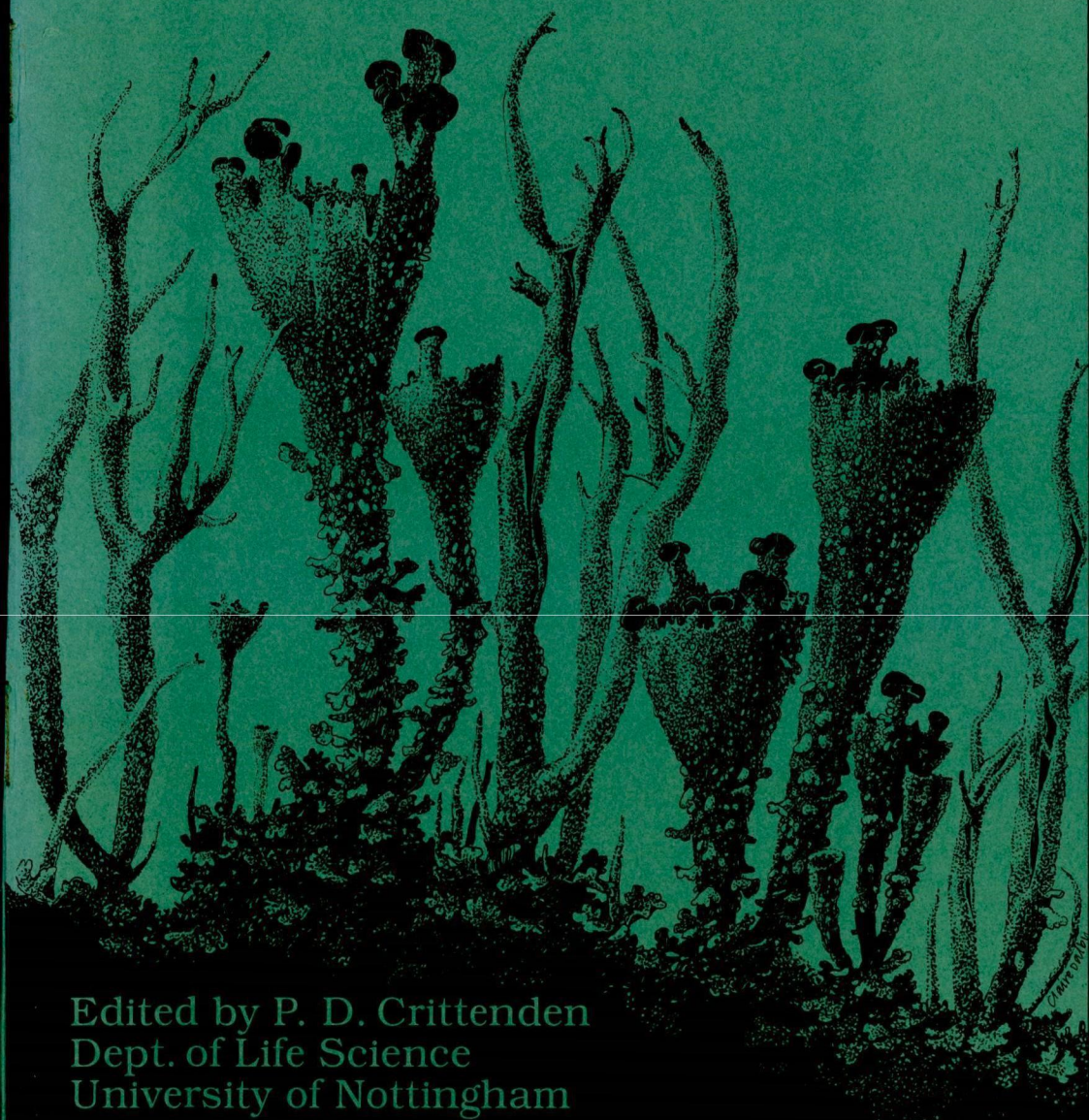


# BRITISH LICHEN SOCIETY BULLETIN

No. 74 Summer 1994



Edited by P. D. Crittenden  
Dept. of Life Science  
University of Nottingham

## FORTHCOMING BLS MEETINGS

### MALVERN

Leader: Oliver Gilbert

21-24 October 1994

### CARDIFF - TLC Workshop

Leader: Alan Orange

11-12 November 1994

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### 1994 MEMBERSHIP AND SUBSCRIPTION RATES

Annual rates except where indicated

(Dollar rates are two times the Sterling Rate except where indicated)

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**Applications for membership** should be made to The Secretary, The British Lichen Society, c/o The Natural History Museum, Cromwell Road, London SW7 5BD.

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### SUBMISSION DEADLINE

Please would intending contributors to the Winter 1994 issue of the *Bulletin* submit their copy to the Editor by 16 September. It would be helpful, but by no means essential, for authors of longer articles prepared on a word processor to supply a copy on a 3.5" floppy disc, in addition to the hard copy. This can be in MS.DOS Word Perfect or any format from an Apple Macintosh.

Cover artwork by Claire Dalby

## MEMORIES OF ARCTIC LICHEN SEARCHES

What is it like to collect lichens in the arctic summer? Our travels were not at all the dog team experience of the early explorers who spent months of hardships getting where they wanted. My companion on many of the trips was James A. Larsen, author of several books on arctic ecology. Apart from the trips along the North Slope of Alaska, where the logistics were provided by the Arctic Research Laboratory, we made extensive use of "bush pilot" facilities. Canoes and supplies would be ferried out via small hydroplanes to various drop-off points and we would then explore from there along lakes or rivers or walk to other sites for pick up. Of course we tented and prepared our own provisions (I've actually been asked what the hotel facilities were like!). One has to remember that the sun circles around you in the arctic summer and that orientation can trouble the newcomer. And near the north magnetic pole which is in the Arctic Islands, not at the geographic pole, the compass behaves poorly. We learned to pay close attention to the geography where we were working. This was no great problem in mountain range regions such as the Brooks Range of Alaska or in the hilly regions in the east. But in the central arctic, in the areas scraped by the vast sheets of the Pleistocene ice, close attention to the detail of terrain was required not to get lost.

Another notable first impression is the way a southern circadian rhythm is affected by the sudden flight change to the north. For a couple of days after arrival there is a puzzling time sense and one may continue working long after usual hours. But gradually we settle down although our activities may be reset a couple of hours off our usual pattern. The phenomenon was well expressed by some of our Inuit friends "You people look at your watch to see if you are hungry - we eat when we are hungry". And indeed they stopped to brew tea at what we thought odd times. Days of windiness were a blessing on many of our trips as they would keep the inevitable hordes of mosquitoes or black-flies down near the ground. Of course when lying down to collect crustose lichens one can have a bit of a problem. Some days we were forced to wear headnets (Fig. 1) and to cover the seams in our clothing to ward off the penetration by the black-flies. And there were days when one had to grit one's teeth before leaving the tent when listening to the rain of black-flies pounding on the tent walls trying to get at their possible meals of blood within.

Some people think of the arctic tundras as monotony. The ecology is much more varied than they realize. In the patterned ground the few inches of altitude provide a great difference in the habitats for lichens. On the dry

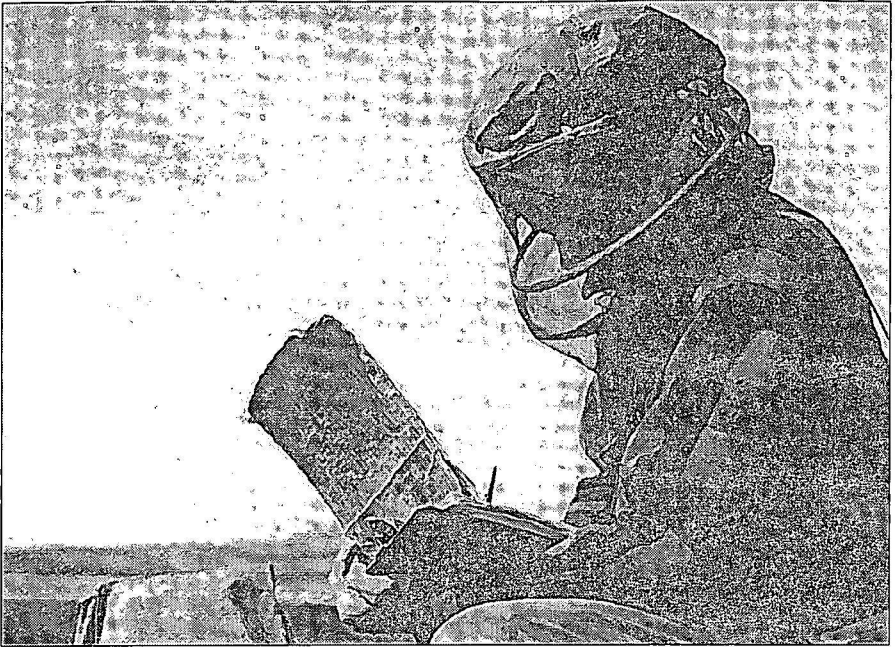


Fig. 1. J. Larsen taking notes in a swarm of black flies, Lake Ennadai, 1960.

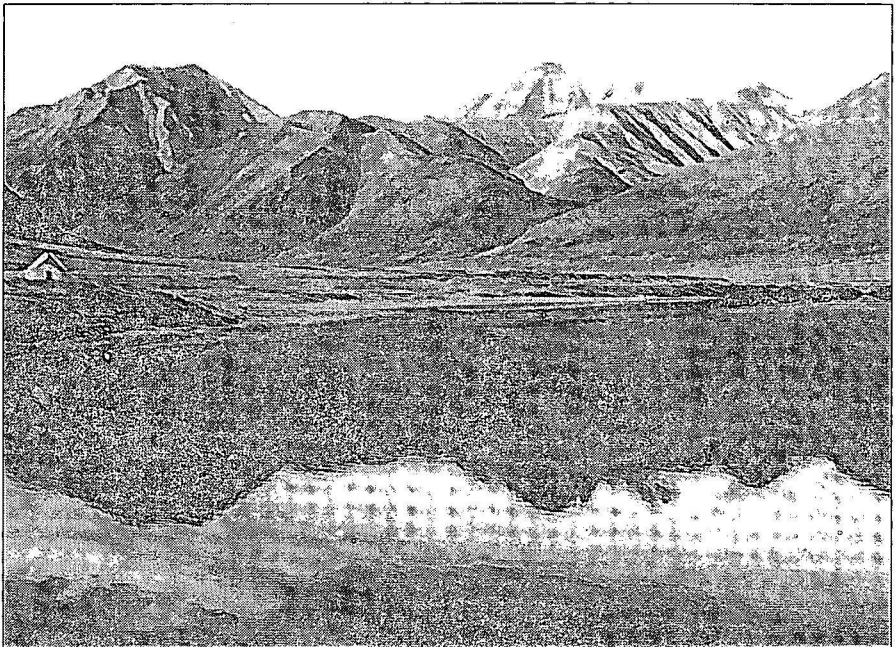


Fig. 2. Mt Michelson of the Brooks Range mirrored in Okpilak Lake, 1958

polygon tops will be a heath with a whole series of species, especially where "frost boils" keep altering the substratum. Between the polygons, where ice wedges provide more meltwater moisture and sedge vegetation predominates, different *Cetrarias* and *Cladonias* are likely to grow. Along the moraines and old raised beaches, where isostasy caused by the melt of the glacial masses caused the landscape to rebound, are many interesting features. The boulder trains have to be looked over for crustose lichens on the rocks, some being only on shaded lower sides of boulders and in crevices, other lichens preferring the more sunny exposed sides, and of course isolated relic boulders on open tundras are favorite bird perches which provide the manuring for the nitrogen-preferring lichens.

In the mountain ranges, such as the Brooks Range of Alaska, the scenery is of course superb (Fig. 2) and the number of microhabitats for the lichenologist to investigate is immense. The complex geology yields outcrops of mineral rich rocks in unexpected places, sometimes of only small areas, but yielding harvests of puzzling crustose lichens. The rushing streams must be searched for *Hymenelias* and *Verrucarias* even though the springtime meltwaters may roll immense boulders downstream. One thing we learned there was that one may cross a stream in the morning and yet in the afternoon it may be impossible to return as the sun melted the snows higher up during the daytime hours.

The eastern North American arctic, as one flies over the Ungava-Labrador Peninsula toward the Islands, is dominated by the broad zone of the coniferous forest which gives way to an almost park-like aspect over many hundreds of miles (Figs. 3&4). Here one is impressed by the yellowness of the landscape between the trees, a feature caused by the dominance of the *Cladinas*, *Cetraria cucullata* and *C. nivalis*. This would be monotonous to a lichenologist on the ground were it not also the area in which the Laurentian ice sheets of the last (current?) Ice Ages were so thick and scraped most of the soils away, leaving broad outcrops to be populated by a splendid array of crustose and other lichens. Indeed when the plane landed at Frobisher Bay on Baffin Island in the more mountainous section of the eastern Canadian Arctic on the excursion of the Montreal Botanical Congress in 1959 we were taken to an outcrop east of Frobisher. Here the entomologists who were along on the trip vanished across the tundra brandishing their nets. A couple of hours later they returned to discover to their astonishment that Bill Weber and I were still hacking at the same outcrop and revelling in the variety of lichens we were finding there.

The yellow lichen-dominated lands in the subarctic are replaced in the far north by a landscape dominated by the somber, dark brown of



Fig. 3. W. Weber in lichen woodland, Great Whale River, Ungava.



Fig. 4. Spruce, lichens, and rocks: east shore of Hudson Bay, west of Great Whale River.

*Alectoria, Cornicularia, Melanelia, Umbilicaria, etc.* Perhaps here where the angle of the sun is so low above the horizon and its rays therefore pass through so much more atmosphere, there is greater need for absorption of its rays and the dark colours of these lichens give the added advantage of heat absorption.

One memorable trip in the central Canadian subarctic occurred when James A. Larsen and I were ferried by float planes from Great Slave Lake to Artillery Lake just north of the forest border. Here we collected for a while in the tundra and just at the forest edge at Rat Lodge and on the east side of the lake. Then with our hired Cree Indian guides we travelled south by canoes to the famed Pike's Portage route, where we could portage, by way of a series of small lakes and fairly long portages, to bring our equipment and canoes back to our base on Great Slave Lake. The Pike's Portage route is well known and was used by Sir George Back in the winter of 1833-34 when on the search for the then missing Sir John Ross. It was also the route of an 1819 trip of young John Franklin on a trip to the Coppermine River and its mouth. Along the Pike's Portage route are the ruins of old Fort Reliance (Fig. 5) where Back spent the winter. So often on that journey, as we portaged the canoes and equipment, I thought of those early European explorers whose footsteps we were following. A very interesting account of his travels over the same route in 1907 is given by Ernest Thompson Seton in his book "The Arctic Prairies".

The route of Pike's Portage entails crossing several small lakes and a number of longer portages of a few miles each. With all our equipment and canoes it took several traverses at each portage. We carried guns just in case the barren ground grizzlies became interested in us. On one of the portages I started to leave my rifle leaning against a canoe while I returned for another load. But the elder of our guides remarked to me "Uh-uh - big one he come". The reminder was sufficient. I dutifully carried the gun along with my load.

An unforgettable experience occurred on another trip in 1964 with James Larsen in the neighbourhood of Inuvik near the mouth of the Mackenzie River. Here we experienced a phenomenon I've not seen mentioned in arctic literature. This was in mid-June at melt-time in the tundras and lichen woodlands when the sun is strong and the days long. We were working south of town by a lake where the ice was starting to melt. It was very thick and had crystallized into tall prismatic formations. As the sun hit the edge of the ice shelf the prisms were separating and falling with a delicate tinkling which we could hear across the tundra. There came to mind the



Fig. 5. JWT at the chimney of Fort Reliance, 1962.

Dance of the Sugar Plum Fairy by Tschaiowsky. One of my favorite tales is that experienced when working out of the Arctic Institute Laboratory along the North Slope of Alaska. I was in one of the Laboratory's small Cessna planes being ferried from one collecting site to another. The pilot was Porter Lockhart, a long time experienced arctic pilot. As often happens on flights along the arctic coasts, the clouds rolled over the land and screened the tundra below us. I began looking down upon the cloud tops and wondering how we were to find the site where we were to land. When I expressed this wonderment to Porter he pointed down at the clouds saying "Don't worry we are over such and such river just now". I could see only



clouds. A while later he began descending into them commenting "Now we are at the Sagavanirktok". And indeed we landed exactly on the broad river gravels where we were supposed to. Porter had been reading the tops of the clouds which told him by their patterns what the lay of the land below was. Survival in the arctic takes attention to details!

Now just in case you think the arctic has changed from the days of the early explorers may I add just one more experience. In 1962 Larsen and I were scheduled to return from Coppermine on the arctic coast to Yellowknife on Great Slave Lake, thence back to Wisconsin where I had other commitments. But the commercial flight was preempted by a medical emergency and so I had to hire a charter flight to Yellowknife where I could resume the return. Larsen stayed at Coppermine. On the return flight, almost exactly halfway of the several hundred miles, the cockpit suddenly filled with smoke and the engine quit. We thought the plane would become a fire. Fortunately the plane was a hydroplane and there appeared a small rock-studded lake within gliding distance. The pilot managed to land on it dead-engined and though the floats were oil covered we managed to get it to shore. Here we unloaded my tent and I started to look for the emergency rations. Turned out that the pilot, new to the arctic, had "cleaned out" the messy stuff in the plane before coming to get me. Well - we set up the tent and got materials of sticks and brush from the surroundings and set up the three signalling fires ready to light in case we got word of a rescuing plane. We could hear the search planes on the radio hunting us the next day - "Seen anything yet of MZedZed?" But we could not reach out with our radio despite reconnecting the antenna cable. In such circumstances normal finding time can be ten days. With a piece of string and a bent wire I caught a tiny fish which we shared. And then I went around seeking berries and other plant comestibles while the pilot decided to stay in the tent "conserving his energies". Three and a half days later another pilot from the charter company was returning from taking a prospector farther north. He had a half hour's extra gas and decided to check a possible flight pattern we might have used to go around a storm which might have caused us to be off the expected flight pattern where they had been seeking us to no avail. He was correct and when his plane appeared overhead we believed he was Santa Claus! Incidentally I'd been wondering what I would order to eat when I was rescued. It was liver, bacon and onions!!

Looking back, that original small grant from the Arctic Institute in 1950 to collect at Churchill led me to 14 expeditions to gather material on the lichens of that part of the world. In 1959 there was a trip to the Arctic Islands and Labrador in connection with the Montreal International Congress, plus also an expedition from Churchill to Chesterfield Inlet and

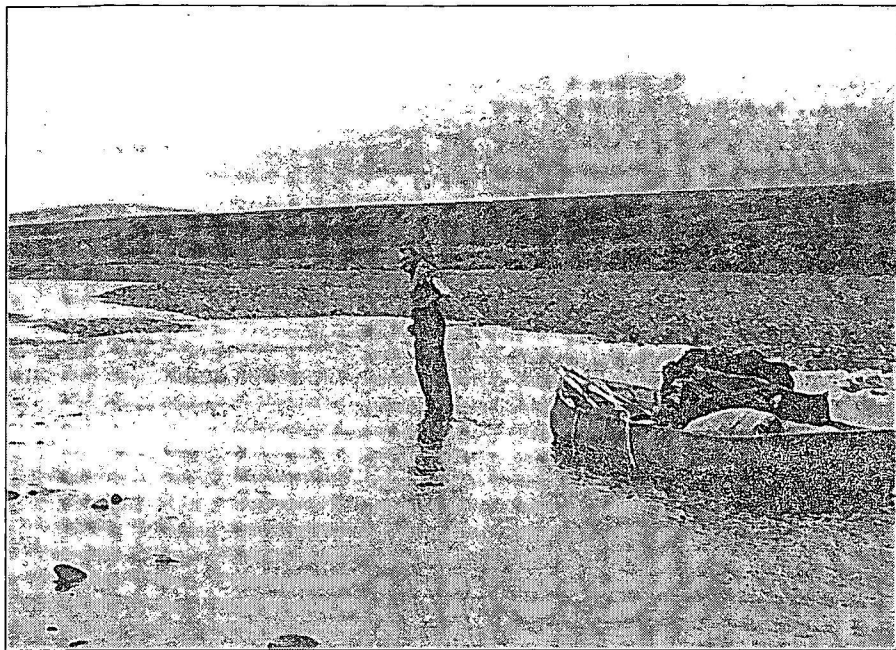


Fig. 6. We ran out of water to float our boat, Pitmegea River, northern Alaska, 1958

near the mouth of the Back River with University of Wisconsin meteorologists led by Reid A. Bryson; in 1960 to the Lake Ennadai region; in 1961 to the European Alps and Swedish Lapland. Other trips were in 1962 to Great Slave Lake and Artillery Lake, and to Coppermine; in 1963 to Lake Dubawnt and other nearby lakes; in 1964 to Canoe Lake and the Babbage River (Yukon); in 1965 an opportunity to visit Finnish Lapland; in 1975 the International Botanical Congress in Leningrad afforded the opportunity of a field trip to the Kirovsk region on the Kola Peninsula; and in 1978 Dr. C. D. Bird made possible a trip to the Arctic Red River near the Yukon boundary. It has taken many years to work up the material and for much of the support of the expeditions and subsequent studies I am indebted to grants from the National Science Foundation. The north is addictive.

John W. Thomson

## JANUARY MEETINGS 1994

### Evening Buffet and book sale

The turn-out for the buffet held on the evening of Friday 7 January at the Royal Entomological Society was considerably up on the previous year, attracting 32 people, including this time a welcome international participant, Peter Scholz from Germany. Perhaps the increase in attendance had something to do with the fact that David Galloway's wife Patricia had agreed to provide the buffet! We were treated to a sumptuous feast, delicious cold pork, vegetarian quiches with asparagus, salads and desert of home-made meringues with cream and fruit salad. More than well-satisfied, the book sale ensued in which Pauline Topham's books were ably sold by Mark Seaward the auctioneer. Mark successfully enticed the audience to part with over £1000, though this included some postal bids from overseas, notably Spain and USA. The slide show focused on a range of lichenological excursions throughout the year including Slovakia (Peter Scholz), Lochinver (Jeremy Gray), Japan (Peter Crittenden and David Richardson) and a miscellany (Mark Seaward).

### 1994 Annual General Meeting

In keeping with previous years the minutes are circulated as a separate sheet.

#### Exhibitions

The following exhibits were on display.

##### *Bipolar lichens*

David Galloway demonstrated two UK/Patagonian disjunctions: *Pseudocyphellaria norvegica*, *Leptogium britannicum*.

##### *Churchyard Projects*

Tom Chester had a selection of rare/overlooked species on demonstration: *Bacidia fuscoviridis*, *B. rubella*, *Collema fuscovirens*, *Lecanora conferta*, *L. pannonica*, *Lecanora pruinosa*, *Lecidella carpathica*, *Lepraria lesdainii*, *Leptogium plicatile*, *Physcia clementei*, *Psilolechia leprosa* and *Rinodina calcarea*.

A copy of the proposed mapping card, churchyard leaflet, as well as educational information including proposed worksheets as part of the churchyard pack for schools were also on display.

##### *Lichen products*

Brian Coppins had a sample of Big Band Lichen Deodorant including

alpine lichen extract (available from Cosmetics to go, Poole, BH15 1AB [tel 0800 373 366]) and Scholl cool mist foot powder which is widely available.

#### *Stereocaulon nanodes on slag at Stonedge Cupola, Derbyshire*

Brian Fox and Nigel Pacey demonstrated that *S. nanodes* was the most frequent species with lesser amounts of *Baeomyces rufus* on a slag dominated by the artificially created iron sulphide, troilite (FeS), with smaller amounts of lead and zinc. They asked whether weathered FeS is a common mineral substrate for *S. nanodes*?

#### *A Rhizocarpon species possibly new for Britain*

Peter Scholz displayed his recently discovered species with submuriform, dark brown spores and 8-spored asci on *Caloplaca verruculifera* in Cornwall and Pembrokeshire, apparently the only known *Rhizocarpon* to occur on *Caloplaca*!

#### *New Forest Rare Lichen Survey*

Neil Sanderson presented his conclusions of a survey carried out on behalf of English Nature/Forestry Commission into the ecology of two red data book species, *Parmelia minarum* and *Catillaria laureri*. *C. laureri* was found to occur on 21 trees in 3 woods where it is restricted to rain tracks produced by burrs on *Fagus* in sheltered, well-lit sites. Also restricted to well-lit, sheltered *Fagus*, *P. minarum* occurs on 47 trees in 8 woods. Neil pointed out that the similar *P. horrescens* is more widespread, occurring on *Quercus*, *Alnus* and *Ilex*. Neil concluded that an open structure was required, including moderate grazing, but not too much to prevent regeneration. The first English record of *Enterographa elaborata* for over 100 years was also on display, alongside photographs, showing a 2 x 0.5 m patch.

#### *Lichens as indicators of environmental stability and change in tropical forests*

Pat Wolseley and Begoña Aguirre-Hudson showed some results from their Thailand project. They demonstrated that lichen communities were strongly associated with forest type and that past changes in forest type brought about by fire can be readily detected with quantitative lichen data from random samples. Principal co-ordination analysis of this data distinguished forest clusters when used at the generic or specific level. However, indicator species are still useful to identify long-established forest of high conservation priority, and there is much taxonomic work to be done on poorly understood genera, especially of crusts, to develop this aspect in the tropics.

## Lectures

Frank Dobson began the afternoon lecture programme with a talk entitled "The threat of age and succession". Frank explained that he has been monitoring lichens on stones and trees across southern Britain for several years. At Mickleham Churchyard, which is in a region of moderate air pollution, lichen communities on three headstones dated 1792, 1771 and 1797 were carefully photographed in 1977 and again in 1993 revealing varying degrees of dynamics in the community structure. While there had been marked expansions of *Aspicilia calcarea*, *Caloplaca flavescens* and *C. teicholyta*, there had been negligible change in *Psilolechia lucida* and *Porpidia tuberculosa*, and some thalli of *A. calcarea* and *Physcia adscendens* had largely disappeared at their original locations but had regrown elsewhere on the same gravestone. Sequential photographs taken of a hogback stone in the churchyard at Carew, Cheriton, in Pembroke demonstrated that thalli of *Lecidella scabra* could check growth of *Ochrolechia parella*. Frank suggested that the latter species may have "adventitious" hyphae because gaps between thalli can become rapidly filled in. Normal growth was at a rate of c.1.3mm per year and seasonal changes lead to the appearance of growth ring-like zones. When thalli of *O. parella* merged they became indistinguishable from one another: a sobering thought for those interested in size/age relationships! However, where different chemotypes merge it is probable that the thalli will remain distinct from each other. Photographs of *Parmelia pastillifera* and *P. caperata* revealed that both species can grow rapidly (2-5 mm and 7 mm per year respectively). There was some indication that bird droppings can increase growth rates, perhaps excessively, sometimes with the result that thalli become more vulnerable to disturbance and may be dislodged from the substratum. At the same time we were shown how damaged thalli could regrow and "repair". When a strip of the thallus of *Physconia distorta* had been cut away along the diameter, the two edges grew back towards each other and eventually formed a single thallus again after 5 years with no obvious signs of the former damage. Photography has revealed that growth rates can sometimes be surprisingly high. For example, *Ramalina fraxinea* has been found to grow as much as 1cm in 6 months, and *Parmelia caperata* on a lichen-covered petrol gas tank at Orielton Field Centre grew 9cm in 6 years. In 1974 Frank began to photograph concrete capping stones on a wall covered by *Xanthoria parietina*. By 1986 *Physcia caesia* began to colonise this substratum as the wall top became overhung by hawthorn, after which *Physcia grisea* increased in abundance and *X. parietina* began to disappear. Apparently the BBC have sponsored Frank to photograph a *X. parietina* community every month for 15 years!

Next, Dennis Brown asked the question "Is agriculture a threat?". Sulphur dioxide has long been considered a major air pollutant modifying lichen communities and distributions over much of Britain. But even in SO<sub>2</sub> polluted areas "nitrophilous" lichen species often thrive: these lichens maintain health under conditions of increased nutrient input. In rural areas the effects of herbicides and pesticides may become important agents affecting lichen communities. Effects of these agrochemicals on lichens can be readily tested. Katalin Bartók has observed that orchard trees treated with high doses of herbicides and pesticides only support endophloeodal lichens. Dennis has tested the effect of herbicides on *Peltigera*; in the laboratory different herbicide preparations have different effects on lichen physiology but in the field spraying *Xanthoria* with the pesticide dichlorophen periodically for two months resulted in the lichen falling off its rock substratum. Agricultural activity also emits nitrogenous compounds either as inorganic or organic fertilizers or as ammonia emissions from livestock husbandry. Nitrophilous communities can develop on trees in rural areas apparently in response to nitrogenous emissions. These effects have been studied in some detail in the Netherlands where SO<sub>2</sub> emissions have decreased markedly between 1975-1990 but NO<sub>x</sub> emissions have increased mainly due to motor traffic and urban pollution. Cattle density has changed little since 1980 suggesting that ammonia emissions have not increased significantly. Kok van Herk has been attempting to use lichens to indicate and map ammonia deposition rates in rural areas. Some species appear to be associated with higher levels of ammonia in bark but this factor co-varies with higher bark pH values! This therefore begs the question is the "farming" effect an [NH<sub>4</sub><sup>+</sup>]/[SO<sub>2</sub>] effect or a pH effect? Han Dobben and Kok van Herk have used multiple regression analyses of lichen occurrence on pH, [NH<sub>4</sub><sup>+</sup>], proximity to coast etc. Ulrich Søchting has been working on lichens as indicators of nitrogen deposition in Denmark and recently he has transplanted *Hypogymnia physodes* into the vicinity of a pig farm and recorded increases in thallus nitrogen content which are inversely correlated with distance from the farm. Dennis talked briefly about his own work on NH<sub>4</sub><sup>+</sup> uptake. Much ammonia in a lichen thallus was found to be on cell wall exchange sites and the size of this extracellular NH<sub>4</sub><sup>+</sup> pool might indicate the availability of ammonia in the environment. However, the presence of NH<sub>4</sub><sup>+</sup> in this extracellular pool may be transitory since lichens left in a humid environment under laboratory conditions lose NH<sub>4</sub><sup>+</sup> from cell wall locations: presumably it becomes absorbed into the protoplasts.

After tea Francis Rose gave the final lecture of the afternoon entitled "The threat to heathland". Old maps suggest that heathlands were very

extensive throughout lowland England a century or more ago; for example on sandy or gravelly soils in Hampshire, Berkshire, Surrey and in West Sussex, regions in which heathland is now quite fragmentary, also on superficial deposits over parts of the chalk downs there were "chalk heaths" now almost disappeared due to modern farming. Where heathlands have not been ploughed up the spread of pine, birch, rhododendron and bracken have had equally devastating effects, as has the spread of *Molinia* on damper heaths no longer grazed. Although heathland soils are all podsollic there is surprising variation in heathland plant communities. Gorse may be prominent in places and within *Calluna* heathland there may be wet areas with distinctive floras. Dry lichen heathlands are important communities rich in such species as *Cladonia floerkeana*, *C. coccifera*, *C. verticillata*, species of *Cladonia* subgenus *Cladina*, *Coelocaulon aculeatum*, and *Hypogymnia physodes* on heather; but valley bogs and wet-heaths can also have an abundance of lichens, notably species of the *Cladina* group, *Cladonia strepsilis* and *Pycnothelia papillaria*. The occurrence of *Cetraria islandica* on heathlands in Lincolnshire and Norfolk is a relic from colder times. Significant variations in soil do occur; the Ashdown Forest is one example where the soils contain more silt. Much heathland is man-made derived from former oak scrub or forests. In the past grazing, heather cutting and prescribed burning have been key factors in maintaining the open structure of heathlands but today most heathlands are not farmed and most fires are accidental, very hot and destroy much if not all of the biomass. Light grazing, unlike burning, favours lichens. Much of the typical heathland lichen flora is eliminated from tall heather. *Cladonia portentosa* seems tolerant of conditions in quite tall heather but *C. arbuscula* is particularly sensitive to this apparent shading effect and is now absent from West Sussex. Management plans are currently being formulated to keep the height of heather down and thus encourage a high floristic diversity. The most extensive remaining heaths are now in the (regularly grazed) New Forest, which has half of the heathland area left in lowland England.

William Purvis and Peter Crittenden

## FROM THE ASSISTANT TREASURER

### Subscription Rates

The following subscription rates were proposed at the January 1994 AGM for the five year period 1995 to 1999. Some members expressed doubt at the necessity of increasing subscription rates at all in view of the healthy state of the Society's finances. Others felt that members should pay the cost of services and publications on an annual basis and that capital and the interest earned thereon should be reserved for major projects and initiatives. The proposed rates, set out below, were approved by a majority.

	Annual Rates
Ordinary Membership	£25.00
Associate Membership	£18.50
Senior Associate Membership	£7.50
Junior Associate Membership	£5.00
Family Membership	£5.00
5-Year Membership	£112.50
3-Year Membership	£71.50
Life Membership	£250.00

### Standing Order Mandates

Some 94 members pay their subscription by this means and it makes the Assistant Treasurer's job very much easier - except when subscription rates change and members forget to change their Standing Order! In the Autumn I will send a new Mandate Form to every member who pays by this method. Please complete it and send it to your Bank or Building Society.

### Change of Address

It is most helpful if you give me as much notice as possible of changes of address so that I can make sure that you receive your copy of the *Bulletin* and *The Lichenologist* on publication.

### Publications

A limited number of copies of the new *Checklist* published as a supplement to *Bulletin 72* are available separately. Details are in "Publications for Sale" at the end of this Bulletin.

*The Lichen Flora of Great Britain and Ireland* is out of print at the moment but it is hoped that reprints will be available before the publication of the Winter 1994 *Bulletin*.



### **Institutional Addresses**

In November last I wrote a general letter to 148 Ordinary members of the Society whose addresses appeared to be those of institutions rather than "home addresses" and whose institution did not, as far as I was able to ascertain, subscribe to the *Lichenologist*.

As Assistant Treasurer, and with the protection of the interests of the Ordinary membership in mind, I made what seemed to me the not unreasonable assumption that among these 148 members there might be at least one or two who were subscribing to the Society at the individual rate of £20.00 on behalf of an institution whose subscription rate to the *Lichenologist* should be £125.00 resulting in a loss in financial terms to the Society which would be born indirectly by the Ordinary membership.

I invited such members to arrange for their Institution to subscribe directly to the journal instead of, or in addition to, their individual membership. To those of you who understood from my letter that I was directly implying personal dishonesty I most sincerely apologise. This was not my intention.

I received many lengthy, interesting and some amusing replies. You may take comfort that you are not alone with your problems at your institution. Common themes in your letters were that the writer was the only one in the Institution with any interest in lichenology, that currently there were severe financial pressures on institutional library budgets, that there was no budget for lichenological research and that this was funded by the BLS member personally, that the institutional address is more permanent for those who have moved house and from which there is more likelihood that mail will be forwarded.

More individual replies showed, for example, that the writer's conscience is clear - "cross my heart!", that the journal has to be cleared personally at the customs office if addressed to a private home, that the letter box is rather small and the journal either gets mangled or left out in the rain, that if *The Lichenologist* is addressed to home it is either damaged by the dog or thrown into the coal bunker by the postman, that the writer has spies at Black Dog and Puddington who will visit me sometime! (I didn't understand this reference!)

But thank you all for writing. If the exercise has produced at least one new institutional subscriber then I hope that it has been worthwhile.

Jeremy Gray

## LETTERS FROM OVERSEAS CORRESPONDENTS

### Indian lichenology in 1993

Further to my previous article (*Bulletin* 71 [1993]) I am now reporting the lichenological events in India in 1993.

*Transfer of Dr Awasthi's herbarium and Lucknow University's Botany Department Lichen Herbarium to National Botanical Research Institute (LWG)*

Lichenologists will be interested to know that the entire lichen collection of the Botany Department, at Lucknow University (LWU) and the personal collection of Dr D D Awasthi (Herb. Awasthi) have been transferred to the National Botanical Research Institute (NBRI), Lucknow (LWG), on a permanent basis. Lichenologists wishing to obtain specimens on loan should now send requests to the Director of the National Botanical Research Institute, Lucknow. The collections should, however, continue to be cited as before (i.e. LWU & Herb Awasthi) with a note to the effect that they are now housed at NBRI, Lucknow. Lichenologists who have specimens on loan from LWU and Herb. Awasthi should return the specimens to The Director NBRI, Lucknow.

#### *Lichens of Indian monuments*

The Indian civilization is one of the oldest in the world, and therefore, the country is rich in monuments. They belong to different periods and bear the stamp of different cultures to which they belong. Since their inception they have constantly been invaded by vegetative propagules resulting in establishment of different plant communities including lichens (Fig. 1). With the passage of time they cause gradual but progressive deterioration of these structures. Dr Ajay Singh and his group (Mr Shantanu Chatterji & Manoj Rastogi at the National Research Laboratory for Conservation of Cultural Property (NRLC)) have begun scientific research into conservation of monuments with special reference to damage by lichens. The project which commenced in November 1989 is funded for four years by DST (New Delhi) and is the first research of its kind in India.

Given India's vast land area and diverse climatic conditions, and the wide variety of material used in monument construction, it was not possible to encompass the whole of the nation within the short duration of the study. Therefore only two states, Karnataka and Orissa, both rich in cultural heritage, have been chosen for this study. Only foliose and fruticose lichens were collected as they could be removed without causing any damage to the monuments.

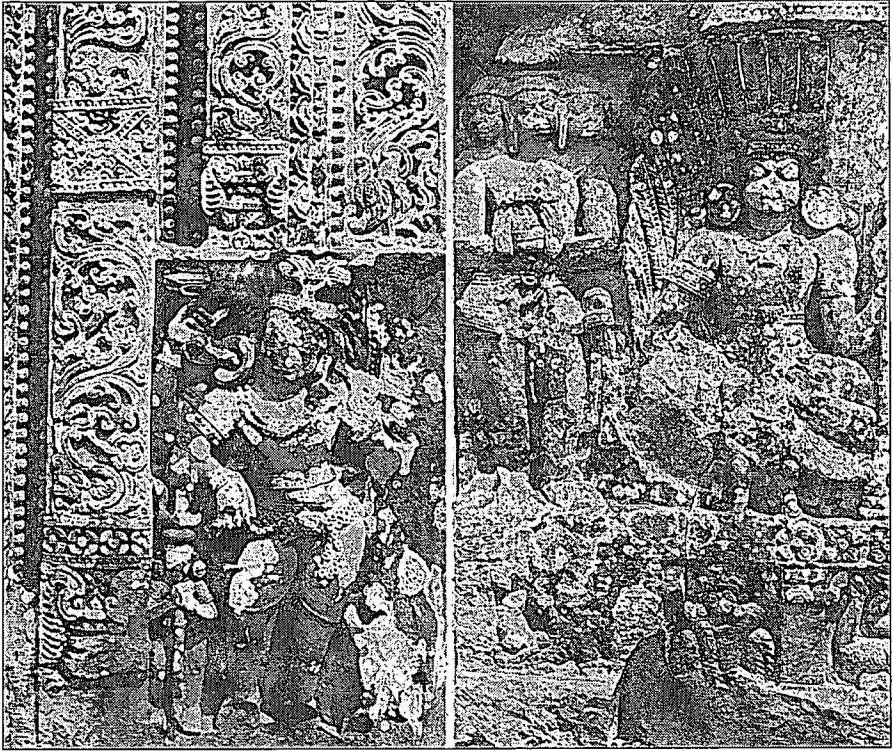


Fig.1. Lichens on Indian monuments

The preliminary investigations on monuments in both states have shown different patterns of lichen distribution on their surface. These result primarily from variation in microclimatic conditions associated with light gradients over buildings. Being nearer the ground, the basal parts of monuments are damper and more shaded compared to the higher, more exposed parts. The lichen flora of the lower surfaces is dominated by crustose forms (e.g. *Chrysothrix*, *Caloplaca*), taxa of *Lecanoraceae* and a considerable number of unidentified sterile lichens and scattered patches of foliose forms (principally of the *Physciaceae*). At higher levels foliose forms belonging to the *Physciaceae* and a few other genera are common as well as species of *Caloplaca*, *Buellia*, and *Diploschistes*. Anatomical investigations revealed heavy deposits of oxalate crystals in the thalli of some crustose lichens and detached layers of the substratum were present in squamulose lichens. Variation in the material used for their construction also seems to be a factor in this regard. The composition of the lichen flora of monuments varies between the two states to some extent mainly because of difference in climate and construction material.

A number of inexpensive and readily available fungicides and herbicides used for agricultural purposes are being tested for their efficacy as lichen eradicators and inertness for different stone types.

D K Upreti

### Czech Lichenology in 1993

The year 1993 was the first year of the new Czech Republic; therefore it was inevitable that there would be some organizational changes. The former Section for Bryology and Lichenology of the Czechoslovak Botanical Society now forms a part of its successor, the Czech Botanical Society (resuming its original name from 1912 when it was established). All our Slovak colleagues are members of the Section (54 members in total); other colleagues from abroad (mainly contact persons in bryological/lichenological societies) are associated members. A new executive council was elected for the next 5 years: J Liška (chairperson), A Lackovičová, J Váňa (vice-chairpersons), and Z Soldán (secretary).

The bibliographical series of Czech and Slovak lichenologists still continues to be published in the newsletter *Bryonora*. Last year two issues of the newsletter were published. Number 11 contained a list of lichenological and bryological theses, notes on the chemistry and distribution of *Porpodia albocaulerulescens* in Europe (J. -G. Knoph & K. Schrüfer) and a key for the identification of lichens with yellow thalli (J. Liška). Number 12 contained a list of grants awarded for lichenological/bryological projects in the Czech and Slovak Republics. Among other short articles were the following reviews: the role of lichen products (J. Gabriel), the ecology of *Athelia arachnoidea* (J. Liška) and the possibility that lichens occur on Mars (J. Liška). Portraits of Central European (BLAM) and Swiss (SVBL) societies were also published.

Several excursions for students and amateurs and also short courses on cryptogams for students of the South Bohemian University (near Třeboň, 3-4 April) and lichens (České Budějovice, 27-28 April) were organised last year (tutor: J. Liška). The floristic summer school (organised every year by the Czech Botanical Society) took place in Mělník, central Bohemia, on 8 & 9 July during which two cryptogamological excursions were undertaken in the Kokořín Nature Reserve (sandstone rocky area). The 6th Bryo-lichenological Days meeting (High Tatra Mts., 21-24 September) was organised by R. Šoltés together with Z. Kyselová. A total of 23 persons took part in this traditional field-meeting of the Section (also V Alstrup, J -G Knoph, K Schrüfer, L Lipnicki and P Scholz).

Czech lichenologists were also engaged in meetings abroad. An eight-day joint excursion with the British Lichen Society in Slovakia organised by A Lackovičová and I Pišút was particularly interesting and successful, (see *Bulletin* 73, 1-10). In July J Liska took part in a joint excursion of the Czech and Austrian Botanical Societies in the Danube valley organised by Prof H Niklfield. A Vězda participated in the BLAM excursion in Ötztaler Alpen, Austria.

The next of the Section's field meetings will be held in south Moravia on 13-15 May 1994 (in the valley of the river Dyje/Thaya - a bilateral National Park with Austria), and on 20-23 September 1994 in north Moravia (Jeseníky Mts). Colleagues interested in any of these meetings, please contact J Liška, Institute of Botany, CZ-252 43 Průhonice, Czech Republic.

Jiří Liška and Zdeněk Černohorský

## JOTTINGS ON THE SOCIAL LIFE AT LOCHINVER

9.4.93 - 16.4.93

[Participants: Trevor Duke, Neil Sanderson (Leaders), Richard Brinklow, Peggy Cayton, Frank Dobson, Ian Evans, Jeremy Gray, Ian Pennie, Annalie Burghause, Heinrich Walther, Peter Lambley, Vanessa Winchester, John Winham.]

I nearly gave up the whole idea of going when I heard that Oliver was struck down and unable to run the meeting. How could it be enjoyable without him there to provide the divine spark? However, deep reflection suggested that this was a situation where mettle was required. The lichen flag must be flown; the meet had to go on.

The leadership baton was passed to Trev' and Neil who took it over with verve and brio. They never stopped running, Trev' round the cliffs and coves (there are plentiful kinks in that coast needing inspection) and Neil over the mountain tops and through the bogs. Indeed it was a miracle that no one was blown over a cliff in a gale, lost down a pothole, or sucked under in a morass. I didn't even get very wet when I slipped in crossing the burn at Culmore and the weather was remarkably clement, although the temperature was not so warm that we could display our bikinis (as advertised by Oliver in the pre-meet blurb).

The Culag Hotel turned out to be a most easy-going centre for our activities. From the start, the management's catholic taste in art gave us a clear signal that the establishment was of a liberal disposition. (If one can hang up a painting of a naked lady emerging from a banana then, clearly, a few wild and woolly lichenologists trailing lichens and wet boots into the ballroom were not going to present any aesthetic or management problems).

The Culag Wayfarers Bar was also a splendid place to 'chew the lichenological fat' of an evening with the added international spice of sharing the bar stools with French fishermen. I was a little disappointed that they did not create some international incident to show solidarity with their striking Guernsey confreres . . . obviously they were all too happy sinking their pints of "Heavy" and "Murphys" - as were we. (And whisky, it should be noted, is not really a good substitute for K when preparing a slide).

It is always great to see old friends again at meets. It is 9 years since I originally met Ian Pennie at Bettyhill. I remembered him with special affection, for it was he that rescued me after the Smoo Cave incident (so nearly a fatality that my knees still knock to think of it (see *Bulletin* 55 [1984])). Poor Ian, I could swear a look of horror crossed his face when he saw I was there, but he needn't have feared a repeat performance; I am older, maybe wiser, but certainly a little more cautious now and I think we "made it up" over the meet. That is one of the nice things about meeting the same people over the years. The BLS is almost like a family; shared interest and friendships console one for diminishing derring-do and spring-in-the-legs. However, on epic Day 5 the party that trekked 9 hours to Sandwood Bay and back certainly showed no lack of springiness, what with all the ups and downs between peat hummock and bog and the roaring river crossing . . . Trevor nurtured his team on his last Mars Bar to get them home and John did his bit by finding Trev's hand lens (lost for the second time that day).

Annalie was one of the valiant Sandwood Bay party, she had also been at the Bettyhill meet. With her from Germany came Heinrich (who obviously got the lichen bug last summer in Northern Ireland) and his brother-in-law Claus. These two didn't say very much but I had a feeling that their skills in English were much greater than they let on - and they both have lovely smiles.

Two new friends, for me at least, were Ian Evans and his extremely kind wife. As the wind howled outside, they not only gave us a most welcome tea in their home in the little village of Nedd, but also gave Frank and me some

gorgeous *Pleione* windowsill orchids to take home; I hope these will thrive in southern air. Unusual for a lichen meet, we only managed to get in two other teas - some comforts are naturally rather thin on the ground in the wilds of north west Scotland. Tea number two was at the Elphin Tea Shop where Neil gave himself a well deserved slice of "venison" pie. The venison, so the canny proprietor claimed, was shot by himself. It smelt so delicious that Jeremy, Frank and I asked if we could take chunks home to propitiate our nearest-and-dearests. I was deputised to wheedle a deal out of the tea shop owner's wife who, curiously, didn't seem to want to part with her pies. However, after much unaccountable giggling she was persuaded - at a most reasonable price. I decided afterwards that, although the pie was delicious, the giggles and the price related to the pie's contents which probably had more than a nodding relationship with a tin of beef stew. Despite this, my chunk had largely diminished by the time I got it home.

While Neil, Richard, and Peter were rushing up and down the Durness limestones, the less hardy of us nestled in the glen bottoms where, beside dashing brown burns and silver lochs, there were entrancing fairy woods with mossy boulders tumbled amongst ancient birch, oak, ash, and hazel. There was a race to find *Menegazzia* - really won by Neil at Culmore - but the species was found with a smile on its face in the woods near Nedd along with *Parmelia sinuosa* found by Frank who was always sure that each place he went to was more beautiful than the last.

I must admit that, initially, I had a confused idea that the town of Lochinver might in some way be connected to the brave "young Lochinvar" who, in the nick of time, came riding out of the west to sweep his lady away from her dastardly bridegroom. I looked out for him, but alas I must report that the only sweeping done was by the wind. Nevertheless, despite that disappointment, the meet was of vintage quality.

During our final dinner together, I commented to Peggy that us ladies were heavily outnumbered by the men and she said "and a good thing too" ... No feminist nonsense about Peggy ...

Vanessa Winchester DLS  
(Dilettante lichen seeker)

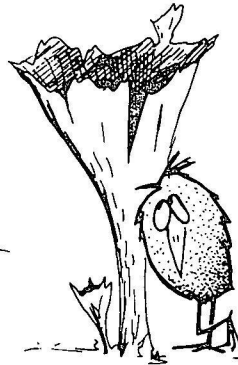
*Lichens and other animals . . .*



*Lichens can be your food . . .*



*. . . a place where you can escape  
from everyday trouble . . .*



*. . . you can even lichen them.*



*Wherever you are, they are.*



## ARTIC-ALPINE LICHENS IN NORTH WALES

Last September I visited North Wales to examine a high-level sheep enclosure for signs of lichen regeneration. Unfortunately the enclosure was not doing its job very well and sheep were still able to graze the supposedly protected vegetation.

I was not expecting the lichen flora to produce any great surprises as Allan Pentecost's 'Lichen Flora of Gwynedd' (*Lichenologist* 19(2) [1987]) appeared to have covered the area very well. However, *Stereocaulon condensatum* (a new vice-county record) was present within the enclosure and pebbles in the surrounding montane heath supported a good population of an undescribed, crustose *Stereocaulon* sp. previously recorded only from the Scottish Highlands. Encouraged by this I decided to return to my car via one of the northern cwms as experience in Scotland has shown that this is the most likely location for rare montane lichens.

Almost immediately I found *Protothelenella sphinoctrinoidella* overgrowing bryophytes and abundant *Coccotrema citrinescens* covering the sides of damp rocks; both new to Wales. There then followed a brief lull in the excitement as I followed some acidic crags along the hill-side but *Leproloma cacuminum* and *Porpidia contraaponenda* kept the interest going. Then on one crag I found *Porpidia speirea* and *P. superba*, both indicating the presence of more basic rock and then, all of a sudden, I was into a seam of strong basic rock with the montane calcicoles coming thick and fast. *Catapyrenium cinereum*, *C. lachneum* s. str., *Collema glebulentum*, *Lecidea hypnorum* s. str., *Pannaria pezizoides*, *Peltigera leucophlebia* and *Polyblastia theleodes* were recorded along with other uncommon species like *Massalongia carnosa*, *Stereocaulon leucophaeopsis*, *Toninia thiopsora* and *Trapelia mooreana* - and these were just what I was identifying in the field! I also had two bryophilous pyrenocarps provisionally identified as *Strigula stigmatella* var. *alpestris* and *Thelopsis melathelia* and a *Placynthium* that certainly didn't look like *P. nigrum*!

An outcrop of, what appeared to be, sugar limestone yielded two more excellent records; *Polyblastia efflorescens* and *Toninia 'fusispora'* (morphologically, anatomically and ecologically distinct from *T. aromatica*) but by now the clouds were descending and I was forced to retreat to lower ground. However, I still found time to gather a small specimen of an abundant *Dermatocarpon* sp. from rocks beside a lake as I headed into the mist.

Back home the *Strigula* and the *Thelopsis* were confirmed, the *Placynthium* determined as *P. pluriseptatum*, and *Chromatochlamys muscorum* var. *octospora* and *Epigloea medioincrassata* added to an already impressive list. Most tantalizing, however, was the *Dermatocarpon* as it appeared to be *D. arnoldianum* but the specimen I had so hurriedly gathered was too poor to permit a definite determination.

The final outcome was that in approximately half an hour I had added nine taxa to the Welsh list and, more importantly, significantly extended the range of a number of arctic-alpine lichens. *Placynthium pluriseptatum*, *Protothelenella sphinctrinoidella*, *Strigula stigmatella* var. *alpestris*, *Toninia fusispora*, *Thelopsis melathelia* and the undescribed *Stereocaulon* sp. were previously known in the British Isles only from Scotland.

Plans are already underway for a return visit!

Alan Fryday

## LICHEN HUNTING IN WOMBLE\* COUNTRY

It was a cold and overcast day when a group of lichenologists assembled at the windmill on Wimbledon Common on 9 January 1994. This was for the BLS field meeting on the Sunday after the AGM. It gave a chance for a bracing morning in the open air after the indoor meetings held on the day before. We were very pleased to be joined by a group from The London Wildlife Trust who are setting up a committee to help improve the level of conservation for the Common.

The party first looked at one of the areas of acid heathland that remain on the plateau gravels. These gravels used to be largely treeless but now have extensive scrub and many trees reducing the size of this area of heathland. At first sight little was to be found even in the more open patches amongst the heather. Closer inspection produced some of the commoner *Cladonias* and later *Coelocaulon aculeatum*. The concrete posts by the car park added seven species to the list. We had to look carefully where we were treading, but at least the dogs have probably helped *Candelariella aurella* to become

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\*For our overseas members - The wombles are small, furry animals who are supposed to keep Wimbledon Common clean and tidy. They were invented by Elizabeth Beresford and appear in her children's books.

established on these posts. A rubber dustbin lid gave *Candelariella vitellina* and a copper plate on a memorial was spotted at a distance by the churchyard group who were pleased to find their favourite species *Psilolechia leprosa* on the copper run-off. The only visible patch of bare wood on a painted post proved to have *Micarea denigrata* and other parts of a wooden fence added *Lecanora conizaeoides*, *Mycoblastus sterilis* and *Trapeliopsis flexuosa*. Possibly the most interesting finds of the day were made by Peter Scholz on a row of wooden benches. These had growing on them *Thelocarpon laureri* and a yellowish *Cyphelium*. Avoiding the beady eyes of the wombles, small pieces of the bench were cut off and later inspection revealed the submuriform spores of that species found in eastern Britain, *C. notarisi*.

The oaks growing on the loamy Claygate beds provided a number of foliose species common in semi-polluted areas such as *Hypogymnia physodes*, *Parmelia subaurifera* and *P. sulcata*. *Evernia prunastri* and *Ramalina farinacea* were also found together with small specimens of *Usnea subfloridana* about 3mm high. A willow growing by the stream in Glen Albyn added *P. revoluta* and moving on out of the glen back to the plateau gravels a horizontal branch of an old oak was found to have the best epiphytic lichen flora that we located on the common. Ten species were found on this branch including *Parmelia caperata* and a specimen of *Usnea subfloridana* about 1 cm high. It is fairly rare, but getting more common, to find in SW London or N Surrey an *Usnea* as large as this as they usually only get to about 5mm high before disappearing, presumably killed off by the pollution.

This short visit to a very small area of Wimbledon Common gave a list of 35 species and there are, without doubt, many other species present on the common.

The group then moved on to St Mary's Church, Wimbledon. The lichen flora of this church had previously been recorded by the Merton Scientific Society on 22 April 1978. On that occasion Jack Laundon produced a list of 19 species. The group started work but shortly after our arrival a cold wind started to blow and this was accompanied by a slight drizzle. This was enough to dampen the enthusiasm of the majority of the party who then sought the warmth of the nearby pub. The churchyard group as usual proved to be the most dedicated and they were left to continue with the recording. Service at the pub was slow but the meals, when they finally arrived, were very substantial and to compensate for the slow service we were provided with free coffee. When we returned to the churchyard we found that those members who had continued with the search had produced a good list for the suburban London churchyard. These species included

*Sarcopyrenia gibba* on several limestone memorials, the expanding and increasing *Parmelia mougeotii* on a granite one, three species of *Cladonia* (*C. chlorophaea*, *C. fimbriata* and *C. pyxidata*) on a brick wall and a single thallus of *Stereocaulon vesuvianum* on a low sandstone slab.

Possibly of more interest was the failure to find a number of expected species such as *Diploicia canescens*, *Caloplaca teicholyta* or the more usual urban species of *Stereocaulon*. Keith Palmer's and Tom Chester's list recorded 52 species for the churchyard and included all the species on the 1978 list except, interestingly, for *Physcia adscendens*. Brian Coppins has recently confirmed that a specimen found on a tombstone is *Sarcogyne privigna*. This is the first record for this species from an English lowland churchyard.

The weather did not improve and the group slowly broke up as people, in the gloom of a winter evening, returned home, leaving the churchyard once again to be the feeding ground of wild rabbits.

Lichens recorded at Wimbledon Common on 9 January 1994.

On acid heathland to east of windmill

<i>Cladonia coccifera</i>	<i>C. furcata</i>	<i>Coelocaulon aculeatum</i>
<i>C. fimbriata</i>	* <i>C. subulata</i>	* <i>Peltigera rufescens</i>

On Oaks

<i>Cladonia coniocraea</i>	<i>P. subaurifera</i>	<i>Physcia adscendens</i>
<i>Evernia prunastri</i>	<i>P. subrudecta</i>	<i>Ramalina farinacea</i>
<i>Lepraria incana</i>	<i>P. sulcata</i>	<i>Usnea subfloridana</i>
<i>Hypogymnia physodes</i>	<i>P. tenella</i>	<i>Xanthoria polycarpa</i>
<i>Parmelia caperata</i>		

On concrete posts

<i>Caloplaca citrina</i>	<i>L. muralis</i>	<i>Rinodina gennarii</i>
<i>Candelariella aurella</i>	<i>Phaeophyscia orbicularis</i>	<i>Xanthoria parietina</i>
<i>Lecanora dispersa</i>		

On wooden fences and benches

<i>Cyphium notarisii</i>	<i>Mycoblastus sterilis</i>	<i>Trapeliopsis flexuosa</i>
<i>Lecanora conizaeoides</i>	<i>Placynthiella icmalea</i>	<i>Xanthoria candelaria</i>
<i>Micarea denigrata</i>	<i>Thelocarpon laureri</i>	

On other substrates

<i>Candelariella vitellina</i> (rubber dustbin lid)		
<i>Parmelia revoluta</i> (sallow)	<i>Psilolechia leprosa</i> (copper run-off to memorial)	

St Mary's Churchyard

<i>Aspicilia calcarea</i>	<i>Lecania erysibe</i>	<i>Rinodina gennarii</i>
<i>A. contorta</i>	<i>L. erysibe f. soledata</i>	<i>Sarcogyne privigna</i>
<i>Bacidia sabuletorum</i>	<i>Lecanora albescens</i>	<i>S. regularis</i>
<i>Buellia punctata</i>	<i>L. campestris</i>	<i>Sarcopyrenia gibba</i>
<i>Caloplaca citrina</i>	<i>L. conizaeoides</i>	<i>Scoliciosporum umbrinum</i>
<i>C. decipiens</i>	<i>L. dispersa</i>	<i>Stereocaulon vesuvianum</i>
<i>C. flavescens</i>	<i>L. muralis</i>	<i>Toninia aromatica</i>
<i>C. holocarpa</i>	<i>L. polytropa</i>	<i>Trapelia coarctata</i>
<i>Candelariella aurella</i>	<i>Lecidea fuscoatra</i>	<i>T. involuta</i>
<i>C. medians</i>	<i>Lecidella scabra</i>	<i>Trapeliopsis granulosa</i>
<i>C. vitellina</i>	<i>L. stigmata</i>	<i>Verrucaria baldensis</i>
<i>Catillaria chalybeia</i>	<i>Leproloma vouauxii</i>	<i>V. hochstetteri</i>
<i>C. lenticularis</i>	<i>Micarea denigrata</i>	<i>V. muralis</i>
<i>Cladonia chlorophaea</i>	<i>Parmelia mougeotii</i>	<i>V. nigrescens</i>
<i>C. fimbriata</i>	<i>Phaeophyscia orbicularis</i>	<i>V. viridula</i>
<i>C. pyxidata</i>	* <i>Physcia adscendens</i>	<i>V. macrostoma f. furfuracea</i>
<i>Collema crispum</i>	<i>P. caesia</i>	<i>Xanthoria parietina</i>
<i>C. tenax</i>	<i>Protoblastenia rupestris</i>	
<i>Hypogymnia physodes</i>	<i>Psilolechia lucida</i>	

\* Recorded in 1992 but not seen in 1994.

Frank Dobson

## LICHEN FLORA OF KENT IN PREPARATION

Keith Palmer and I are writing a lichen flora of Kent to cover both vice-counties. We would be grateful for any records for this area. Please include dates, grid references, and if possible substrate and any comments of interest, and send to Keith at:

62 Judd Road, Tonbridge, Kent TN9 2NJ

The flora will be in atlas format and will be published as a volume of *The Transactions of the Kent Field Club*. All records will be gratefully acknowledged.

David Newman

## A NOTE ON *ANISOMERIDIUM NYSSAEGENUM* IN EAST ANGLIA

*Anisomeridium nyssaegenum* (Ellis & Everh.) R. Harris is an inconspicuous species, but diligent searching in East Anglia usually turns it up. In Suffolk, it often grows as small grey patches on elm hedges where few (or no) other lichens are present. Here it invariably only has its beautiful macropycnidia with long necks and conidia in "packets" - which are sometimes visible to the naked eye as a thin white thread oozing out of the neck of the macropycnidium. It also frequently grows on elder trunks, again often with few other species. Rarely in East Anglia, I have found it fertile on elder (GR62/4468, Westleton Common, Westleton, Suffolk, VC 25). It can tolerate deep shade and I frequently find it on boles and roots of trees in ditches. It is widespread in East Anglia and probably more common than records would suggest.

However, what is of particular interest (to me!) is that it turns up not only as a corticolous species, but also on other odd substrates. In Thundersley, South Essex, VC18 (GR51/7888) I recently found it on a large old bone on the ground in damp wood. Alan Orange informs me that it is common on pebbles and bones. In an old cemetery at Harrow Weald, London (GR51/1591) I found it on roots of a tree and also growing very well on soil! (see *Bulletin* 71 p19).

While working on the Roman wall in Colchester, Essex recently, I found it growing with abundant perithecia on moss on the shaded north side of an asbestos - cement hut in a disused nursery, next to the Roman wall (GR52/9925, VC 19). Here it was growing with *Agonimia tristicula* and *Bacidia sabuletorum*. Nearby (GR62/0025) it was sparingly present (macropycnidia only) on moss over mortar and calcareous septarian nodules on the north side of the Roman wall, growing with similar calcicolous/muscicolous species. It is also present on siliceous Roman tile on the fallen arch at Duncan's gate in the wall. Here again, only macropycnidia are present on the thallus. It is growing with *Bacidia arnoldiana* agg. (pycnidia only), *Lecania inundata*, *Lecidella scabra*, *Trapelia placodioides* and *Porina chlorotica*. This species is, however, not present on trees anywhere in the immediate vicinity.

At Marlesford in East Suffolk (GR62/3258, VC 25) I found this species a few years ago growing on the base of the church wall, under some steps. Here it was growing on moss over oolitic limestone, and only macropycnidia were seen. It was growing with *Lepraria lesdainii*. Again, I could not find it on

any trees in the immediate vicinity.

If you thought that there were no lichenicolous fungi which grow on *A. nyssaegenum* - you were wrong! On the shaded bole of an old dead elm in Debenham, Suffolk (GR 62/1963, VC. 25) I collected a seemingly normal specimen of this species, only to find when looking under the microscope that the thallus had *Psammia stipitata* on it! This beautiful lichenicolous hyphomycete has large cartwheel-like conidia and was originally described by David Hawksworth growing on *Schismatomma decolorans* from Dorset. I found it in Suffolk on *Lepraria lobificans* and Peggy Cayton found it in the Isle of Man on the same host. As far as I know, these are the only four known records.

In East Anglia it pays to grovel in ditches, since the lichens once clothing the trunks of the trees have 'migrated' to this ecological niche with its more amenable microclimate. I know I have a yen for looking at silly substrates in places where other people may not look - but it can pay real dividends.

Peter Earland-Bennett

### **COLLEMA / LEPTOGIUM WORKSHOP - ORIELTON, PEMBROKESHIRE (1993)**

Sixteen of the Society's members, including 3 visitors from Germany, were welcomed to the field studies centre at Orielson with a warming glass of sherry. The excellent hospitality of Robin and Ann Crump, the wardens, continued through the meeting. The meals were superb.

The workshop started on Saturday morning with Peter James describing the intimate differences between the species of *Leptogium* (including two new to the British flora). After some discussion and a lot of furious note-taking participants set out confident in their knowledge, until they saw their first specimens in the field at Bosherton Church (11/9694) and Stackpole (11/9794). Sunday's tuition was in *Collema* (no new species) and was backed up by a field trip to West Angle Bay (12/8503) and Angle Church (12/8602). The workshop was extended by two further days in the field, on the cliffs and shore at Manorbier (11/0697), Wooltack Point (12/7509) and Monks Haven (12/8206).

The *Collema* and *Leptogium* species observed in the field included *Collema auriforme*, *C. crispum*, *C. cristatum*, *C. furfuraceum*, *C. fuscovirens*, *C. polycarpon*, *C. tenax*, *C. tenax* var. *ceranoides*, *Leptogium gelatinosum*, *L. teretiusculum*. Particularly good to see was the wide spread of *Collema furfuraceum* on the Quoit stone at Manorbier.

A number of interesting species and communities were observed whilst studying the 'blue-greens'. Several areas at Stackpole are rich in *Fulgensia fulgens* and *Squamarina cartilaginea* along with the rather scarcer red-fruited *Bacidia herbarum*. A shingle slope on the dunes included abundant colonies of pinky *Psora decipiens*, and *Psora lurida* was seen on the limestone rocks.

The special find of this site was a large fruiting colony of *Peltigera neckeri*, along with *P. didactyla*, *P. lactucifolia*, and *P. canina* (*sensu stricto*). *Peltigera neckeri* was also found fairly widely at the Gower meeting and I am sure that it is a much overlooked species, especially when it is not fruiting.

Angle Bay yielded the tiny and unusual blue-green *Porocyphus coccodes*. The shore yielded the usual species, with six *Verrucaria* species, including *V. halizoa*, *V. striatula* and *V. amphibia*. Typical coastal limestone communities were observed with a somewhat western record of *Caloplaca teicholyta*. The otherwise rather ordinary nature of these communities was made up for by the rich churchyard (see below).

The shore at Manorbier was much the same as at Angle, but with a much more rewarding grey-zone. The sun-baked cliff top soils yielded *Trapeliopsis wallrothii* and the easily overlooked *Catapyrenium cinereum*. *Parmelia delisei*, *P. pulla* and *P. loxodes* were all abundant. A rare and as yet undescribed *Lecanora*, previously known from the Scilly Isles, was also found. It was observed that *Teloschistes flavicans* appears to have diminished over the last 12 years. *Opegrapha multipuncta*, normally seen on basic bark, was found on soil detritus. *Solenopsora holophaea* and *S. vulturienis* were both in fruit. *Diploschistes caesioplumbeus* was occasional on the hot sunny rocks, with its distinctive tiny sunken fruits. *Caloplaca ceracea* was unusually common.

On a coastal rock at Martin's Haven (Wooltack Point) Peter Scholtz found an as yet undescribed *Rhizocarpon*, parasitic on *Caloplaca verruculifera*, otherwise known from the Cornish coast. The acidic rocks of Wooltack Point and of Monks Haven made a pleasant change from the limestones, yielding good coastal communities and excellent sites for *Roccella phycopsis* and *R. fuciformis*.



Peter James' excellent tuition, both in the laboratory and in the field, lived up to expectation. The meeting also proved a pleasant break with a good social atmosphere, greatly assisted by Robin and Ann's hospitality. Amusing incidents included Peggy Cayton waking up at night to see the stars above (fluorescent paper ones that had been stuck to the ceiling!). There was the usual time spent working out "*Verrucaria duluxii*" in one churchyard, along with "*Belonia ronsealii*" (which had dripped onto stonework from a recently treated timber). The evenings included relief at the local hostelry and slide shows of the Slovakia and Lochinver meetings. Whilst discussing the virtues of English 'Real Ale' with Peter Scholtz the publican reminded me that we were actually drinking Welsh Real Ale. Perhaps the most amazing part of the meeting was the way we survived the onslaught of 60 children, no doubt thanks to the expert organisation of our hosts.

All participants would wish to thank Robin and Ann Crump and Peter James for such a useful and enjoyable meeting.

### Pembrokeshire Churchyards

During the meeting, four churchyards were visited - Angle, Bosherton, Manorbier and St Ishmael's - all close to the sea and constructed of an interesting mix of Carboniferous Limestone and Old Red Sandstone. The impressive towers of the first two, exposed to the elements on St Govan's Head, were embellished with white crusts of *Aspicilia calcarea*. Altogether 146 taxa were recorded, of which 124 were saxicolous, 32 corticolous and 12 lignicolous. For those of us who spend most of our time in more inland and lowland sites to the east, the most obvious differences were the relative richness of the lichens on the trees and the relative variety of the species on the north-facing walls of the churches. In regard to the latter, only the comparatively sheltered St Ishmael's, tucked in a valley and surrounded by trees, had any *Dirina* on its plaster-covered walls. However, at all of them, *Opegraphachevallieri* (the chalk-white ecotype of *O. saxatilis*) was abundant, and *O. conferta*, *O. gyrocarpa*, *O. calcarea*, *Porina linearis*, and *Pyrenocollema saxicola* (Bosherton) were also recorded from this niche.

It was somewhat surprising that such familiar lowland species as *Aspicilia contorta*, *Caloplaca teicholyta*, *Diploschistes scruposus*, *Haematomma ochroleucum* var. *porphyrium*, *Lecanora muralis*, *Xanthoria calcicola* and *X. candelaria* went totally unrecorded, and *Acarospora fuscata*, *Lecania erysibe*, *Physcia caesia* and *Psilolechia lucida* were discovered only once. Conversely, two maritime, mainly western species, *Rhizocarpon richardii* and *Verrucaria fusconigrescens*, absent from the lowland saxicolous list,

were found on gravestones in at least two of the churchyards.

In a comparatively short time, the many pairs of eyes present took the Angle total to 112. The trees added a dozen or more species to the list, including *Arthonia impolita* on *Quercus ilex* and *Bacidia naegelii* on *Ulmus*. It was pleasing to find the still relatively unfamiliar *Lecania rabenhorstii* on mortar, as well as further examples of saxicolous *Bacidia rubella* and *Hyperphyscia adglutinata* on an outbuilding. Another generally coastal species, *Caloplaca ceracea*, was discovered at the east end of the church. Prior to the meeting, this lichen was found at St Briavel's, in the Forest of Dean and, in view of its near resemblance to the relatively common *C. crenularia*, it is possible that it is being overlooked. The only previous churchyard record was at Godshill on the Isle of Wight.

Eighty species were recorded at Bosherton. One book-shaped headstone covered with an attractive mixture of *Physcia adscendens* and *Xanthoria parietina* reminded us how much we needed a field guide to common churchyard species! Together with nine species recorded at a previous Orierton field course, the Manorbier total was 87. *Parmelia pastillifera*, *Physcia caesia*, *P. tenella*, *Ramalina farinacea*, *R. fastigiata*, *Rinodina gennarii* and *Xanthoria parietina* were found at the base of a single granite cross, *Ochrolechia parella* and *Parmelia laciniatula* on *Acer campestre* and twelve species on wooden crosses, including *Physcia aipolia* and more *Ramalina fastigiata*.

St Ishmael's churchyard, like Hope in Shropshire, has the unusual distinction of having a stream running through it. Despite the shade, a total of 61 species was reached. Before we were driven away by the midges, 14 species were recorded on the trees overhanging the water, the most noteworthy being *Usnea cornuta*, *U. flammea* on *Rhododendron* and the non-lichenised *Stenocybe pullatula* on *Alnus*.

Trevor Duke and Tom Chester

## AN ECOLOGICAL SURVEY OF THE LICHENS *CATILLARIA LAURERI* AND *PARMELIA MINARUM* IN THE NEW FOREST

The recent addition of two New Forest epiphytic lichens, *Catillaria laureri* and *Parmelia minarum*, to Schedule 8 of the Wildlife and Countryside Act prompted the Hampshire Wildlife Trust to successfully seek funding from the Forestry Commission and English Nature to carry out a survey of these species in the New Forest. The survey aimed to establish the current status of the species, investigate their ecology and determine what, if anything, needs to be done to conserve them. Many of the conclusions are likely to apply generally to the exceptionally rich New Forest lichen flora.

All known sites for these species were examined and a record card was filled in for each tree supporting one of the rare species. Each record consisted of data on the tree (ie species, girth, form, etc), subjective estimates of the degree of exposure and illumination, a sketch of the colony, the extent of the colony, (estimated or measured), a sketch map of the location and general notes on the habitat. For most trees a relevé was taken based on the schedule 8 species. Photographs of the tree and close-ups of some thalli were also taken. The results are summarized briefly below.

*Catillaria laureri* was found on 21 trees in three woods; two of the woods were new sites, but it could not be refound in two old sites. This species is strictly confined to beeches with past damage or pollarding, where it occurs in or near raintracks produced in burrs, knot holes, on forks in *Pyrenuletum nitidae* communities and transitions to the *Lobarion*. It was not refound on oak. Most trees supporting this species are sheltered and well lit in glades or areas with broken canopies. The levels of shade produced by holly are very unfavourable to its survival. *C. laureri* is limited by the number and density of well-lit, burry and knotted beeches with base-rich bark. Conservation measures are needed, especially the pollarding and coppicing of holly for winter fodder to allow in light, and the cutting of new beech pollards to produce new habitats in the future.

*Parmelia minarum* was found on 48 trees in nine woods: again two of the woods were new sites, but it was not refound in two old sites. The first ever record of a fertile thallus was made during this survey. This species was confined to shedding sites on probably very acid beeches in an undescribed community characterised by *Schimatomma quercicola*, *Loxospora elatina*, *Mycoblastus caesius*, *Ochrolechia inversa*, *Usnea cornuta*, and *Cladonia coniocraea* with abundant *Hypnum mammillatum*, *Thelotrema lepadinum* and *Parmelia caperata*. It grows best in well-lit sheltered sites usually on

the edge of glades, but tolerates moderate shade if holly is absent. Again the shade of holly eliminates it.

*P. minarum* appears to have a very demanding requirement for both well-lit and sheltered beeches. This is far more limiting than the bark conditions. Shaded versions of the acid bark community described above which lack *Parmelia* spp are extremely widespread on several tree species. The restriction to beech is odd. The similar species, *P. horrescens*, is much more catholic being found on oak, alder and holly. Holly cutting to open up surrounding beeches to colonization is a vital conservation measure.

In general the survival of these and many of the lichen species in the New Forest depends on maintaining the wood's open structure by continued grazing but at levels which do not prevent regeneration totally. More fallen brash needs to be left (in a safe condition given the presence of domestic stock) than at present to act as cover for patchy tree regeneration. Low or reduced air pollution is also essential.

Four sets of copies of the record cards and photographs were made and are held by The Forestry Commission, English Nature, Hampshire Wildlife Trust and the author. These can be consulted by *bona fide* researchers while a copy of the report on the survey will be deposited in the BLS library.

The great surprise of this survey was the re-discovery of *Enterographa elaborata*: this is the first English record for more than 100 years. It was found on an old hollow beech in raintracks where these run through communities dominated by the common *Enterographa crassa*.

*Postscript.* Searches of new areas of similar habitat since the survey was completed have produced 4 new trees with *Catillaria laureri*. This is very promising, indicating that the New Forest still supports a very viable population of this species.

Neil Sanderson

## A COUNTRY DIARY : WEST SUSSEX

For many years the lichen total of 150 for Mickleham Churchyard in Surrey, the result of rigorous survey work by Peter James and others, stood head and shoulders above any other in the country. In recent years thanks to the personal work of Tom Chester and his encouragement of others, totals for other churchyards have begun to challenge Mickleham's pre-eminent position and it will no doubt one day be overtaken. But to achieve very high totals, a site must be visited repeatedly and every possible corner and aspect checked.

Although I have been a member of teams which have reached the "ton" at certain rich churchyards on a single visit, it has long been a personal "cause celebre" to achieve a century on my own at one visit. Rarely having the opportunity to stay at a yard as long as I would like, when the chance did arise of three clear hours, I seized it at once by "doing" Ashurst, on a bright, mild April morning. Low-lying between the valley of the River Adur and the South Downs, along a secluded country lane, screened and sheltered by light woodland, and in the rich vice-county of West Sussex, Ashurst, I thought, should be good, and so it was, dripping with lichens.

Conditions for play were excellent, a morning destined to dispel the blues. The Spring birds in full song, the church in the most delightful setting possible, the yard looked after but not over-manicured. Walking out on to the field of play, I took guard for what I hoped would be a century-making innings at what appeared to be the only chest tomb in the place. I was quickly off the mark with basic calcareous species, *Verrucaria nigrescens*, *Caloplaca flavescens*, and the like. *Toninia aromatica* was found, two *Collema* species (or were they *Leptogium*s) were taken away for closer examination and, this worn-down, heavily abraded crust, could it be, could it have been, *Aspicilia subcircinata*? There is a small distributional "hot-spot" of this species in these parts: West Grinstead three miles due North has lots, Cowfold five miles away has it too. However for now, uncertain, I hope to see it later in better condition.

I now turned my attention to a row of well-covered sandstone headstones. Various *Parmelia* species followed as well as *Lecanora orosthea*, *Tephromela atra* and *Ochrolechia parvella*. A limestone headstone at the end of the row produced all four regular *Physcias*. More ticks; I was scoring freely now.

Then a Box tree was discovered. Many minutes were wasted, inspecting the leaves in the distant hope of *Fellhanera bouteillei* - unsuccessful and I gained

only *Lepraria incana* from the tree base. After that however the run-rate increased again as quick singles were taken with the discovery of fertile *Diploicia canescens*, *Lecidea fuscoatra* and saxicolous *Ramalina farinacea*. Among the newer stones was a number of granite crosses and kerbs. They can be fruitful territory and I quickly added *Physcia dubia*, *Hypogymnia physodes*, *Lecidella scabra*, *Acarospora fuscata*, *Candelariella vitellina* and *Lecanora polytropa*. Stooping lower, black marks on granite kerbs were checked until *Polysporina simplex* was eventually found. *Parmelia mougeotii*, however, normally an easy one on granite in this region, was proving very elusive here. Indeed, perversely the similar *Parmeliopsis* (you can forget, *Foraminella* now) *ambigua* appeared in small quantity on granite here instead. It was also nearby, more conventionally, on wood with various species of *Cladonia*.

A couple of trees in the corner of the churchyard proved useful adding *Opegrapha atra*, *Evernia prunastri* and *Parmelia subaurifera*, not many perhaps but there were others that had already been seen elsewhere. The total was now into the sixties.

Scattered areoles of *Acarospora smaragdula* were located by careful examination of an otherwise unlikely-looking acid headstone. *Xanthoria polycarpa* was on another headstone top and surely this bright crust with C+red soralia could only fit as *Pertusaria lactea*.

Lunch was now taken on a bench (*Trapeliopsis flexuosa*) by the boundary. By now most headstones, except for a group of limestones by the gate, had been done but the church wall had received no systematic examination yet, nor had the brick-topped flinty boundary wall.

Resuming my innings after lunch among the remaining limestone gravestones, copious fruits of *Sarcopyrenia gibba* were noted but I looked in vain for *Candelariella medians* which is scarcer in unpolluted regions. Turning to the church building itself, I expected some more quick scoring and so it was that *Belonia nidarosiensis*, *Leproplaca chrysodeta*, *Dirina massiliensis f. sorediata* and *Hypocenomyce scalaris* were soon ticked off. Ah, the lightning conductor - of course. Now will *Psilolechia leprosa* be there or not? It was - just, and the total hit the eighties.

Finally, with time running short, came the boundary wall where, at last, on the brick coping, a feeble *Parmelia mougeotii* was found. *Lecanora muralis* was there too, a somewhat unexpected discovery in such clean air. On the brick was the day's first *Buellia ocellata*, plus an array of *Trapelias*, *T.*

*coarctata*, *T. involuta* and *T. placodioides*. In the mortar between the flints was a mass of *Collema crispum*, plus *Sarcogyne regularis*, *Acrocordia salweyi* and *Verrucaria glaucina*.

Back to the the bench for the final totting-up. I had run out of time but feared the century had not been reached. Oh dear, it looks well short, only 93 ticks. But wait, I had *written* the names of two species which were not on my checklist, so 95. Very good but falling short of the aim. I was a little despondent and was beginning to wonder just where, relatively close to home, I could go to repeat the exercise. With downcast eyes I suddenly realised that I had not actually looked at the flagstones of the church path that I had crossed and recrossed many times already. Quickly down on hands and knees, *Aspicilia contorta* was added immediately and there was something, surely, trying so hard to be *Caloplaca isidiigera* - yes a couple of fruits confirms it, and what about this large crust - yes it was good *Aspicilia subcircinata*. I came through the churchyard gate into the pavilion with a score of 98 and with hopes that my two *Collema* gatherings would carry me to that maiden century.

Keith Palmer

### INTERNATIONAL ASSOCIATION FOR LICHENOLOGY: 1993-1996 SUBSCRIPTIONS

The IAL arranges meetings from time to time in various parts of the world, but obviously only a few people are going to be able to afford to get to them. However, the Association publishes a newsletter three times a year with items of lichenological interest, features on lichenologists, book reviews, and news of international meetings and members activities. As a sizable proportion of the active membership is British, a subscription to the IAL is well worthwhile and good value for money to all UK lichenologists. At £13.00 for four years (1993-1996 inclusive), with three newsletters a year - it is excellent value!

Anybody wishing to join, and members who haven't yet paid the 1993-1996 subscription, please send a cheque for £13.00, payable to "International Association for Lichenology" to Tim Moxham, Mayfair House, 21 Ashgrove, Peasedown St John, Bath, Avon, BA2 8EB.

Tim Moxham

## SCOTTISH CRYPTOGRAMIC CONSERVATION PROJECT

Legislative protection for a selection of rare cryptogams has now been obtained under Schedule 8 of the Wildlife and Countryside Act. Although this is a most welcomed development, details of the occurrences and ecological requirements for many of these species are either lacking, or scattered and uncollated. Without such information, the effective protection of these species and their habitats cannot proceed. Accordingly, the main aim of this joint project between Scottish Natural Heritage and the Royal Botanic Garden Edinburgh is to assemble detailed information on the status, location, and ecology of all the 34 species, occurring in Scotland, of bryophytes, lichens and charophytes listed under Schedule 8.

The project team comprises Brian Coppins, Sandy O'Dare and Alan Fryday (lichens), and David Long and Gordon Rothero (bryophytes), with Vin Fleming acting as Co-ordinator for SNH. Information is being gathered from the literature, unpublished reports, herbarium material, and BLS and BBS mapping data. This will be supplemented by field visits to most known sites in order to accurately locate and assess the state of current populations, any possible threats, and to make a photographic record in each case. The project also aims to raise the profile of cryptogam conservation in Scotland, and to encourage the involvement of conservation bodies, and individuals, in the recording and monitoring of rare cryptogams.

The lichens included in the project are: *Bryoria furcellata*, *Caloplaca luteoalba*, *C. nivalis*, *Catapyrenium psoromoides*, *Cladonia stricta*, *Collema dichotomum*, *Gyalecta ulmi*, *Nephroma arcticum*, *Pannaria ignobilis*, *Parmentaria chilensis*, *Peltigera lepidophora*, *Pertusaria bryontha*, *Pseudocyphellaria lacerata*, and *Psora rubiformis*. If anyone has personal observations on Scottish occurrences of any of these species, or knowledge of unpublished information, they are requested to contact us as the Royal Botanic Garden Edinburgh, Edinburgh, EH3 5LR [Tel. 031 552 7171].

Brian Coppins and Sandy O'Dare



## WHAT IS PLANTLIFE LINK?

Introductory reading: Conservation News no.5. (*BLS Bulletin* 69, [1991]), but DO NOT PASS TO THE NEXT ITEM YET ...

### It is ...

an advisory umbrella group coordinated by Plantlife (based at the Natural History Museum in London); it came into being in the Autumn of 1992 with the reorganisation of objectives of the Plantlife Conservation Committee. The Link's first Chairman is Carol Hatton, Planning Officer at WWF UK, and Plantlife provides its secretariat and arranges rooms for its meetings.

### Main functions

The Link's primary function is to bring together representatives of British botanical societies and other bodies with botanical conservation interests, through the provision of a forum for discussion and exchange of experiences and ideas. It does not seek to set objectives or to dictate any courses of action but rather expects that these will emerge when representatives discuss matters around the same table.

### Who attends its meetings?

Each botanical society (and other bodies such as RSPB and the National Trust who have strong botanical and environmental interests) sends a representative who can present their interests and concerns to the Link meeting. In addition, particularly valued input comes from the representatives of the statutory conservation bodies such as the country conservation agencies and JNCC (i.e. the re-organised NCC). Up to now I have represented BLS on Plantlife Link - my place is being taken by Tony Fletcher (as BLS Conservation Officer), and I will attend in a personal capacity (but with special lichenological interests being maintained ...).

### Benefits to BLS in participating with Plantlife?

There are many potential advantages to the Society in joining actively with Plantlife Link - I summarise my own views on a number of these below (others may develop additionally as the exercise gains strength and experience):

#### (a). *Site management*

Positive site management is one of the most important of all conservation activities - it is often quite inexpensive (and does not involve combat with issues such as global warming over which we have less control). This is practical, real conservation, and appeals most to those of us who understand

lichens growing in the field better perhaps than the legislative and administrative approach. It amazes me how little is actually known about the actual environmental needs of most species or plant associations - the test for this is "Can you set out on paper a management plan for a specified site, with a fair expectation that it will work in real life?". We usually know something of the general effects of grazing or shading or surface disturbance - but maybe not enough to incorporate directly into a management plan. Exactly how many sheep? How dense should the remaining trees be? How often and where should the soil surface be raked? Members of other societies can give advice based on experience in other situations and in other places.

*(b). Representation to committees and at inquiries*

Formal presentations to committees and public enquiries need skills which we do not all possess - our case has to be set out in an authoritative manner, but without 'blinding with science'. The balance may be delicate, as those we speak to almost certainly do not talk our specialist language. Not knowing what a 'litchen' is, they may well find it hard to see why they should be valued ... it is particularly important that environmental groups be seen to be 'telling the same story' (even if our precise wordings differ). Legal cross examination can be an ordeal for those unaccustomed to it, and guidance here from those who have been through the fire elsewhere may at times be to our advantage.

*(c). Planning conservation strategies*

Suddenly everyone is preparing 'strategies' - organised plans for the future so that nature conservation will become more targeted towards particular objectives in a realistic manner, certainly more professional and less amateur in approach than has generally been the case previously. It is essential that comparable strategies are at least compatible - and if there are actual conflicts between different interests (as may well happen - ornithologists and lichenologists would view a particular woodland conservation problem from very different angles), then Plantlife Link could give us the opportunity for advance warning and look forwards to an acceptable consensus if possible. Plantlife's own 'Prospectus for a UK Plant Conservation Strategy' will provide the foundation for such an initiative.

*(d). Conservation on national and international scales*

Legislation is now becoming increasingly international as it is appreciated that threats such as acid rain, tourism and forest clearance transgress the borders of individual countries. The BLS must speak for lichenology as the only body in Britain with this specialised knowledge. Maps, distributional

records and Red Data lists are essential tools at this point - very suitable for augmentation by the Society's membership.

(e) *Funding:*

Finally - this all needs money. Where does it come from? We have a great tradition in voluntary work in the UK as every County Trust can show. But specialist advice, travel costs, and computers for storing distributional and habitat data etc. usually prove to be beyond the scope of the voluntary purse, and we need to apply for grants in aid. So far we have had superb help from the environmental charities (such as WWF), from enlightened county or district councils, and from industry (e.g. BP). Fundamentally though our backbone has been JNCC and the country agencies - particularly valuable because they represent the official face in the same game of nature conservation.

But those who have read anything of the *Environmental Foresight Project* (a 3-volume report commissioned by William Waldegrave for the Department of Environment, which appeared in early December 1993) may fear appalling dangers ahead. This report clearly suggests that central Government should concentrate on funding environmental studies centred on human health (and strikingly so in relation to a vastly extended use of motor vehicles). The natural environment would be left to volunteers, to charities and to industry - this view is reinforced by the Government's progressive policy of relaxing planning controls over developments in the countryside. If this scenario comes to be, then we could well see support from JNCC and the country agencies being drastically curtailed (or even eliminated?). Competition for funds would become acute, and societies such as BLS will be compelled to cooperate (or fight each other). In my opinion, grant applications in the future will be much more likely to succeed if they come from several groups together, rather than on an individual basis. The obvious solution must be to embark on collaboration and cooperative planning now, before crisis strikes. Plantlife Link looks to me to be the most promising way forward for us in the near future.

I am grateful to Carol Hatton and Miles King for input during the preparation of this outline.

Kery Dalby

## RECENT RESEARCH: *CLADONIA SUBULATA* AND *C. REI*

These species, which are morphologically very similar, have recently been the subject of a detailed investigation in northern Germany. This has clarified differences between them. *The Lichen Flora of Great Britain and Ireland* suggests that *C. rei* occurs "On earth banks in woodlands and on waste ground; rare S E England". The most certain difference between the two is that while *C. rei* contains homosekikaic acid which fluoresces UV+ white, *C. subulata* is UV-. The German study\* confirmed that morphological differences are only tendencies, both species being remarkably plastic, so there are no reliable diagnostic field characters. However the study showed that the species are ecologically and phytosociologically distinct. *C. rei* was most frequently encountered in disturbed sites having a clear preference for bare soil with a relatively high pH value and low humus content. *C. subulata* has a wider ecological amplitude but favours substrates of lower pH and a higher humus content.

Phytosociologically the two species have different preferences. *C. rei* shows optimum development in man-made, secondary habitats such as gravel or sand pits, mine spoil heaps, railway lines, and road cuttings where it is often accompanied by species such as *Peltigera didactyla*, *Cladonia chlorophaea*, *C. humilis*, *C. fimbriata* and the moss *Ceratodon purpureus*. Such sites are usually ephemeral, the lichen-rich stage being relatively rapidly succeeded by vascular plants. In contrast *C. subulata* is usually found growing on raw humus in stable heathland communities dominated by red-fruited *Cladonia* species. These ecological clues may help lichenologists to identify further populations of the rather rarely recorded *C. rei*.

\*Paus, S and Daniels, F J D (1993). Chemical and ecological studies in the *Cladonia subulata* complex in northern Germany (Cladoniaceae, lichenized ascomycotina). In *Phytochemistry and Chemotaxonomy of Lichenized Ascomycetes - A Festschrift in Honour of Siegfried Huneck* (G B Freige & H T Lumbsch Eds). *Bibliotheca Lichenologica* 53: 191-199.

Oliver Gilbert

## CHURCHYARDS PROJECT

### Phase 1: Recording and Assessment

#### Star Ratings for Lowland Saxicolous Species

Despite much checking prior to this list being published in the last Bulletin, one very important and almost exclusively churchyard species - *Caloplaca ruderum* - somehow slipped through the net and was omitted. Please add it as a \* species. Although it is common in the south-east, its distribution is too localised to warrant an unstarred status. I was pleased recently to find it in abundance on the church wall of East Claydon in Buckinghamshire, together with (for a change!) text-book *Lecania turicensis*. My apologies for the omission, especially to East Anglian colleagues and to Jack Laundon, for whom it is a personal favourite.

Another species to add to the list is *Micarea denigrata* (\*\*\*) . This was deliberately excluded because it is typically lignicolous and I was unaware of any confirmed saxicolous records. However, I am assured that it was found on a brick wall at Paglesham Church End in Essex (51/926930) on 1st December, 1993 by Peter Earland-Bennett (who else!) and John Skinner, and I thank John for passing on the information.

#### The New Mapping Card

You should have received a copy of the new mapping card as an insert to this Bulletin. I am most grateful to Don Smith for setting up the design on his computer and patiently carrying out endless modifications, and to Mark Seaward for checking the species numbers and abbreviations before arranging for 5000 to be printed at Bradford University. As you will see, the "card" is actually on 100 gsm paper, is A4 in size, can, if desired, be folded across the middle; and has a left-hand margin to accommodate punched holes for storage in a ring-binder. Alternatively, it can be trimmed to fit an A6 file drawer. Boxes are provided on both sides for the Locality, vice-county and grid reference information, just in case these are photocopied onto separate sheets. In giving the grid-reference, please use the numerical form for the 100 km square. The number of species has been reduced from the originally envisaged 230 to 192 to enable the full list to be displayed on the front. All except the rarest lowland saxicolous lichens are included, together with some of the more common lignicolous, corticolous and upland species.

The reverse side provides ample space for additional species, further site and species notes, and conservation recommendations. Those of us who

regularly study churchyards have found that the richer sites require numerous return visits and much more room has been allowed to record these. When this was discussed in committee, Ken Sandell wisely suggested that, on the first occasion, the name of the main recorder should be written in full. Although there are many distinctive sets of initials in the Society, this may not always be so, and hopefully these cards will still be of relevance to future generations.

We have also felt for some time that it could be helpful to separate out the main substrate totals. The set of boxes is designed to discourage those who might assume that the overall total is reached by adding these sub-totals! As some species generally occur on more than one substrate, the sub-totals in sum are likely to exceed the overall total. Where sites are likely to be revisited, totals may change and so it is generally better to record what are in effect provisional figures in pencil.

It is useful when carrying out a survey to note down a contact address and telephone number. This information is usually displayed in the porch or on an outside notice-board. Ideally, personal contact should be made with someone connected with the church, so that the new leaflet can be passed on, addresses exchanged and, perhaps, conservation recommendations discussed. Having completed a survey, please send the card or copies of it to both Mark and myself, and possibly also to your local vice-county recorder. I am afraid I cannot undertake to pass on information to Bradford on your behalf. In certain circumstances, it may be worthwhile to send a copy to the minister, the diocese, or the local wildlife trust.

### *Some Further Guidelines for Completing a Card:*

#### *General:*

The card provides us with the opportunity to produce more than a mere tick-list. Consequently, we need to ask ourselves what essential (or desirable) additional information should be recorded and stored on a data base? This, in turn, depends on the answer to two further questions - who requires the data and for what purposes? To me, the data has, at least, three functions:

- i) to help members raise their own awareness of the ecology, distribution and relative frequency of churchyard lichens (as communities as well as individual species)
- ii) to help members raise the awareness of others for such purposes as conservation and education
- iii) to indicate the precise location of a species/community to enable the recorder or another person to re-find it at a future date

How much is added will depend on the expertise and enthusiasm of the recorder, the amount of time he or she has to spare, the distance travelled and possibly even the prevailing weather! There are good reasons for carrying out brief surveys of a number of sites to get the general feel for an area, and, equally, for spending a whole day at a single, obviously rich site. Many of us, especially in our own localities, follow up the first method with the second. Last week, I gave a talk to Peterborough Museum Society, stayed overnight, and managed fairly brief surveys of six churchyards and the cathedral precinct. As on a previous visit, I found *Rinodina calcarea* at every site. A few days ago, in contrast, I surveyed Thornborough in Buckinghamshire (within ten miles of home) in preparation for a course on 18 May. I stayed for six hours and achieved a personal ambition by recording 100 species on a first visit on my own. I had reached 107 before tiredness and hunger suggested I should call it a day. All three purposes outlined above were very much in my mind.

What follows is a description of my own method of recording which has developed over ten years or more using a variety of home-made survey sheets. Although it appears complex, like any new language, with time it becomes almost second nature. After all, if we can manage species names and their changes we should be capable of anything! Although I don't anticipate that all readers will immediately go out and use all of the abbreviations, I hope some will use some, as the situation demands, and that a more detailed ecological picture will gradually emerge. I know also that certain colleagues have their own variations of the shorthand and are reluctant to change. While, for example, I am in the habit of writing "sdhd" for a sandstone headstone, others put "sdhs" or "sshs" and I have no difficulty in interpreting the information. However, I have had to rethink my ambiguous abbreviation "lig-st" because it might be translated as "stump" or "seat". Consistency does, unquestionably, aid communication and I would suggest that, where the meaning of certain personally devised abbreviations is not obvious from the context, a key should be included when the card is filled in.

#### *Species Notes:*

The essential minimum information is to record the presence of the species with a tick and indicate the main substrate (i.e. sx, cort, lig etc.) on which it is growing. I shall always assume that a species is saxicolous unless otherwise informed.

The second strand of information which I am keen to receive is a more precise description of the substrate - in other words, whether the stone is

limestone or sandstone, whether the tree is *Taxus* or *Tilia*, and whether the lignum is natural or worked.

How much further detail is set down is up to the inclinations of each individual. While the regular recording of features such as aspect and habitat initially takes extra time, one soon begins to pick up common denominators which eventually save time in the future. I find it helps to be reasonably systematic:

(i) I now look at the church first, generally starting at the south-east corner and working clockwise. I use a closed dot to indicate that the species is on the church followed by further aspect-location information, so that a typical early record might be: • lm bu ↘ → S or • Spo mo E → (see key below). I use relational terms (such as 1w or md) to indicate more precise positions. This is important in the case of rare or unfamiliar species, so that they can be relocated on subsequent visits. An alternative device is to put "see over" and add further notes on the reverse side.

(ii) A second circuit takes in the more promising gravestones. If the church is predominantly limestone, I pay particular attention to the more acid stones and vice-versa. Typical entries are sdhdw →, ma+bs, irch-t ↑, grk ↑, lig+. To indicate the position of the grave relative to the church, I put a compass point in brackets e.g. (N), (SE). If an inscription is legible, I may add this in brackets to give a more precise location. A dated stone also provides useful information for subsequent research into colonisation and succession.

(iii) For a thorough survey, boundary walls, retaining walls, paths, trees and other features such as benches need to be examined (e.g. Sbw crev N →, ter-pa ↑, cort-Fx, lig-nb etc.). Brian Coppins has developed a more comprehensive list of tree abbreviations.

It is clearly impossible and unnecessary to record all the locations of the more common species. To give some indication of the relative frequency of species at a particular site, Don Smith uses the numbers 1 to 4. These would have to be added as soon after the completion of a survey as possible, I tend to put an asterisk to indicate that a species is noticeably abundant or especially well-developed.

On the reverse site, in the space for additional species notes unidentified lichens can be described and communities occupying a special niche listed.



### *Site Notes:*

These could usefully include at least some of the following:

- i) more detailed information on the relative age of parts of the building (perhaps gleaned from a leaflet inside the church or porch)
- ii) a note on the local geology
- iii) the relative frequency of different stone types
- iv) size of site
- v) shape (a more or less circular site tends to indicate antiquity)
- vi) nature of site (shaded/open etc.)
- vii) relative position (adjacent to farmyard/main road etc.)
- viii) noteworthy habitats (a comment, for example, that the boundary wall would repay further study)
- ix) suitability for educational purposes (including access, parking, adjacent hall etc.)
- x) history or natural history features/observations (for the benefit of other specialist recorders)

### *Conservation Recommendations:*

Essentially, these are practical points to be passed on to the local custodians of the site and need to be specific to it. More general recommendations are given in the churchyards leaflet. The lichens may be suffering because ivy is invading, some of the headstones, or because grass cuttings are being allowed to rot on the ledgers. Also, it may be necessary to point out important species and communities in potentially vulnerable situations; so that precautions can be taken before it is too late. There may, for example, be rare species on a part of the church wall that is in clear need of repointing.

### *Assessment:*

This is intended as an overall assessment of the site in terms of species and applies, at present, only to the 35 lowland vice-counties. As has been pointed out in previous articles, we are provisionally testing out a numerical rating using the following formula:

$$\frac{\text{Total Species} + \text{Total Stars}}{2}$$

2

The first total includes corticolous, lignicolous and terricolous as well as saxicolous species; the second so far applies only to lowland, saxicolous species. It would help if recorders carried out the necessary mathematics and pencilled in the total before sending the card to me. In the longer term, when sufficient sites have been surveyed in a single vice-county, it should be possible to use a star assessment similar to that for species, so that the richest churchyards become \*\*\* sites.

This assessment procedure, like the shorthand for recording is still very much in its infancy, and is, at this stage, merely a suggestion. I would value comment from as many members as possible before it becomes a tablet of stone.

### Future Surveys

If you would like further copies of the card, please send a large SAE either to me or to Mark Seaward (our addresses are in the margin of the card). It is hoped that the new card will lead to a surge in survey work and involve many more members. The Society has reason to be indebted to the small group who are currently carrying out an immense amount of work involving considerable mileage - Don Smith in Yorkshire, Francis Rose *et al.* in Sussex, Chris Hitch and company in Suffolk and, of course, Keith Palmer. Of the 2402 lowland sites known to have been surveyed, Keith has visited 897 churches and 62 cemeteries in 28 of the 35 vice-counties!

The table below summarises the current situation. Although the project is multi-cultural and, within the Christian religion, non-denominational, in England the diocesan figures incorporate most of the more ancient and lichen-rich foundations. Where in some counties (notably Kent, Middlesex, Suffolk, Surrey and Sussex) a number of cemeteries and free church sites have also been visited, these figures have been added to the diocesan totals. Diocesan and vice-county boundaries seldom correspond and this leads to some discrepancies. The Isle of Wight, for example, is in the Portsmouth Diocese which includes part of South Hants.

If a survey figure is inaccurate, it is probably because full information for a particular vice-county has not yet been sent in. Please let me know if this is the case so that an updated and more accurate table can be produced in a year's time. I have received more than one letter recently, indicating that some members are willing to carry out surveys, but feel they lack the necessary expertise. As was said in the last *Bulletin*, a number of us would be happy to help you survey some local sites, especially if, in return, you could provide us with somewhere to camp down with a sleeping bag for a night or two.

Lowland Vice-County	Number of Sites Surveyed	Number of Diocesan Sites	Diocese
7 North Wilts	21	592	Salisbury
8 South Wilts	11		
9 Dorset	49		
10 Isle of Wight	5	173	Portsmouth
11 South Hants	60	407	Winchester
12 North Hants	55		
13 West Sussex	149	541	Chichester
14 East Sussex	206		
15 East Kent	252	335	Canterbury
16 West Kent	189	284	Rochester
17 Surrey	112	613	Guildford
18 South Essex	12	615	Chelmsford
19 North Essex	15		
20 Herts	13	411	St Alban's
21 Middlesex	37	504	London
22 Berks	21	829	Oxford
23 Oxon	62		
24 Bucks	46		
25 East Suffolk	275	534	St Edmundsbury & Ipswich
26 West Suffolk	116		
27 East Norfolk	53	642	Norwich
28 West Norfolk	27		
29 Cambridge	12	342	Ely
30 Bedford	10		
31 Hunts	36		
32 Northampton	200	391	Peterborough
33 East Gloucester	10	406	Gloucester
34 West Gloucester	8	c100*	Bristol
37 Worcester	3	274	Worcester
38 Warwickshire	44	242	Coventry
53 South Lincoln	15	664	Lincoln
54 North Lincoln	34		
55 Leicester	82	334	Leicester
56 Notts	14	318	Southwell
61 South-east York	148	189	York
Total:	2402	9740	

+ included in Herts figure (St Alban's Diocese)

\* southern part in Bristol Diocese

## Phase 1: Conservation and Education

### The Revised Churchyards Leaflet

This is provided as a second *Bulletin* insert. Hopefully it brings balance to the forward thrust of the project by giving prominence to the conservation and educational aspects. In this case, Keith Palmer and I are indebted to Frank Dobson for setting up and arranging the text prior to printing and to Claire Dalby for her drawings which, as well as beautifully complementing the words, are works of art in their own right. We would like to thank English Nature for providing the Church & Conservation Project with a 50% grant and Eve Dennis for making this available to us, for organising the printing of 10,000 copies and for her constant encouragement. When Eve first suggested that we should produce a new leaflet in the house style of others in the Living Churchyard pack, the first thing we did was to turn for guidance to the wise words of Jack Laundon and Frank Brightman in *Lichens in Churchyards*. This pioneering leaflet, sent out to members exactly ten years ago, is very much alive and is still being distributed. Vanessa Winchester's description helps considerably to provide a fitting conclusion to the main part of the text and numerous other members have wrestled with words and meanings. It isn't easy to be both comprehensible to the layman and biologically precise, especially when attempting to define a lichen. Please forgive us our failings. How I wish we would have resorted to David Hawksworth's celebrated dictum:

*A lichen is a plant studied by lichenologists!*

If you would like further copies of either the present or the previous leaflet, please send a large SAE to me at 19 Lawyers Close, Evenley, Brackley, Northants NN13 5SJ. The present version is also obtainable from Eve Dennis at Stoneleigh, either separately or as part of the complete Living Churchyards pack. The churchyards committee is inclined to think that blanket distribution to all the churches in an area may prove ineffective and favours a more personal approach. We hope that recorders will leave a copy behind (possibly with a personal note or contact address attached) after completing a survey.

### Phase 2: Upland England

Phase 1 of the project has focused on the 35 "lowland" vice-counties. Nevertheless, survey work continues in other parts of Britain especially in Yorkshire and Somerset. It seems logical in the second phase to look more

closely at the remaining vice-counties of England and these divide naturally into three reasonably distinct areas:

1. The SW Peninsula and the Isles of Scilly
2. The Welsh Border Counties, the West Midlands and Derbyshire
3. The Northern Counties and Isle of Man

Sheila Street (1), John Walton (2) and Don Smith (3) have been approached to act as co-ordinators for the three areas and I am delighted to report that they have all readily agreed to take on this role. Their task will be to encourage survey work, and to do some initial organising of the data before it comes to me. In future, if surveys are carried out in these more upland vice-counties, it would help if the cards are sent to the appropriate person.

### **Churchyards sub-committee**

All the matters outlined above were discussed at a meeting on 27 March attended by Keith Palmer, Ken Sandell, and John Walton, and I am grateful for their continuing support.

Tom Chester

**APPENDIX (See Fig 1)**  
**Suggested Abbreviations for Churchyards Mapping Card:**

**Substrate:**

*General:*

sx - saxicolous    cort - corticolous    lig - lignicolous    ter - terricolous  
 musc - muscicolous

*More Precise:*

*Saxicolous:*

lm - limestone	fl - flint	pl - plaster	pb - lead
sd - sandstone	ir - ironstone	gl - glass	fero - iron run-off
ma - marble	br - brick	asb - asbestos	curo - copper run-off
gr - granite	mo - mortar	fe - iron	pbro - lead run-off
sl - slate	co - concrete	cu - copper	

*Corticolous:* [could prefix with "cort-" to avoid ambiguity]:

Ac - <i>Acer campestre</i>	Fx - <i>Fraxinus</i>	Q - <i>Quercus</i>
Sam - <i>Sambucus nigra</i>	Ti - <i>Tilia</i>	Tx - <i>Taxus</i> etc

*Lignicolous:* [could prefix with "lig-" to avoid ambiguity]:

bf - boundary fence	fp - fence post	be - bench
gt - gate	nb - notice board	st - stump
lig + - wooden cross	db - dead board	

*Terricolous:* [could prefix with "ter-" to avoid ambiguity]:

pa - path	tf - turf
-----------	-----------

**Aspect:**

N →, S →	↑ - facing up	↓ ↘ - facing down
E →, W →	\ - on a slope	\ → S - on a south-facing slope etc.

**Location:**

*Church:*

• - on church	rf - roof	sc - string course	tw - tower
wd - window	tl - tile	bu - buttress	po - porch
ws - window sill	dp - drain pipe	nv - nave	cp - chamfered plinth
dr - door	chcl - chancel	lc - lightning conductor	

*Gravestones:*

hd - headstone	ch-t - chest-tomb	bod - body stone
ft - footstone	ba-t - bale-tomb	pq - plaque (on wall)
ldg - ledger	ped-t - pedestal tomb	wm - war memorial
+ - cross	cof - coffin stone	grch - granite chipping etc.
k - kerb	cop - coped stone	
ext - extension graveyard	[Chester 2033]-inscription information	

*Walls:*

bw - boundary wall	rtw - retaining wall	crev - crevice
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**Relative Position:**

(N), (S)	bs - base	md - middle	nxt - next	un - under
(E), (W)	cr - corner	lw - low	nr - near	ov - over

**Species Information:**

cfr - fertile	cf - like this species (eg <i>A. cf cervina</i> )
ster - sterile	agg - aggregate (group of related taxa)
det - determined by . . .	s.str - sensu stricto (in a narrow sense)
? - determination unsure	s.lat - sensu lato (in a broad sense)
Ⓢ - collected (with ref.no.)	Ⓟ - photocopied (with ref. no)
[hb] - herbarium (with ref. no. and/or location) eg [hbBM], [hbE]	

**Frequency:**

1 - abundant	2 - frequent	3 - scarce	4 - rare
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# Churchyard Abbreviations

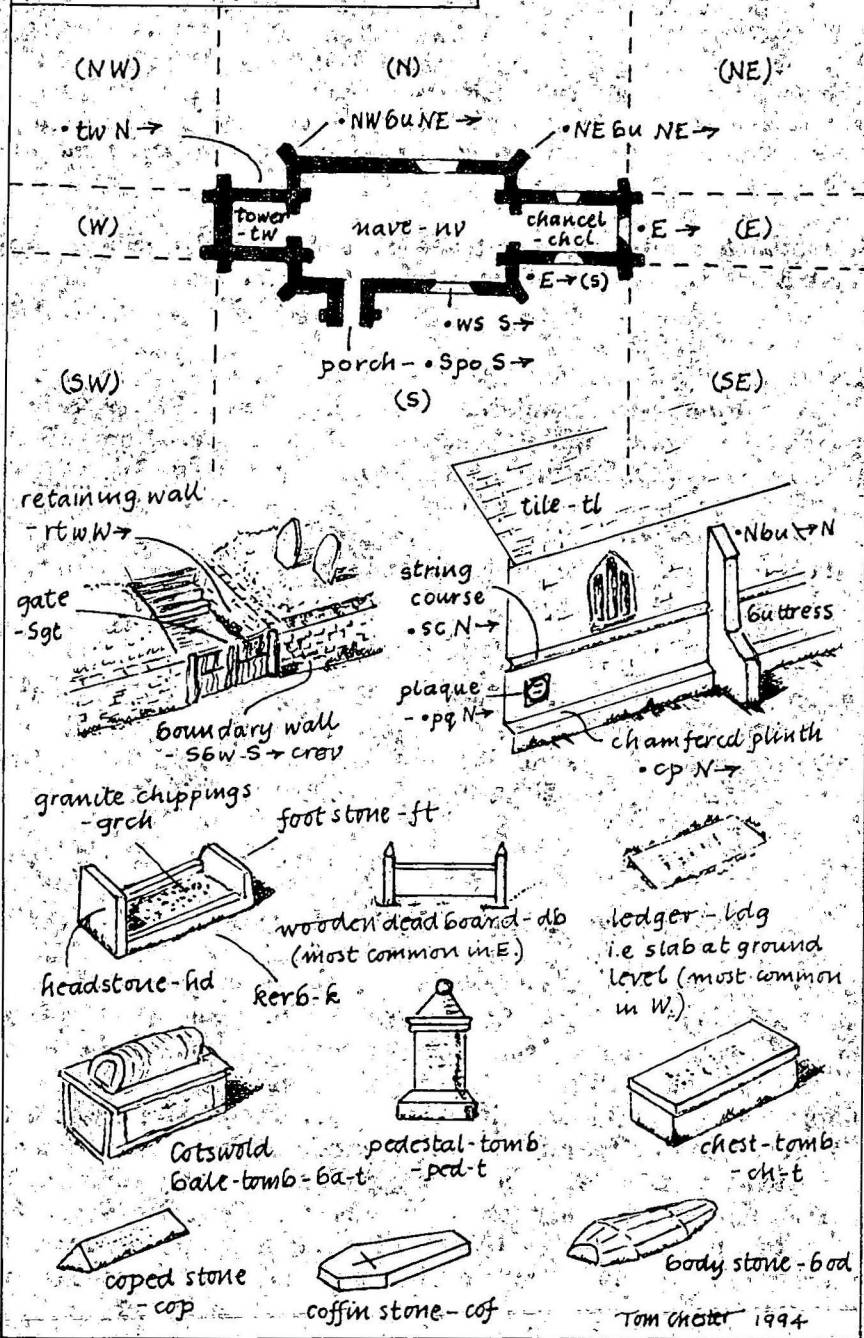


Fig 1.

## NEW, RARE AND INTERESTING BRITISH LICHEN RECORDS

(Contributions to this section are always welcome. Please submit entries to Chris Hitch, The Whin, Wadd Lane, Snape, Saxmundham, Suffolk IP17 1QY, in the form of species, habitat, locality, VC no, VC name, Grid Reference (GR), altitude, where applicable, in metres (m), date, comments and recorder. An authority with date after a species is only included, when the record is new to the British Isles. *In the interests of accuracy, typescript is much appreciated. Please only use one side of the paper.*)

*Absconditella delutula*: on decorticate log at side of road, Hockley, VC 18, South Essex, GR 51/82-93-, October 1993. Genus new to Essex.

P M Earland-Bennett

*Absconditella lignicola* Vezda & Pisút (1984): on moribund thallus of *Peltigera britannica*, by waterfall, Chapelhope Burn, VC 79, Selkirk, GR 36/21-18-, 1976, coll RWM Corner; on moribund moss on *Quercus*, Becka Falls, Bovey Valley, Dartmoor, VC 3, South Devon, 1990, GR 20/76-80-, coll A M O'Dare; on decaying twig of *Larix*, Wareham Forest, VC 9, Dorset, GR 30/87-93-, coll V J Giavarini. Specimens in E, new to British Isles. This is the species with smaller apothecia and spores mentioned in the *Flora* (p.58) under *A. trivialis*.

B J Coppins

*Adelococcus alpestris* (Zopf) Theiss. & H Sydow (1918): on thallus of *Acarospora glaucocarpa* on Carboniferous Limestone outcrop, by Little Dale Beck, near Winterscales, 9.5 km NE of Ingleton, VC 64, Mid-west Yorks, GR 34/75-80-, alt 320 m, 1993. This confirms the British status of this species.

B J Coppins and A M O'Dare

*Arthonia mediella* Nyl. (1859): on *Salix* bark, bottom of valley of Caol Ghleann, Ben Avon, VC 94, Banff, GR 38/15-06-, alt c 480 m, 1975. New to British Isles. Specimens that I previously determined as "*A. hynophila* ad int." belong here. I am grateful to Rikard Sundin for alerting me to the correct name. The species superficially resembles *A. muscigena* (syn. *A. leucodontis*), and sometimes grows with it, but has erect, capitate apices to the paraphyses, and 3-septate ascospores, 11-17 x 2.4-3 (-4)  $\mu\text{m}$ ; despite the literature reports to the contrary, this species does not have *Trentepohlia* as photobiont. Some additional records of this probably common, but overlooked, species are: on moss on *Quercus* trunk, Tidcombe Wood, VC 4, North Devon, GR 21/6—3—, 1992, coll Coppins & O'Dare; on mosses on N-facing rock outcrop under trees, Hailes Castle, VC 82, East Lothian,



GR 36/57-75-, alt 30m, 1991 coll Coppins & O'Dare; on moss on *Salix*, Inishfendra, Crom, VC H33; Fermanagh, GR H/36-23-, 1993; coll Coppins & O'Dare. This species is most often found on slightly bleached leaves and stems of pleurocarpous mosses, especially *Hypnum cupressiforme* agg.

B J Coppins

*Bacidia viridifarinosa*: on bole and roots of oak at bottom of steep bank above stream, Debenham, VC 25, East Suffolk, GR 62/16-63-. April 1993. Growing with *Anisomeridium nyssaegenum*, *Bacidia delicata*, *Opegrapha herbarum*, and *O. ochrocheila*. Also on very shaded bole of *Salix* just above stream, Debenham, GR 62/17-62-, April 1993. This species often grows on roots and boles of trees almost in streams and occasionally on rocks in streams. It must be inundated at certain times of the year.

P M Earland-Bennett

*Belonia nidarosiensis*: formerly considered very rare in SE England, this species is proving to be widespread and locally common on old stonework of churches, ruined abbeys etc, in Hampshire and Sussex. There are now far too many localities to cite here, but this species is mentioned to encourage BLS members to look for it elsewhere in lowland churchyards.

F Rose

*Blarneya hibernica*: on dry rock of old *Quercus*, Tregothnan Woods, VC 2, East Cornwall, GR 10/86-40-, and on old *Quercus*, Trelowarren Woods, VC 1, West Cornwall, GR 10/72-24-. Clearly overlooked; will probably prove to be widespread in old woodland, near the coast in SW England.

F Rose and S R Davey.

*Caloplaca cirrochroa*: vertical faces of metamorphic limestone beside burn, Catfirth, Nesting, Mainland, VC 112, Shetland, GR N41 (HU)/43-53-. August 1988. New to Shetland. This is part of Shetland's most noteworthy site for relict woodland higher plant species.

D H Dalby.

*Caloplaca obliterans*: sloping rock underhang on sea cliff in the *Lecanora actophila* zone, Ness of Bakka, Walls peninsula, Mainland, VC 112, Shetland, GR N41 (HU)/16-51-, August 1987. New to Shetland. This species has been found subsequently in other locally sheltered habitats (rock underhangs and crevices) along the W coast of Shetland.

D H Dalby.

*Catapyrenium squamulosum*: plants determined as this by O Breuss from several sites on soil in chalk turf in VC 13, West Sussex, show forms with

elongated, bright green, almost foliose thalli that need further critical study. This form is retained in cultivation after ten months:

F Rose

*Catillaria atomarioides*: on shingle south of Rye Harbour, VC 14, East Sussex, GR 51/93-17-, 1992, also with *Porpidia soredizodes* at Rye Harbour. Determined B J Coppins.

F Rose

*Cladonia convoluta*: on fixed shingle beach, Thorney Island, VC 13, West Sussex, GR 41/77-00-, 1992. Will probably be found elsewhere on the southern chalk.

F Rose

*Cladonia convoluta*: in short chalk turf on cliff top, W of Beachy Head, VC 14, East Sussex, GR 50/56-95-.

S R Davey

*Cladonia zopfii*: scarce on sandy bank amongst *Pinus* litter, SE part of Chobham Common, VC 17, Surrey, GR 41/99-63-, 9 February 1994. Only second site for lowland Britain, but not recorded since the collection by H M & R G Livens in the New Forest in 1910. This lichen was first collected here in 1983 when it was abundant. The 1983 specimen was recently confirmed by T Ahti. It is readily distinguished by its prostrate podetia, in contrast to those of *C. uncialis* which are erect.

J R Laundon

*Degelia plumbea*: on trunks and branches of *Sorbus aucuparia* and *Salix* sp, Berriedale Wood, Hoy, VC 111, Orkney, GR N30(HY)/20-01-, July 1993. New to Orkney. For a discussion of the significance of this find, see under record for *Lobaria pulmonaria*.

D H and C Dalby

*Degelia plumbea*: on mosses and liverworts on serpentine rock, open stony ground above shore, Haroldswick, Unst. VC 112, Shetland, GR N42(HP)/63-11-, May 1979. New to Shetland. Sterile and in poor condition with possible fungal infection. This is the northernmost British record for this species in the UK, and lies well beyond any present-day woodland cover. Determined P W James.

D H and C Dalby

*Dermatocarpon miniatum*: on calcareous sandstone top of chest tomb in churchyard, Albourne, VC 13, West Sussex, GR 51/25-16-. New to Sussex.

1993, S R Davey, refound 1994.

F Rose

*Diploicia canescens*: in gas vesicles in volcanic rocks, SW facing cliff, Whal Wick, Esha Ness, Mainland, VC 112, Shetland, GR N41(HU)/23-81-, August 1986. New to Shetland. The world's most northerly station for this species. A second colony was found in August 1993, on the wall of the brock on Mousa, GR N41(HU)/45-23-.

D H Dalby

*Gyalecta jenensis*: on low wall north of nave ruins, Netley Abbey, VC 11, South Hants, GR 41/45-09-. Confirmed O L Gilbert. Very rare in SE England.

F Rose

*Haematomma ochroleucum* var. *porphyrium*: vertical E-facing rock outcrop, Nibon, Northmavine, Mainland, VC 112, Shetland, GR N41(HU)/30-73-, August 1988. New to Shetland. Growing in small amounts with much more extensive var. *ochroleucum*.

D H and C Dalby

*Lecanactis hemisphaerica*: on old plaster by window of the church, Up Waltham, VC 13, West Sussex, GR 41/94-13-, 1993.

F Rose

*Lecania turicensis*: on old walls and ruins on calcareous substrates, Netley Abbey, VC 11, South Hants, GR 41/45-09-; Porchester Castle, VC 11, South Hants, GR 41/62-04-; Up Waltham Church, VC 13, West Sussex, GR 41/94-13-; Battle Abbey, VC 14, East Sussex, GR 51/74-15-. Confirmed B J Coppins & O L Gilbert. This *Lecania*, with an often bullate thallus and large (to 1mm) pruinose fruits, with strong thalline margins, is proving frequent in the south; a selection of records only is given.

F Rose

*Lecanora conferta*: on mortar and sandstone, once on brick, 31 churches out of last 130 surveyed as follows: VC 55, Leicester (1); VC 56 Notts (2); VC 57 Derby (1); VC 61, South-east York (14); VC 62, North-east York (3); VC 64, Mid-west York (5); VC 65, North-west York (4); VC 66, Durham (1). Sample specimen confirmed by B J Coppins.

D H Smith

*Lecanora farinaria*: fence post at boundary with scattald, Nibon, Northmavine, Mainland, VC 112, Shetland, GR N41(HU)/30-73-, July

1988. New to Shetland. This species has been found subsequently in several locations on old fence posts, but so far only at low elevations near the sea.

D H and C Dalby

*Lecanora pannonica*: on sandstone masonry and headstones, 23 churches out of last 230 surveyed as follows: VC 56, Notts (1); VC 61, South-east York (13); VC 62, North-east York (6); VC 65, North-west York (3). At Weaverthorpe, 44/96-71-, the tower is uniformly grey seen from a distance, samples from which were identified by I M Brodo.

D H Smith

*Lecanactis latebrarum*: below rock overhangs in woodland, Cwm Coel, VC 43, Radnor, GR 22/90-64-, January 1993. New to Wales.

A Orange

*Lecanora swartzii*: on N-facing basalt underhangs, Traprain Law, East Linton, VC 82, East Lothian, GR 36/57-74-, alt 150 m, 1993. Southernmost record for British Isles.

B J Coppins

*Lecidea polycarpella*: on brick on ground in urban wasteland (iron smelting works), Kirkstall, Leeds, VC 64, Mid-west York, GR 44/24-36-, October 1993. Second British record. Determined B J Coppins.

P M Earland-Bennett, A Henderson and A Norris

*Lecidella meiococca*: rocks above shore, Villians of Hamnavoe, Esha Ness, Mainland, VC 112, Shetland, GR N41(HU)/23-81-, May 1979. New to Shetland. This specimen was in close contact with *L. subincongrua*; it has been found subsequently in 6 or 7 further locations - twice on fence timbers near the sea and once on a cliff edge associated with eroding vegetation and dead *Armeria maritima* remains - and usually in somewhat more enriched habitats than *L. subincongrua*.

D H and C Dalby

*Lecidella meiococca*: detached stone by cliff path, Yesnaby, Mainland, VC 111, Orkney, GR N30(HY)/22-16-, July 1993. New to Orkney. Coll B Benfield, determined D H Dalby.

D H Dalby

*Lecidella viridans*: on basaltic rocks at base of coastal cliffs, St Cyrus NNR, VC 91, Kincardine, GR 37/74-64-, 1993. New to E. Scotland.

B J Coppins and A M O'Dare

*Lemplolemma chalazanum*: on mortar between Roman stonework, The Roman Pharos, Dover Castle, VC 15, East Kent, GR 61/32-41-. Determined by O L Gilbert. New to Kent.

F Rose

*Lepraria crassissima* (Hue) Lettau 1958 *non auct*: dry side of boulder in woodland, Coedydd Afon Gwynnant RSPB Reserve, VC 48, Merioneth, GR 23/67-16-, March 1991. New to Wales. This species contains divaricatic acid, nordivaricatic acid and zeorin, and is also known from GR 32/1—4— (VC 42, Brecon), 22/9—6— (VC 43, Radnor), and 22/2—4— (VC 45, Pembroke).

A Orange

*Leptogium plicatile*: the record for this is correct for Greatham Church (see *Bulletin* 71, p43), but specimens from Upper Beeding, VC 13, West Sussex, and Buxted, VC 14 East Sussex are *Collema auriforme*. Determined P M Jørgensen.

F Rose

*Leptogium tenuissimum*: on Purbeck limestone spoil heaps, Darwell Wood, Mountfield, VC 14, East Sussex, GR 51/71-20-, 1992. Determined P M Jørgensen.

F Rose

*Leptogium turgidum*: on chalk soil in short turf, Chalkpit Lane, Singleton, VC 13, West Sussex, GR 41/87-10-, also Cissbury Ring, VC 13, West Sussex, GR 51/13-07-. Confirmed P M Jørgensen.

F Rose

*Lichenochora weillii* (Werner) Hafellner & R. Sant. (1989): on thallus of *Physconia enteroxantha* on *Acer pseudoplatanus* in parkland, The Burn, near Edzell, VC 91, Kincardine, GR 37/59-71-, 1993. New to British Isles.

B J Coppins and A M O'Dare

*Licheniconium pyxidatae*: on *Cladonia squamules* on plastic on the ground, Orford Ness, Orford, VC 25, East Suffolk, GR 62/44-49-, August 1993. Second British record, both are from East Suffolk.

P M Earland-Bennett, C J B Hitch and P Cayton.

*Licheniconium xanthoriae*: on thallus of *Xanthoria candelaria* on *Acer negundo*, Debenham, VC 25, East Suffolk, GR 62/16-63-, May 1993.

P M Earland-Bennett

*Lobaria pulmonaria*: on *Salix* sp. and *Sorbus aucuparia*, Berriedale Wood, Hoy, VC 111, Orkney, GR N30(HY)/20-01-, July 1993. Knowledge of the presence of this species in Berriedale was passed on to us by P Harding, who saw plants at an earlier date during a survey for ITE. For a short discussion of this find (and other Lobarion indicator species from Berriedale) see BLS *Bulletin*, **73**, 34-35, 1993.

D H and C Dalby

*Macentina abscondita*: on flint pebble in gully beside road, Wickham Market, VC 25, East Suffolk, GR 62/30-55-, March 1992. Growing with *Verrucaria dolosa*. Determined A Orange.

P M Earland-Bennett

*Megaspora verrucosa*: in very open stony turf on chalk grassland, Chalkpit Lane, Singleton, VC 13, West Sussex, GR 41/87-13-, 1993. New to SE England, E of Isle of Wight.

F Rose

*Micarea curvata* Coppins (1983): on siliceous pebble, with *M. marginata* (see below) and *Lecidea lithophila*, in acid dune system, Torrs Warren, VC 74, Wigtown, GR 25/13(-4)-55-, sea-level, 1989. New to British Isles; previously known only from the type collection from Westphalia, Germany in the last century. The type description states that the epithecium is brown and K-, but the Scottish material is partly K+ violet. The combination of saxicolous habitat and strongly curved spores (7.5-11.7 x 2.5-3.8  $\mu\text{m}$ ) distinguishes this species from the polymorphic *M. denigrata*.

B J Coppins and R Türk

*Micarea excipulata*: on wood, slate and brick on ground in urban wasteland (iron smelting works), Kirkstall, Leeds, VC 64, Mid-west York, GR 44/24-36-, October 1993. Determined B J Coppins.

P M Earland-Bennett

*Micarea marginata* Coppins & Muhr (1988): with *M. curvata* (see above for details). New to British Isles; previously known only from Varmland, Sweden. One apothecium was seen, together with numerous black pycnidia containing curved, thinly 3(?-5)-septate macroconidia, 23-45 x 1-1.3  $\mu\text{m}$ . The apothecia of this species resemble those of *M. pseudomarginata* (see *Flora* p. 383), but in sections have a more strongly purplish (K+ intensifying) hypothecium and exciple, and relatively narrower, 0-1(-3)-septate spores c (8-), 9.5-14 x 3-4  $\mu\text{m}$ . Four sterile collections (in E) with pycnidia only can also be referred to this species. They are: on top of a boulder, Wanlockhead, VC 72, Dumfries, GR 26/8—1—, alt c 500 m, 1991, coll B J Coppins and A

M O'Dare; on acidic boulder at 850 m, and on schistose rocks by cornice snow area at 1100 m Aonach Mor, Fort William, VC 97, Westernness, GR 27/1—7—, 1990, coll. A Fryday; on pebble in ±bare soil of summit heath at 1000 m, Beinn an Dothuidh, VC 98, Argyll Main, GR 27/33-40, 1992, coll A Fryday.

B J Coppins

*Miriquidica liljenströemii* (Du Rietz) R. Sant., ad int. (1993): on exposed, south-facing vertical schistose crag, Meall Gheordaidh, Breadalbane, VC 88, Mid-Perth, GR 27/51-39-, alt 975 m, April 1990. New to British Isles. Also from exposed, south-facing siliceous rock on boulder field, Meall Corranaich, Ben Lawers range, VC 88, Mid-Perth, GR 27/61-42-, alt 980m, May 1991. Similar to *M. nigroleprosa* but with a darker thallus and lacking psoromic acid in the medulla (Pd-).

A Fryday

*Parmelia omphalodes*: on a block of rough Dartmoor granite by the grave of Henry Morton Stanley (the explorer), Pirbright Church, VC 17, Surrey, GR 41/94-55-, Possibly introduced with the granite from Dartmoor, after the grave was made; Stanley was buried there in 1904. New to SE England.

F Rose

*Parmelia robusta*.: on rock face in gorge above waterfall at c.80m, Cwm Einion, VC 46, Cardigan, GR 22/6—9—, alt c 80m January 1994 (Pd+ rust-red, K-, KC-, C-, UV-, atranorin and fumarprotocetraric acid by TLC). May well have been overlooked elsewhere in W and SW Britain. New to mainland Britain. Confirmed F Rose & P W James.

S Chambers

*Parmeliella jamesii*: on *Sorbus aucuparia*, Berriedale Wood, Hoy, VC 111, Orkney, GR N30(HY)/20-01-, 1977. New to Orkney. Coll by P Topham (specimen in BM). Further specimens (one confirmed by P W James) were seen by us in July 1993. For a discussion of the significance of this find see under record for *Lobaria pulmonaria*.

D H and C Dalby

*Pertusaria flavicans*: see under *Belonia nidarosiensis*.

F Rose

*Physcia stellaris*: on horizontal bough of *Quercus*, Sandy Point NR, Hayling Island, VC 11, South Hants, GR 40/74-98-, 1993. The only western

Hampshire site known.

F Rose and K Sandell

*Physcia tribacioides*: on old *Quercus* outside Deer Park Wood, St Allen, VC 1, West Cornwall, GR 10/83-51-, 1992.

F Rose

*Placynthiella icmalea*: fence posts of scattald boundary, 1 km SW of Laxfirth, Nesting, Mainland, VC 112, Shetland, GR N41(HU)/46-58-, August 1989. New to Shetland, interesting only in so far as it demonstrates that much remains to be discovered in the Northern Isles.

D H and C Dalby

*Polyblastia agraria*: trampled ground at top of riverbank, Bute Park, Cardiff, VC 41, Glamorgan, GR 31/17-77-, December 1991.

A Orange

*Polyblastia gothica*: a few perithecia among bryophytes on small rocks in north-facing coire. Glas Maol, Braemar, VC 92, South Aberdeen, GR 37/16-77-, alt 950 m, September 1991. Confirmed as a British species (not recorded since 1864).

A Fryday

*Porina leptalea*: on bole of hornbeam in ditch, Hockley Woods, Hockley VC 18, South Essex, GR 51/83-92-, March 1994. Growing with *Arthonia spadicea*, *Dimerella pineti*, *Micarea prasina* and *Opegrapha ochrocheila*.

P M Earland-Bennett

*Porina leptalea*: on bole of hawthorn by stream, Coombe Wood, Thundersley, VC 18, South Essex, GR 51/78-88-, February 1994. Growing with *Arthonia spadicea* and *Lepraria lobificans*.

P M Earland-Bennett

*Porpidia cinereoatra*: on granite and acid sandstone gravestones, Pirbright, VC 17, Surrey, GR 41/94-55-. Also in churchyards at Rudwick, VC 13, West Sussex, GR 51/09-34-; Warminghurst, VC 13, West Sussex, GR 51/11-16-; Battle Abbey, VC 14, East Sussex, GR 51/74-15; Bayham Abbey, VC 14, East Sussex, GR 51/64-36-; Peper Harow, VC 17, Surrey, GR 41/93-44-, and several other sites. Proving to be frequent in SE England and much misunderstood until recently.

F Rose



*Protoblastenia rupestris* ('albino' form): on Carboniferous Limestone outcrop, by Little Dale Beck, near Winterscales, 9.5 km NE of Ingleton, VC 64, Mid-west York, GR 34/75-80-, alt 320 m, 1993. The apothecia completely lacked any pigmentation so that the plant resembled *Hymenelia prevostii* with ± convex apothecia! Microscopically distinct, including the *Porpidia*-type asci (apical dome with dark amyloid tube).

B J Coppins

*Pseudevernia furfuracea*: fertile, with fertile *Hypogymnia tubulosa*, on *Larix*, Out Scar, NW of Shap, VC 69, Westmorland, GR 35/543146, alt 330 m, 1992. This species has rarely been reported with apothecia outside of NE Scotland.

R W M Corner

*Psilolechia leprosa*: acid vertical surfaces or under overhangs, only once on basic substratum, rarely fruiting. 84 churches out of last 400 surveyed as follows: VC 54, North Lincoln (1); VC 55, Leicester (1); VC 56, Notts (4); VC 57, Derby (3); VC 61, South-east York (24); VC 62, North-east York (22); VC 64, Mid-west York (18); VC 65, North-east York (9); VC 66, Durham (2).

D H Smith

*Pyrenocollema orustense*: on flints at edge of tidal River Blyth below HWM, Blythburgh, VC 25, East Suffolk, GR 62/45-76-, 1992. Growing with *P. halodytes*. Determined A Fletcher.

P M Earland-Bennett

*Pyrenocollema strontianense*: on frequently inundated rocks in river, River Wye near Erwood, VC 43, Radnor, GR 32/10-42-, November 1993. New to Wales.

A Orange

*Pyrenopsis impolita*: on sloping, siliceous rock subject to frequent inundation, Coire na Ruigh, Glen Coe, VC 98, Argyll Main, GR 27/17-57-, alt 750 m, September 1993. One of the few records of this rare but easily overlooked species. New to Scotland.

A Fryday

*Rhizocarpon amphibium* (Fr.) Th. Fr. (1874): on granite boulder at edge of stream, Quoich Water, near Allanaquoich, Braemar, VC 92, South Aberdeen, GR 37/11-91-, alt 350 m, August 1992. New to British Isles. The specimen from Caenlochan provisionally placed here in 'The Flora' (p.539) is *R. obscuratum* s. lat.

A Fryday and J Winham

*Rhizocarpon cinereonigrum* Vainio (1922): on granite boulder below area of prolonged snow-lie. Coire an Lochain, Aonach Mor, Fort William, VC 97, Westernness, GR 27/19-73-, alt 1050 m, August 1990. New to British Isles. Also from acid-schist boulder, west side of Ben Ghlas, Ben Lawers range, Killin, VC 88, Mid-Perth, GR 27/62-40-, alt 1025 m, March 1991, and from top of exposed mica-schist boulder, same location, alt 1100 m, April 1991. These collections had previously been determined as *R. badioatrum* but that species differs, most obviously, in lacking stictic acid in the medulla as well as having a thinner thallus.

A Fryday

*Rimularia intercedens*: on dolerite rocks, alt 290 m, Stanner Rocks NNR, VC 43, Radnor, GR 32/26-58-, January 1993. New to Wales.

A Orange

*Rinodina pyrina*: amongst Xanthorion community on west side of rotting plywood board on shingle spit, Orford Ness, VC 25, East Suffolk, GR 62/4—5—, July 1993. Second British record this century. Determined B J Coppins.

C J B Hitch

*Sagediopsis aquatica* (B. Stein) Triebel (1989): on thallus of *Koerberiella wimmeriana* on damp basalt, Druim na Coille, Trotternish, Skye, VC 104, North Ebudes, GR 18/43-64-, alt 250 m, 1991. New to British Isles. For description see *Lichenologist* 22: 237-239.

A Fryday

*Sarcopyrenia gibba*: lichenicolous on crustose lichens on concrete sea-wall, Hole Haven, Canvey Island, VC 18, South Essex, GR 51/77-82-, October 1993. Very common on a long stretch of the sea-wall, but not there in the 1980s!

P M Earland-Bennett.

*Sarcosagium campestre* var. *macrosporum*: on decaying vegetation and moss over limestone pebbles, Hole Haven, Canvey Island, VC 18, South Essex, GR 51/77-82-, October 1993. Genus new to Essex.

P M Earland-Bennett

*Strigula alpestris* var. *alpestris*: over moribund bryophytes on conglomerate outcrop in River North Esk, The Burn, near Edzell, VC 91, Kincardine, GR 37/59-71-, alt 60 m, 1993. An unusually low altitude for this species.

B J Coppins and A M O'Dare

*Strigula jamesii*: on branch on bank of stream (very shaded), Debenham, VC 25, East Suffolk, GR 62/17-62-, June 1993. Determined B J Coppins.  
P M Earland-Bennett

*Thelidium fontigenum*: on marble pebbles over tomb, Harrow Weald cemetery, Harrow Weald, London, VC 21, Middlesex, GR 52/15-91-, January 1992. Determined A Orange.

P M Earland-Bennett et al

*Thelidium minutulum*: on chalky clay soil, Ufford, VC 25, East Suffolk, GR 62/29-52-, February 1992. Determined A Orange.

P M Earland-Bennett

*Thelidium zwackhii*: on soil of bank beside road, Wickham Market, VC 25, East Suffolk, GR 62/30-55-, March 1992. Determined A Orange.

P M Earland-Bennett

*Thelidium zwackhii*: on soil on derelict site, Sadler Hall, Adel, Leeds, VC 64, Mid-west York, GR 44/27-39-, August 1992. Growing with *Collema limosum*. Determined A Orange.

P M Earland-Bennett

*Thelotrema lepadinum*: on *Sorbus aucuparia*, Barriedale Wood, Hoy, VC 111, Orkney, GR N30(HY)20-01-, July 1993. New to Orkney. For a discussion of the significance of this find, see under record for *Lobarina pulmonaria*.

D H and C Dalby

*Trapeliopsis gelatinosa*: wet earth overlying rock outcrop, Whal Wick, Esher Ness, Mainland, VC 112, Shetland, GR N41(HU)/23-81-, August 1986, New to Shetland. Confirmed B J Coppins.

D H Dalby

*Trapeliopsis viridescens*: on lignum of *Quercus* stump with *Cladonia parasitica*, in old, open oak-forest N of Lochwood Castle, VC 72, Dumfries, GR 36/08-97-, 1990. First verified British record this century. Determined B J Coppins.

G Thor

*Verrucaria ditmarsica*: on flint at edge of tidal River Crouch, below HWM, Hullbridge, VC 18, South Essex, GR 51/81-95-, August 1992. Determined A Fletcher.

P M Earland-Bennett

*Verrucaria macrostoma*: see under *Belonia nidarosiensis*

F Rose

*Verrucaria papillosa*: on basaltic rocks in underhang at base of coastal cliffs, St Cyrus NNR, VC 91, Kincardine, 37/74-64-, 1993.

B J Coppins and A M O'Dare

*Verrucaria striatula*: on nineteenth century clay pipe in bank of tidal River Deben below HWM (also on flints and brick), Kingston, Woodbridge, VC 25, East Suffolk, GR 62/27-47-, April 1992. Determined A Fletcher.

P M Earland-Bennett

[*Vezdaea cobria*: the correct name of this species is now given, (see New Rare and Interesting . . . *Bulletin* 73, p 65 and also Literature Pertaining . . . *Bulletin* 73, p 66). The naming of this species is defined as [sic] Herrn Dr Brian Coppins, Edinburgh (COppins BRIAn) . . . (see GIRALT, M, POELT, J and SUANJAK, M 1993. Die Flechtengattung *Vezdaea* mit *V. cobria* spec. nov. *Herzogia* 9: 715-724.)]

C J B Hitch

*Vazdaea leprosa*: on mossy brick wall of greenhouse in disused nursery, Colchester, VC 19, North Essex, GR 52/99-25-, November 1993. Growing with *Baeomyces rufus* and *Sarcosagium campestre* var. *macrosporum*. Genus new to Essex.

P M Earland-Bennett

*Vesdaea retigera*: on material on ground in urban wasteland (iron smelting works), Kirkstall, Leeds, VC 64, Mid-west York, GR 44/24-36-, October 1993. Growing with *Bacidia saxenii*.

P M Earland-Bennett

*Zamenhofia rosei*: on shaded yew trunk in woodland, Lower Wyndcliff Wood, near Chepstow, VC 35, Monmouth, GR 31/52-97-, March 1994, Conf. E Sérusiaux. New to Wales. Also on bryophytes on shaded limestone rock at same site.

A Orange

## LITERATURE PERTAINING TO BRITISH LICHENS - 15

*Lichenologist* **25**(4) was published on 9 November 1993, and **26**(1) on 17 February 1994.

Taxa prefixed by \* are additions to the flora of Britain and Ireland. Aside comments, in square brackets are mine. Jack Laundon is thanked for bringing two items to my attention.

ARCHER, A W 1993. A chemical and morphological arrangement of the lichen genus *Pertusaria*. In FEIGE & LUMBSCH 1993: 1-17 (see below). A new subdivision of the genus is proposed, with 3 subgenera and 2 sections, based on chemistry, morphology and spore number. Under this proposed arrangement, a listing of accepted species of *Pertusaria* is given.

ARMSTRONG, RA 1993. Factors determining lobe growth in foliose lichen thalli. *New Phytologist* **124**: 675-679. Based on studies of *Parmelia conspersa* and *P. glabrata* subsp. *fuliginosa* in S Gwynedd, Wales.

ARMSTRONG, RA 1993. The growth of six saxicolous lichens transplanted to lime-rich and lime-poor substrates in South Gwynedd, Wales. *Symbiosis* **15**: 257-267.

BOREHAM, S 1993. Changes in the lichen flora of birch *Betula pendula* in northern Epping Forest. *London Naturalist* **72**: 25-30. [Not seen].

BOWEN, H J M 1993. Lichens. In A MAHON & D PEARMAN, *Endangered Wildlife in Dorset - The County Red Data Book*: 121-126. Dorset Environmental Records Centre. A list of scarce or endangered lichens from the county, with some locality information.

BRICAUD, O & ROUX, C 1993. Les apothécies de *Bacidia viridifarinosa* Coppins et P. James. *Bull. Soc. linn. Provence* **44**: 111-116. *B. viridifarinosa* has been found with apothecia in southern France (Hérault, Tarn and Var), and its close affinity to *B. carneoglauca* is confirmed, although it has longer ascospores, (18-) 27-44 x 3-4 µm.

BRODO, I M & ELIX, J A 1993. *Lecanora jamesii* and the relationship between *Lecanora* s.str. and *Straminella*. In FEIGE & LUMBSCH 1993: 19-25 (see below). *L. jamesii* is shown to provide a link between *Lecanora* s.str. (*L. subfusca* group) and *Straminella* (*L. varia* group) such that the latter should not be recognized at the generic level. Contrary to previous reports (e.g. in *Flora* p. 309), *L. jamesii* is shown to contain usnic acid,

atranorin, chloroatranorin and a newly identified depside 2-O-methylsulphurellin (not gangaleoidin).

CLERC, P 1992. Some new or interesting species of the genus *Usnea* (lichenised Ascomycetes) in the British Isles. *Candollea* **47**: 513-526. \**Usnea esperantiana* Clerc sp. nov., \**U. subscabrosa* Nyl. ex Motyka and *U. wasmuthii* are described and discussed, and maps are provided. A key to *Usnea* in the British Isles is included, as are photos of *U. esperantiana* and *U. subscabrosa*.

COPPINS, B J 1994. Lichens. In GLIMMERVEEN, I & RITCHIE, A. *What is the value of River Woodlands?:* 28-29. Edinburgh: Institute of Chartered Foresters. Short note and discussion on value of river woodlands for lichens. [Several of the other contributions are relevant to the management of woodlands for the benefit of lichens.]

EKMAN, S 1993. A taxonomic study of *Ropalospora chlorantha*, and a comparison between *Ropalospora* and *Fuscidea*. *Bryologist* **96**: 582-591. *Ropalospora Massal.* is segregated from *Fuscidea* on account of its multiseptate, acicular spores, and differences in exciple and ascus structure. Three of the five accepted species occur in the British Isles: *R. lugubris* (syn. *Fuscidea lugubris*), the newly combined *R. hibernica* (P. James & Poelt) Tønsb. (syn. *F. hibernica*), and *R. viridis* (syn. *F. viridis*). A few specimens of *R. hibernica* have been found with apothecia in Norway and Alaska. A sorediate morph of *F. lugubris* is reported from Scotland.

EGEA, J M & TORRENTE, P 1993. *Crespoana*, a new genus of lichenized fungi in the order Arthoniales (Ascomycotina). *Mycotaxon* **48**: 301-331. The genus *Crespoana* Egea & Torrente is introduced for the *Crespoana premnea* (Ach.) Egea & Torrente (*Lecanactis premnea*) group. The saxicolous morph of *C. premnea* is treated as var. *saxicola* (Leighton) Egea & Torrente.

EGEA, J M & TORRENTE, P & MANRIQUE, E 1993. The *Lecanactis grumulosa* group (Opegraphaceae) in the Mediterranean region. *Pl. Syst. Evol.* **187**: 103-114. Includes accounts of *L. grumulosa* and *L. lyncea*. *Lecanactis delimis*, *L. nothiza*, *L. monstrosa* are confirmed as synonyms of *L. grumulosa*.

ELIX, J A 1993. Progress in the generic delimitation of *Parmelia* sensu lato lichens (Ascomycotina: Parmeliaceae) and a synoptic key to the Parmeliaceae. *Bryologist* **96**: 359-383. A long-awaited synopsis, invaluable to many of us who have wondered what the real differences are between the many parmelioid genera.

FEIGE, G B & LUMBSCH, H T 1993. Phytochemistry and chemotaxonomy of lichenized ascomycetes - A Festschrift in honour of Siegfried Huneck. *Bibliotheca Lichenologia* 53: i-xiii, 1-288. Twenty-eight papers by many of Professor Huneck's friends and colleagues; all but one of the papers is in English, and many of them are relevant to the British lichen flora - the most pertinent being included in this listing.

KÄRNEFELT, I, MATTSSON, J-E & THELL, A 1993. The lichen genera *Arctocetraria*, *Cetraria*, and *Cetrariella* (Parmeliaceae) and their presumed evolutionary affinities. *Bryologist* 96: 394-404. The genus *Cetraria* s.str. is newly circumscribed to comprise 15 species, including *Coelocaulon*. British species are *C. aculeata* (Schreber) Fr. (syn. *Coelocaulon aculeatum*), *C. ericetorum*, *C. islandica*, *C. muricata* (Ach.) Eckf. (syn. *Coelocaulon muricatum* (Ach.) Laundon). The new genus *Cetrariella* Kärnef. & Thell is distinguished by its ascus structure, lageniform conidia and chemistry, and includes *C. delisei* (Bory ex Schaerer) Kärnef. & Thell [NB: the page reference to Schaerer's Enumeratio should be '16' not '114'] (syn. *Cetraria delisei*). [*C. juniperina* and *C. pinastri* are referred to *Vulpicida* (see below), *C. cucullata* and *C. nivalis* apparently belong to an undescribed group, as do *C. chlorophylla* and *C. sepincola*, and *C. commixta* and *C. hepatizon*.]

KÜMMERLING, H, TRIEBEL, D & RAMBOLD, G 1993. *Lepraria neglecta* and its lichenicolous fungi. In FEIGE & LUMBSCH 1993: 147-160 (see above). Includes a map of the Northern Hemisphere distribution of *L. neglecta*. The lichenicolous discomycete, *\*Llimoniella neglecta* (Vainio) Triebel & Rambold comb. nov. (syn. *Nesolechia neglecta* Vainio) is reported on an unidentified *Lepraria* from E Sutherland and Kirkcudbright, and *\*Llimoniella groenlandiae* (Alstrup & D. Hawksw.) Triebel & Hafellner comb. nov. (syn. *Gettingia groenlandiae* Alstrup & D. Hawksw.) is reported on *Caloplaca citrina* from Derbyshire.

LAUNDON, J R 1993. 'TABLE 2. Lichens from Feltham Marshalling Yard'. [In CRIBB, The natural history of Feltham Marshalling Yard]. *The London Naturalist* 72: 38. List of 17 species from waste ground in western London [VC 21], including *Cladonia diversa* and *C. rei*.

LUMBSCH, H T, FEIGE, G B & SCMITZ, K E 1993. *Pertusaria huneckiana*, a new Mediterranean lichen, with notes on some saxicolous *Pertusaria* species containing chloroxanthones. In FEIGE & LUMBSCH 1993: 173-178. (see above). *Pertusaria pluripuncta* Nyl. (1883) is an earlier name for *P. gallica*. A key to related, non-isidiate, non-sorediate European species that contain chloroxanthones is included [except saxicolous morphs of *P. hymenea*!].

MATTSSON, J.-E 1993. A monograph of the genus *Vulpicida* (Parmeliaceae, Ascomycetes). *Opera Botanica* 119:1-61. A detailed monographic treatment of this newly recognized genus (see next entry).

MATTSSON, J.-E & Lai, M.-J 1993. *Vulpicida*, a new genus in the Parmeliaceae (lichenized ascomycetes). *Mycotaxon* 49: 425-428. The generic name *Vulpicida* J.-E. Mattsson & M.-J. Lai is introduced for the species of *Cetraria* with pinastric or vulpinic acids in the medulla, including *V. juniperinus* (L.) J.-E. Mattsson & M.-J. Lai (*C. juniperina*) and *V. pinastris* (Scop.) J.-E. Mattsson & M.-J. Lai (*C. pinastris*).

MAYRHOFER, H, MATZER, M & SATTLER, J 1993. A revision of the Atlantic-Mediterranean *Rinodina beccariana* and related taxa (lichenized ascomycetes, Physciaceae). *Nova Hedwigia* 57: 281-304. Saxicolous material of *Rinodina subglaucescens* is shown to be a synonym of *R. beccariana* Bagl. (1871) var. *beccariana*. However, specimens previously identified as *R. subglaucescens* growing on decaying *Armeria* tufts and dead *Calluna* are referred to the newly described \**R. roboris* var. *armeriicola* Matzer & Sattler.

O'DARE, A.M. (1994). The storms of early 1990: problems for the lichen flora. In J. SPENCER & A. FEEST (eds.) *The Rehabilitation of Storm Damaged Woods*: 31-38. Bristol: University of Bristol Department of Continuing Education. Gives an account and discussion regarding the storm damage studied at two sites in Cornwall and Devon, with notes on transplant experiments and general management recommendations.

PAUS, S, DANIELS, F J A & LUMBSCH, H T 1993. Chemical and ecological studies in the *Cladonia subulata* complex in northern Germany (Cladoniaceae, lichenised Ascomycotina). In FEIGE & LUMBSCH 1993: 191-200 (see above). Although morphological differences are merely tendencies, the chemical differences between *C. rei* and *C. subulata* are supported by ecological and phytosociological data.

RAMBOLD, G, TRIEBEL, D & HERTEL, H 1993. Icmadophilaceae, a new family in the Leotiales. In FEIGE & LUMBSCH 1993: 217-240 (see above). The new family includes *Icmadophila* and *Dibaeis* ('*Baeomyces roseus*' group), and differs from the Baeomycetaceae in having an amyloid apical cap in the ascus, as well in several other anatomical, ontogenetical and chemical features. The combination *Dibaeis baeomyces* (L.f.) Rambold & Hertel (syn. *Baeomyces roseus*) is made [see GIERL & KALB in the last issue].

SANTESSON, R 1993. *The Lichens and Lichenicolous Fungi of Sweden and Norway*. Pp 240. An annotated catalogue, updating the author's 1984



list. New combinations include: *Lauderlindsaya acroglypta* (Norman in Th. Fr.) R. Sant. (syn. *L. chlorococca*, *L. erichsenii*, *Normandina erichsenii*); *Lichenopeltella* Höhnelt (syn. *Micropeltopsis* Vainio, *Trichothyria* (Petra) Petra), *Lichenopeltella cetrariicola* (Nyl.) R. Sant. (syn. *Trichothyria cetrariicola*, *Micropeltopsis cetrariicola*); *L. peltigericola* (D. Hawksw.) R. Sant. (syn. *Actinopeltis peltigericola*, *Micropeltopsis peltigericola*); *Polycoccum pulvinatum* (Eitner) R. Sant. (syn. *P. galligenum*). The list adopts some other names that are likely to become widely accepted: *Calicium lichenoides* (L.) Schum. (syn. *C. salicinum*), *Caloplaca chlorina* (Flotow) H. Olivier (syn. *C. isidiigera*), *Hypogymnia farinacea* Zopf (*H. bitteriana*), *Parmeliella parvula* P.M. Jørg. (syn. *P. jamesii*), *Spirographa* Zahlbr. (syn. *Pleospilis* Clem., *Spilomela* (Sacc.) Keissler), *Spirographa fusisporella* (Nyl.) Zahlbr. (syn. *Pleospilis ascaridiella*), *Xylographa parallela* (Ach.:Fr.) Behlen & Desberg (syn. *X. abietina*). Also, *Clypeococcum* 'hypocenomyceae' is corrected to *C. hypocenomyces*, *Lecanora* 'sarcopisiodes' to *L. sarcopidoides*, and *Pyrenopsis furfurea* '(Nyl.) Th. Fr. (1866)' to '(Nyl.) Leighton (1879)'. Several additional or apparent differences between this list and the recent British checklist require further consideration.

SEAWARD, MR D 1993. Progress in the study of the Yorkshire lichen flora. *Bull. Yorkshire Naturalist's Union* **20**: 10-11. Update of the number of lichens recorded per 10 km grid square, including the use of a 3-dimensional cartographic interpretation.

SÉRUSIAUX, E 1993. New taxa of foliicolous lichens from western Europe and Macaronesia. *Nordic J. Bot.* **13**: 447-461. Includes the new species \**Scoliciosporum curvatum*. Sérus., recorded from the British Isles on *Rhododendron* leaves in Kirkcudbright and Co. Down [additional specimens in E also from Wigtown (on *Rhododendron*) and Peebles (on *Buxus*)]; elsewhere known from SW Norway, SW and Central France and N Spain. This minute species has been known for some years under the unpublished name '*Lilliputeana curvata*'. Its apothecia are c. 0.1-0.16 mm diam., with spores that are 8-16/ascus, curved or lunate, 1-septate, 7-11 x 1.5-3  $\mu$ m.

TITOV, A & TIBELL, L 1993. *Chaenothecopsis* in the Russian Far East. *Nordic J. Bot.* **13**: 313-329. Includes a key and descriptions of several species that also occur in the British Isles.

WOODS, R W 1993. *Flora of Radnorshire. Cardiff*: National Museum of Wales in association with the Bentham-Moxon Trust. 292. A traditional county flora, with excellent introductory sections on the physical environment,

plant communities, biogeography and conservation matters. Lichens are well covered, with over 500 lichens and lichenicolous fungi recorded, each with brief notes on abundance, ecology and, for rare species, localities. Many species have a county map, using a 5 x 5 km grid.

### LICHEN DYE BOOKS RE-ISSUED

Members of the Lichen Society will be interested to hear that two books on the use of lichens for dye production are once more available.

**Lichens for Vegetable Dying** is a classic because it has simple instructions for lichen identification and dye production and, furthermore, it is illustrated by five wonderful hand painted lichen illustrations which feature snails, butterflies and other plants as well as the lichens. The new edition, with biographical notes on Eileen Bolton by Karen Casselman, is published by Robin and Ross, 533 North Adones Street, McMunville, Oregon 97128.

**The Craft of the Dyer - Colour from Plants and Lichens** by Karen Casselman in the form of a second revised edition is now available in paperback from Dover Publications, 31 East 2nd Street, Mineola, NY 11501, USA. This book was first published in 1980 and has a modest section on lichens in addition to larger sections on other dye plants. Information is included on all aspects of vegetable dying.

These two volumes, at the modest price of about £10, give the necessary information to allow lichenologists to experiment with vegetable dying. Conservation should, of course, be very much borne in mind. They also provide answers to questions from the general public as to what other plants can be used for dying purposes.

David Richardson

## EDUCATION AND PUBLICITY COMMITTEE

At its last meeting Council proposed that an "Education and Publicity Committee" should be formed. This Committee would have responsibility for promoting lichenology in schools (and with educationalists in general), museums and amongst other societies concerned with natural history. If any member is interested in membership of this committee then please contact either Tom Chester or Keith Palmer.

## THE LIVING CHURCHYARDS AND CEMETERY PROJECT

The "Living Churchyards and Cemetery Project" publishes a newsletter (No 2 was published in Spring 1994). It is hoped to publish 2 or 3 issues annually. Anyone interested in receiving the Newsletter should write to Eve Dennis (Director), Living Churchyards and Cemetery Project, The Arthur Rank Centre, National Agricultural Centre, Stoneleigh Park, Warwickshire, CV8 2LZ, stating whether they would be prepared to pay an affiliation fee of either £5 or £10 and providing the names of any Churchyard or Cemetery Project in which they are involved.

## CHANGES TO THE RULES

Council will shortly be examining the rules with a view to making alterations necessary in the light of recent changes brought about by the Charity Commissioners. Any recommendations for proposed changes will be published in the Winter *Bulletin*. The existing rules are enclosed with this issue for the benefit of members who may like to propose specific changes to Council for consideration.

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

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*Horizons in Lichenology* by Dalby, Hawksworth and Jury (1988) . . £2.50

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## OTHER ITEMS FOR SALE

British Lichen Society clothing has been very popular with many members, particularly those overseas. We have previously offered a wide range of colours of sweatshirts, T shirts and sweaters, but of course it is impossible to stock every size and colour, and when I receive an order through the post, I can guarantee that it is for something that I haven't got in stock! I have also discovered that most lichenologists prefer bottle green or navy and that most are Large or XL! Consequently I am reducing the colour range and hope to stock all items. This should reduce the delay in responding to postal orders. If you would really like a different colour, it is possible to obtain it, and if you would like a specific garment embroidered with the BLS logo (eg track suit, jogging trousers, cardigans etc) this is also possible - cost about £4.50.

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BULLETIN 74. Issued by the British Lichen Society (Registered Charity No 228850), c/o Department of Botany, Natural History Museum, Cromwell Road, London, SW7 5BD (Telephone 071938 8852). Edited by P.D. Crittenden, Department of Life Science, The University of Nottingham, Nottingham, NG7 2RD. The views of contributors are not necessarily those held by the British Lichen Society.



Printed by DESA Ltd, Nottingham.

ISSN 0300 - 4562