaria biformigera).]

LAUNDON, J. R. 1983. Disappearing woodland lichens. Living Countryside 9 (Issue 100): 1981 - 1983. [Popular review.]

LINDSAY, D. C. 1982. Birmingham and Warwickshire lichens: new records. Proc. Bgham nat. Hist. Soc. 24: 194 - 198. [List of interesting recent records, including several of Usnea, and discussion. The spread of Stereocaulon pileatum "appears to indicate recent relatively high concentrations of lead in the air".]

MILLBANK, J. W. 1982. Nitrogenase and hydrogenase in cyanophilic lichens. New Phytol. 92: 221 - 228.

MILLBANK, J. W. 1982. The assessment of nitrogen fixation and throughput by lichens. III. Losses of nitrogenous compounds by Peltigera membranacea, P. polydactyla and Lobaria pulmonaria in simulated rainfall episodes. New Phytol. 92: 229 - 234.

MOTTERSHEAD, D. N. 1980. Lichenometry - some recent applications. In CULLINGFORD, R. A., DAVIDSON, D. A. & LEWIN, J. (Eds) Timescales in Geomorphology: 95 - 108. Wiley, Chichester. [Review.]

PARNELL, J. A. N. 1982. The lichen herbarium of Trinity College Dublin (TCD). Lichenologist 14: 280 - 281. [General account; 1826 sheets.]

RENNER, B. & GALLOWAY, D. J. 1982. Phycosymbiodemes in Pseudocyphellaria in New Zealand. Mycotaxon 16: 197 - 231. ["Three instances of joined thalli ... are presented." The term phycosymbiodeme is proposed for such thalli.]

SEAWARD, M. R. D. & HITCH, C. J. B. (Editors) 1983 ['1982']. Atlas of the Lichens of the British Isles. Volume 1. Institute of Terrestrial Ecology, Cambridge. [Maps of 176 lichens. £3 + £1 postage to members, £4.50 + £1 postage to non-members.]

SIPMAN, H. J. M. 1983. A monograph of the lichen family Megalosporaceae. Bibliotheca Lichenologica 18: 1 - 241. [Monograph of 29 species in three genera.]

TEHLER, A. 1982. The species pair concept in taxonomy. Taxon 31: 708 - 714. [Discussion of the origins of asexual clones. Many 'species pairs' are considered to be best treated as forms of a single species.]

J. R. LAUNDON

An addition and minor correction to the Parmelia key (Bulletin 51)

The addition is necessary to accommodate a newly discovered species of Parmelia (p. 36)

Replace couplets 47 and 48 with:

47a(37b) With soralia; with or without tiny white cortical hairs at lobe ends (x 20 lens). 48

47b With isidia; cortical hairs absent 49

48a(47a) Thallus shining dark brown to black-brown. Cortical hairs absent. Soralia elevated on short, ascending inner lobes, soredia farinose, leaving white areas when abraded. Medulla C–. A very rare species on acid rock known only from two sites in the mountains of western Scotland. P. sorediosa Almb.

48b Thallus matt rarely pruinose, olive-brown or brown; cortical hairs absent; margins of lobe-ends adnate. Soralia granular, partly isidiate, sometimes verruciform, leaving a pale yellowish area when abraded. Medulla C+ red. On trees, especially branches and twigs, rare on rocks. Common and widespread in most areas of Britain and Ireland. P. subaurifera Nyl.

48c Thallus mostly matt, usually pruinose, olive-brown to brown; upper surfaces of lobes (especially lobe-ends) with white cortical hairs; margins of lobe-ends usually ascending. Soralia laminal or marginal, usually confluent towards the centre of the thallus; Soredia coarsely granular or isidioid. Medulla C+ red. In Xanthorion communities on tree trunks. Known only from NE Scotland. P. subargentifera Nyl.

For 50a (P. subaurifera) alter to "Rhodophyscin absent"

For 50b (P. glabratula) alter to "Rhodophyscin present"

Note: Rhodophyscin is an orange pigment which gives a strong K+ purple reaction. In P. glabratula it is found in the lower medulla, lower cortex and rhizinae, and when present in large quantity it can be visible to the naked eye in damaged specimens (especially when viewed from the underside). It can otherwise be detected by removing a small portion of the underside from the older part of a thallus and mounting in KOH. Rhodophyscin must not be confused with subauriferin, a pale yellowish (K–) pigment associated with the soralia of P. subaurifera.

B.J.COPPINS & P.W.JAMES

A preliminary key to Acarospora species in the British Isles

Hawksworth et al. (Lichenologist 12:7, 1980) expressed the view that many of the 24 species of this genus listed in the checklist were too narrowly delimited and that a critical re-evaluation was required. Now, Clauzade & Roux (Bull. Mus.Hist.nat.Marseille 41:41-93, 1981; reviewed in Lichenologist 15:103,1983) have endeavoured to come to the rescue of those wrestling to identify material of this notoriously difficult genus. In their system the 24 British species are reduced to just 14, several with subspecies, varieties or forms recognised within them.

Revised taxonomies always have to go through testing periods and this key will be no exception. In order to facilitate this a preliminary key to the British species based on their work is presented here. For further information, treatments of further infraspecific taxa, and drawings, the original French key should be consulted (available from M. Aubert, Laboratoire de Botanique et Ecologie Mediterraneene, Faculte des Sciences et Techniques de St. Jerome, Rue H. Poincare, F-13, 397 Marseille Cedex 4, France; price 50 francs). Notes on difficulties found in using the certainly imperfect preliminary key given here would be appreciated; your views will contribute to the production of a more polished version which can be prepared in due course.

I am very grateful to Dr. Roux for checking my transcript from his key prior to finalization for this Bulletin.

1. Thallus C+ red or KC+ red..... 2

   Thallus C- and KC- 4

2(1) Thallus entirely devoid of pruina..... 3

   Thallus ± pruinose, squamules 0.5-2 x 0.5-1.5 mm, brown; apothecia 1-3 per squamule; ascospores 4-7 x 1-2 μm; on nutrient-enriched rocks, scarce .....A.umbilicata Bagl.

3(2) Apothecial discs umbonate; on nutrient enriched rocks, montane.....A. peliscypha. Th.Fr.

   Apothecial discs smooth or uneven; on nutrient-enriched rocks, common and widespread..... A. fuscata (Nyl.)Arnold

4(1) Thallus K+ red, sometimes in parts..... 5

Thallus K- throughout 6

5(4) Squamules poorly developed, 0.5-1.8 x 0.3-1.4 mm, almost entirely occupied by the apothecia, brownish red, paraphyses 1.5-2 μm thick at the base; on siliceous rocks near the sea, Channel Isles and Isles of Scilly.....A.subrufula (Nyl.)H. Olivier

Squamules well developed, very variable, not entirely occupied by the apothecia, yellowish brown; paraphyses to 1 μm thick at the base; on siliceous rocks, widespread and often abundant.....A.smaragdula (Wahlenb.)Massal. (subsp. lesdainii (Harm. ex A.L.Sm.) Clauz & Roux is usually K- over much of the thallus, has squamules often exceeding 3mm, and a more irregular algal layer).

6(4) Thallus shades of brown or grey..... 7

Thallus ferruginose red or ochraceous; apothecia punctiform, brown, 2-8 per squamule; ascospores 3-4 x 1-2 μm; on metal-rich siliceous rocks in upland areas, especially the Scottish Highlands.....
...A sinopica (Wahlenb.) Körber

7(6) Asci 100-200 spored..... 8

Asci 30-100 spored; thallus brown, sometimes reduced and whitish to pale brown; ascospores 6-13 x 3.6 μm; on calcareous rocks, scarce.....A.macrospora (Hepp.) Bagl. (subsp. murorum (Massal.) Clauz & Roux has squamules over 7 mm, greenish-brown or green when wet, and apothecia with a distinct thallus-coloured margin).

8(7) Thallus well developed..... 9

Thallus thin, poorly developed, seen only around the apothecia; ascospores 3-6 x 1.5-3 μm; on calcareous rocks and sea shells, scarce.....A.heppii (Naeg.) Naeg.

9(8) Apothecia ± rounded 10

Apothecia mainly in the form of short sunken furrows; or irregularly polyhedral on siliceous rocks near the sea, mainly in the west.....A.impressula Th.Fr

10(9) Algal layer irregular and discontinuous, dentate in vertical section..... 11

Algal layer ± regular and continuous, never dentate in vertical section..... 12

11(10) Paraphyses 1.5-2 μm thick at the base; ascospores 3.5-5.5 x 1.5-2 μm; hymenium 140-180 μm tall; on siliceous rocks, montane..... A.scabrida Magnusson

Paraphyses 2-3 μm thick at the base; ascospores 4-8 x 1.5-3 μm; hymenium 60-100 μm tall; on calcareous rocks in upland situations..... A. cervina Massal

12(10) Paraphyses more than 1.5 μm thick at the base..... 13

Paraphyses less than 1 μm thick at the base..... 7b

13(12) Paraphyses 1.5-2μm thick at the base..... 14

Paraphyses 2-3μm thick at the base; apothecia often ± sessile, disc becoming convex; ascospores 3-6 x 1.5-2.5 μm; on schists or granite, Ben Lawers (dubious record) .....A.badiofusca (Nyl.) Th.Fr.

14(13) Apothecial discs concave, smooth or slightly rugulose; ascospores 3.5 x 1.5 μm; on nutrient-enriched siliceous rocks, scarce or overlooked.....A.veronensis Massal.

(A.complanata Magnusson, to be expected in the British Isles, has a squamulose-areolate rather than dispersed thallus and has angular rather than rounded and more squamule-like areoles).

Apothecial discs plane or raised, neatly wrinked or umbonate; ascospores 3-6 x 1.2 μm; on siliceous rocks upland.....A. nitrophila Magnusson

Synonyms:

A. amphibola Wedd. = A. smaragdula;
A. atrata Hue = A. impressula;
A. benedarenses Knowles = A. smaragdula;
A. fusca B. de Lesd. = A. smaragdula;
A. glaucocarpa (incl. var. depauperata (Körber) A.L.Sm.) = A.cervina;
A. macrospora var. incusa (Körber) Magnusson ? = A.macrospora;
A. magnussonii G. Samp. = A.veronensis;
A. muddii Magnusson = A. nitrophila;
A. murorum Massal. = A. macrospora;
A. normanii Magnusson = A. nitrophila;
A. praeruptorum Magnusson = A. nitrophila;
A. rufescens (Ach.) Bausch = A. smaragdula;
A. scyphulifera Vainio = A. smaragdula;
A. smargdula var. lesdainii (Harm. ex A.L. Sm.) Magnusson and var. murina (Sandst.) Magnusson = A. smaragdula;
A. verruciformis Magnusson = A. smaragdula.

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Interleaved copies of David Hawksworth's "A key to the lichen-forming, parasitic, parasymbiotic and saprophytic fungi occurring on lichens in the British Isles" (reprinted from Lichenologist 15 (1): 1-44, 1983) with laminated covers are expected to be available from the Assistant Treasurer (P.W. Lambley, Esq., Castle Museum, Norwich NR1 7RB) by 1 June. The price is £3 to members of the British Lichen Society and £5 to non-members (postage included); all orders should be accompanied by cheques made out to the British Lichen Society.

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CONTENTS

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