

BRITISH LICHEN SOCIETY

President: P. W. James, B.Sc., F.L.S.

BULLETIN 26

May 1970

New lichen identification book

A new book on British lichens is being published about now by T. Buncle & Co. Ltd., Market Place, Arbroath, Angus. It is entitled Introduction to British Lichens and the author is Dr U. K. Duncan. The book should prove very useful indeed because it includes keys to and descriptions of all British lichens with the exception of very rare species. In addition to the 366 pages of text there are 128 plates of line drawings showing essential characters. Other useful features are a good introduction, glossary and forty-four page bibliography. Mr P. W. James has given Dr Duncan every assistance in the compilation, particularly with regard to the keys and bibliography. The book costs £3. 10s. Od. post free from T. Buncle.

The second edition of Dahl's keys has now been available since 1968 and is proving most useful for the determination of British foliose and fruticose lichens. These keys have highlighted the long standing gap in available literature of good modern keys to all groups of crustaceous lichens. Dr Duncan's book admirably fills this gap as well as providing much other useful information.

New issue of Smith's monograph volume one

In August 1970 A. Asher & Co. will be publishing a facsimile edition of A. L. Smith's A Monograph of the British Lichens. Ed. 2. Part 1 (1918). The price of the book will be fl. 126 (£14. 16s. 1d.). This work has been out of print since before the Second World War and has been much sought after by lichenologists. The high price of the facsimile, which is comparable with the cost of second-hand copies, will bring disappointment to many.

The remaining stock of several hundred copies of A. L. Smith's A Monograph of the British Lichens. Ed. 2. Part 2 (1926) has been purchased by Asher from the British Museum (Natural History), London. The price of this volume is now fl. 100 (£11. 15s. Od.), compared with £2 when sold by the Museum. The increase in price is astonishing.

Both volumes of the Monograph can be purchased for fl. 200 (£23. 10s. Od) from A. Asher & Co., Postbus 105, Akenerstraat 4, Vaals, Netherlands. An early sell out does not appear probable.

European Conservation Year: lichen conservation

The aims of European Conservation Year, 1970, are to agree on policies which will help to conserve and improve the quality of our environment and to find the best ways to put them into action, and to make conservation problems clearer to everyone and so improve support for the measures needed to deal with them. The Society is concerned with lichen conservation through its Lichen Site Committee and Conservation Officer. At present steps are being taken to ensure the preservation of areas of international and national lichenological importance and a policy of liaison with kindred societies is being pursued. One of the more important early measures resulting from the activities of the Committee is the agreement on recommendations for members engaged in field work. This is issued with this Bulletin as a supplement, and copies will be sent to new members on joining the Society. It is hoped that the document will help to contribute in some small way to the aims of European Conservation Year.

Day excursion to Kent

The annual excursion with the Kent Field Club led by Mr F. H. Brightman and Mr J. R. Laundon will be held on Sunday 10 May 1970 with the object of studying saxicolous lichens on the Isle of Thanet, Kent. Meet at Birchington-on-Sea Station, Kent, at 11.15. Bring packed lunch. Train leaves Victoria Station, London, at 9.40 arriving at Birchington-on-Sea at 11.14.

Summer field meeting in north Yorkshire and the Cheviots, 1970

Full details of this meeting were issued in Bulletin 25. It is regretted that the prices given for some of the hotels at Wooler have proved to be out of date.

Autumn meeting at Oxford, 1970

The autumn meeting at Oxford will be a new venture for the Society because it will attempt to combine a field and an indoor meeting. The meeting will be held from Friday evening 30 October 1970 until Sunday evening 1 November, under the leadership of Mr J. F. Farrar, Keble College, Oxford. Friday evening will be quite informal, Saturday morning and afternoon will be devoted to field work, whilst Saturday evening and Sunday morning and afternoon will be devoted to lectures. Lectures are required for this meeting and any member who would like to be kind enough to address the Society on any aspect of lichenology should complete the form at the end of this Bulletin. Forms should be sent to Mr Farrar before 31 July. The full programme of speakers can then be issued in the next Bulletin. The headquarters hotel will be Linton Lodge, and it is here that members should meet on Friday 30 October at 20.00. The lectures will be held in the Department of Agricultural Science, Parks Road, Oxford, and members should meet at the entrance to the Department at 10.00 on Saturday 31 October and at the same time on Sunday 1 November. Members attending should book their own accommodation and return the enclosed form to Mr Farrar who will answer any special enquiries regarding the meeting.

The accommodation is as follows:

- Cotswold Lodge Hotel, 66a Banbury Road (Telephone: Oxford 57441)
15 rooms. £2 bed & breakfast.
- Derbyshire Hotel, 18 Rawlinson Road (Telephone: 54948). 10 rooms.
£1. 12s. 6d. bed & breakfast.
- Holywell Hotel, 1 Holywell Street (Telephone: 48693). 15 rooms.
£1. 15s. Od. + 10% bed & breakfast.
- Linton Lodge, 13 Linton Road (Telephone: 55494). 30 rooms.
£2. 7s. 6d. bed & breakfast. Headquarters for the meeting.
- Parklands Hotel, 87 Banbury Road (Telephone: 59860). 10 rooms.
£1. 12s. 6d. bed & breakfast.

- W.H. Harding, 1 - 3 Banbury Road (Telephone: 54843). 40 rooms.
£1. 10s. Od. bed & breakfast.
- Mrs A.E. Marshall, 49 Banbury Road (Telephone: 54606). 10 rooms.
£1. 5s. Od. bed & breakfast.
- K. Almond, 180 Banbury Road (Telephone: 55688). 13 rooms.
£1. 10s. Od. bed & breakfast.
- J. Long, 25 Chalfont Road (Telephone: 52788). 16 rooms.
£1. 5s. Od. bed & breakfast.
- E.H. Jones, 16 Norham Road (Telephone: 55352). 10 rooms.
£1. 5s. Od. bed & breakfast.
- J.R. Britten, 21 Norham Road (Telephone: 57000). 8 rooms.
£1. 7s. 6d. bed & breakfast.
- Mrs A.M. Skuce, 11 Polstead Road (Telephone: 56971). 6 rooms
£1. 5s. Od. bed & breakfast.

Meetings 1971

Provisional arrangements for meetings in 1971 include the Annual General, lecture and exhibition meeting at Imperial College, London, on 2 January, spring field meeting at Bryanston, Dorset, from 7 - 14 April, and summer field meeting at Hereford from 4 - 11 August. Full details of the meetings in 1971 will be issued in later numbers of the Bulletin.

Lichen courses 1970

SHROPSHIRE. Preston Montford Field Centre, Shrewsbury. 5 - 12 September.
Lichen course. Directed by D. Jackson Hill.

YORKSHIRE. Malham Tarn Field Centre, Settle. 22 - 29 July. Course on lichens.
Directed by P. W. James.

The centres will supply further details and information regarding bursaries and grants available for those who attend.

British Mycological Society's forays

In view of the close relationship between lichens and fungi it is essential that there should exist a liaison between the British Lichen Society and the British Mycological Society. Agreement has now been reached between the two societies whereby members of either are welcome to attend the meetings of the other. It is hoped to include with this Bulletin the British Mycological Society's foray programme; members of the Lichen Society are welcome to attend any or all of the forays advertised.

New Assistant Editor

At the Annual General Meeting on 3 January 1970 Mr D. L. Hawksworth, Commonwealth Mycological Institute, Ferry Lane, Kew, Richmond, Surrey, was appointed Assistant Editor of The Lichenologist.

Mr. Hawksworth left Leicester University in the summer of 1969 to work on fungi and lichens at the C.M.I. He has already published a number of important papers on lichens and has done much work on Alectoria and lichen chemistry.

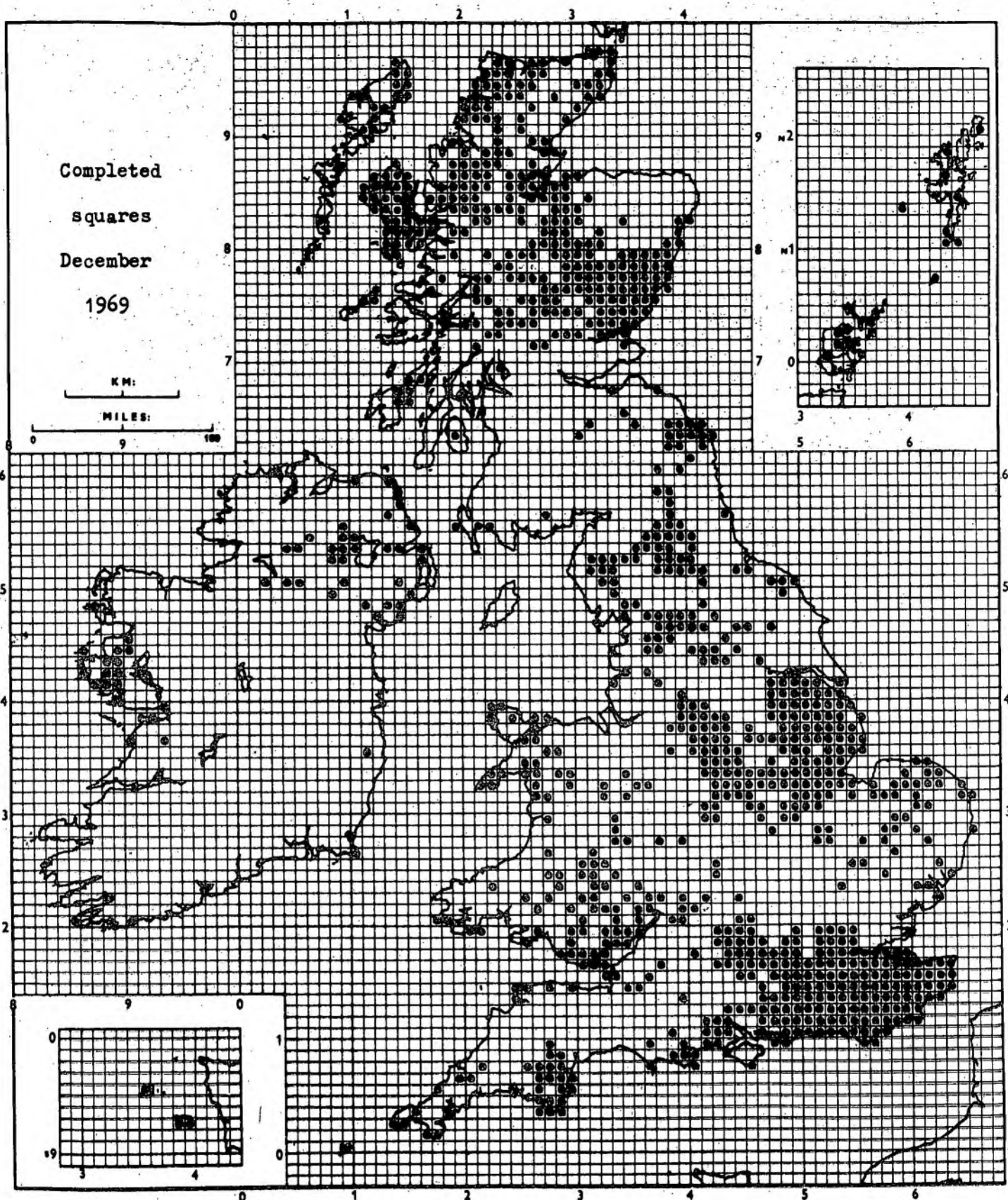
Delay in publication of Lichenologist

The Society regrets the delay in the publication of The Lichenologist which has meant that members who have paid subscriptions for 1969 and 1970 have not received copies of the journal. The first of two parts for 1969 subscriptions (volume 4 part 3) is now being issued, and the second part for 1969 is in proof.

Bulletin goes metric

This Bulletin, as well as subsequent numbers, is on paper size A4, that is, 21 x 29.7 cm, which is the metric international size to replace Imperial foolscap. Supplementary matter to the Bulletin will continue to be produced on foolscap until the Society's existing stocks of duplicating paper are exhausted.

If any member receives a copy of the Bulletin with a blank page it does not mean that the issue has been censored but denotes that a fault has occurred in the operation of the machinery. Recipients of a Bulletin in this condition should inform the Secretary, Mr J. R. Laundon, Department of Botany, British Museum (Natural History), Cromwell Road, London, S.W. 7, whereupon a perfect copy will be forwarded.



Distribution Maps Scheme

The above map shows the squares for which completed general mapping cards have been compiled. A comparison with the map issued in Bulletin 24 illustrates the considerable increase which has taken place in the compilation of record cards during 1969.

Health hazards of chemicals used in lichenology

The increasing importance of chemistry in taxonomic studies of lichens is resulting in an increasing number of lichenologists having to use an increasing array of chemicals. The days are almost over when lichenology can be conducted with a trio of bottles. Crystal tests and chromatography bring lichen workers into contact with chemicals with which they were formerly unfamiliar, and it is important for them to appreciate whether there are any health hazards involved in their usage. The hazards may not be apparent, because substances can be handled and thus absorbed through the skin with fatal results many years after the initial exposure. Books and papers on lichens which deal with chemicals rarely mention the question of health. One frequently meets with the reference to paraphenylenediamine discolouring paper, whereas the known effects of this substance on human beings often go unmentioned.

The Lichenologist has two references to the health hazards of chemicals. Dr J. Santesson in Lichenologist 3: 216 (1966) mentions that diamine reagents (including Pd) must be handled with great care for all "are potential allergenes and can affect the skin, causing rashes with blistering". He also points out that although Pd is not a carcinogen, it is not known whether the oxidation products of Pd (which are responsible for the discolouration of the reagent solution) are carcinogenic or not. A carcinogen is a cancer inducing substance. Dr T. D. V. Swinscow in Lichenologist 1: 120 (1959) also deals with the hazards of Pd, reporting that severe "toxic reactions ... have been reported from time to time, including blindness, brain damage, and violent inflammation of the skin. It is thus a substance that is best used with care, and any that contaminates the skin should be immediately washed off. Reasonable precautions should also be taken against inhaling fine particles of it in the air. About 4% of apparently normal people are said to be sensitive to Pd, and about 1% acutely sensitive. Repeated contact with small amounts may initiate or build up sensitivity. Clearly it is a poison that should be kept out of the hands of uninstructed people, and particularly of children."

Recently a "Any Questions?" was published by the British Medical Journal on some chemicals used for carrying out crystallization microchemical tests. The article dealt with ortho-toluidine (in G.A.o-T), aniline (in G.A.An.), quinoline (in G.A.Q.) as well as the solvents benzene and acetone. From the reply it is evident that the non-toxic acetone should be used as a routine solvent in preference to benzene, which is a hazard to health. The crystallizing reagent G.A.An. should be handled with full precautions, including the wearing of gloves, because exposure to aniline can lead to methaemoglobinaemia, a profound anaemia. The article also deals with benzidine, fortunately rather rarely used in lichenology, and points out how exceedingly dangerous this substance is. In view of the value of the article to lichenologists, it is reproduced below, by permission from the British Medical Journal, 1970, volume 1, page 287.

Health Hazards of Certain Chemicals

Q. - Could any danger attach to the use of the following chemicals without special safeguards: ortho-toluidine, aniline, benzidine, benzene, quinoline, or acetone?

A. - It is best to deal with each of the compounds listed separately.

Ortho-toluidine (2-methylaniline). - There is no evidence that exposure to this substance increases the risk of developing cancer either in man or in laboratory animals. However, it is important to note that a similarly named but chemically quite different substance, ortho-tolidine (3,3-dimethylbenzidine) is to be regarded as having carcinogenic potential and should be handled with

full precautions, as recommended in a pamphlet entitled "Precautions for Laboratory Workers who handle Carcinogenic Aromatic Amines" (Harlow Industrial Health Service). Copies may be obtained from the Chester Beatty Research Institute, Fulham Road, London, S.W.3.

Aniline.-- Numerous studies on laboratory animals have failed to provide any evidence that aniline itself increases the risk of developing cancer. According to Scott, 1 "It is probable that while some, and possibly many, of the so-called aniline tumours in earlier years were due to carcinogenic impurities in aniline, many of the others were loosely ascribed to aniline when in fact another compound such as benzidine or beta-naphthylamine was being worked."

It seems likely therefore that pure aniline presents no hazard in terms of carcinogenesis, but full precautions should be taken if there is a chance that it is contaminated with known cancer - inducing agents. Exposure to aniline can lead to methaemoglobinaemia. The dangers of this are sufficient to warrant full precautions in its handling.

Benzidine.- This is one of the substances prescribed under the Prescribed Disease No. 39 Regulations of the National Insurance Industrial Injuries Act. The disease to which exposure to benzidine predisposes is primary neoplasm of the epithelial lining of the urinary bladder, renal pelvis, or ureter.

The list of other substances in the same category includes a-naphthylamine, B-naphthylamine, 4-aminodiphenyl (xenylamine), 4-nitrodiphenyl, ortho-tolidine, and ortho-dianisidine, or their respective salts.

All these substances should be used only with the full precautions recommended in the Harlow Code. Copies may be obtained from the Chester Beatty Research Institute, Fulham Road, London, S.W.3.

Benzene. - Chromosome abnormalities, aplastic anaemia, and leukaemia have been reported in persons exposed occupationally to benzene. The risks to health from benzene are of a lower order than those from benzidine and the other compounds listed as in the same category. Nevertheless, exposure should be kept to a minimum by good ventilation and enclosure of processes, etc., so far as possible.

Quinoline and Acetone. - These are relatively non-toxic, and exposure to them is not associated with any known cancer risk.

REFERENCE

- 1 Scott, T.S., Carcinogenic and Chronic Toxic Hazards of Aromatic Amines, Amsterdam, Elsevier, 1962.

Literature list

A list of Works of Reference for the Study of British Lichens is enclosed with this Bulletin. The list is kindly donated by the Department of Botany, British Museum (Natural History), London.

Herbarium moved

The Society's herbarium is at present with Mr J. D. Guiterman, Department of Biology, The Grammar School, Bodmin, Cornwall. Enquiries for the loan of specimens should therefore be sent direct to Mr. Guiterman. The herbarium is in need of further specimens and would welcome additional material.

Report on lecture and exhibition meeting, 1970

The lecture and exhibition meeting, held on 3 January 1970 at the Department of Botany, Imperial College, Prince Consort Road, London, S.W.7, was attended by forty-five persons. The following exhibits were displayed:

- CHAMPION, C. L. "A History of the Canary Islands" by Capt. George Glas (published 1764).
- DOBBS, C. G. Some Australian lichens.
- DUNCAN, URSULA K. Usnea (Herb. U. K. Duncan)
- DUNCAN, URSULA K. Introduction to British Lichens (proof of book).
- LAUNDON, J. R. A lichen new to Britain: Lecanora populicola.
- RICHARDSON, D. H. S. Report by P. K. Chivers & W. J. Chivers: "An Investigation into the Use of Lichen as a Solution of the World Food Shortage."
- RICHARDSON, D. H. S. Material dyed with lichens on the lichen dyeing course at Dartington Hall and with Canadian lichens.
- RICHARDSON, D. H. S. Ornamental candle made by Birgitta Triise in Canada, incorporating lichens of northern Ontario.
- ROSE, F. Distribution patterns in relation to air pollution in south - east England.
- SEAWARD, M. R. D. British Lichen Society Mapping Scheme: Completed general mapping cards - December 1969.
- SWINSCOW, T. D. V. The Namib Desert.
- WALLACE, NANCY. Exhibition of lichen dyeing work carried out at Dartington Hall.
- WALLACE, NANCY. Photographs of lichenologists.

The afternoon lectures were devoted to biogeographical aspects of lichenology. Dr F. Rose spoke first, on the distribution and present status of the geographical elements in the lichen flora of southern Britain, illustrating his theme with photographs of species in situ and distribution maps. He concluded that many corticolous "western" lichens were formally widespread, and their present pattern of distribution was the result of forest clearance, drainage and air pollution, so that many now survived only in ancient parklands and historic forests. In spite of the considerable effects of man on the distribution of epiphytes, some elements in the lichen flora of Lowland Britain could still be recognised, and Dr Rose spoke of the southern group (e.g. Parmelia soledians), the eastern group (e.g. Anaptychia ciliaris), northern group (e.g. Parmeliopsis aleurites) and the true western species (e.g. Parmelia laevigata).

Following the tea interval Mr P. W. James spoke on the geographical distribution patterns of certain elements in the British lichen flora, mentioning the various elements, with examples, of which the British lichen flora was composed. Of particular interest were the very wide distributions of some lichens, stretching right from the arctic to the antarctic, whilst species which were on the edges of their ranges in Britain grew only in specialised habitats, such as the small group of Mediterranean species which were confined to shaded hollows under overhangs by the sea. Mr James estimated that there were about ten endemic lichens in Britain.

Three short communications followed the two main lectures. Dr D. H. S. Richardson spoke about the relationship between pollution, history and lichen distribution of the Sudbury area of Canada, with an account of his studies of the numbers of terricolous lichens at different distances from the area of nickel smelting. Mr D. I. Morgan-Huws gave some of the results of his survey of lichens and air pollution in south Hampshire, in which the distribution of ten species on free-standing Quercus were studied in an area between Bournemouth and the east of Southampton; maps of the percentage frequency of species, and the percentage cover of all taxa were shown, and the ten lichens grouped into five categories of tolerance to air pollution. Mr Morgan-Huws ended by stressing the difference between the effects of pollution on the establishment of lichens and their survival,

and considered that lichens could be used as early warning indicators of increasing levels of pollution. The final contribution was from Dr T. D. V. Swinscow on the geographical distribution of lichens in relation to Africa. Dr Swinscow pointed out that some twenty per cent of the macrolichens in Uganda occurred also in Britain, most of these species being regarded here as Atlantic. He considered that the world distribution of many lichens bore little relationship to that appertaining in the British Isles, and in view of the poverty of knowledge of the lichen flora of most areas outside Europe, we were only at the beginning of our understanding of distribution patterns. On this appropriate note at 18.25 the meeting closed.

Current research/study projects

CAIN, DR R. F., Department of Botany, University of Toronto, Toronto 181, Ontario, Canada.

Lichen flora of Ontario, Canada.

DANIELS, F. J. A., Instituut voor Systematische Plantkunde, Heidelberglaan 2, Utrecht, Netherlands.

Lichen flora and vegetation of south-east Greenland.

DUNCAN, DR U. K., Parkhill, Arbroath, Angus.

Compilation of flora of Angus due to be published in about three years time. Flora of Kincardineshire to follow.

GRAHAM, REV G. G., The Vicarage, Hunwick, Crook, Co. Durham.

Lichen records for Durham (V.C. 66).

SWINSCOW, DR T. D. V., 103 London Road, Knebworth, Hertfordshire.

Lichens of east Africa (i.e. Kenya, Tanzania, Uganda), especially macrolichens.

International Lichenological Newsletter correspondent

Mr D. L. Hawksworth, Commonwealth Mycological Institute, Ferry Lane, Kew, Richmond, Surrey, is acting as the correspondent for the British Isles for the International Lichenological Newsletter. Any news of research in progress (not the results), awards, appointments, or any items of more than local significance, may be sent initially to Mr Hawksworth for inclusion in the Newsletter.

Lichen flora of Herefordshire

Mr R. H. Bailey, Gloucestershire College of Art and Design, Cheltenham, Gloucestershire, GL52 3JG, is preparing a lichen flora of Herefordshire (V.C. 36) and would be grateful for any reliable field records or notes of the existence of collections from the county in private or public herbaria.

Dr Wetmore receives Greenman award

Dr C. M. Wetmore, Department of Biology, Wartburg College, Waverly, Iowa, U.S.A., received the Jesse M. Greenman Award in 1969 for the best Ph.D. dissertation on plant systematics published in 1968. The annual award of \$ 100 is presented by the Alumni Association of the Missouri Botanical Garden. Dr Wetmore's paper was entitled "Lichens of the Black Hills of South Dakota and Wyoming" and it was published in Publs Mich St. Univ. Mus. biol., 3: 209 - 464 (1968).

New members

The following members joined the Society between October 1969 and April 1970:

- Armitage, P. D., 10 Bagshot Road, Bush Hill Park, ENFIELD, Middlesex.
Ashwell, R., 4 Victoria Street, LUTON, Bedfordshire.
Blanchard, D. L., Lightfoot Hall, Manresa Road, LONDON, S.W.3.
Breeze, Mrs. J. M., Wyndrum, Kingston Ridge, LEWES, Sussex. (Family member)
Breeze, V. G., Wyndrum, Kingston Ridge, LEWES, Sussex. (Family member)
Breeze, V. L., Wyndrum, Kingston Ridge, LEWES, Sussex.
Canning, Miss M., Department of Botany, University College, GALWAY, Irish Republic.
Chamberlayne, Mrs. K. M., 138 Rushetts Road, Langley Green, CRAWLEY, Sussex.
Crittenden, P. D., Westfield College, LONDON, N.W.3.
Daniels, F. J. A., Instituut voor Systematische Plantkunde, Botanisch Museum
en Herbarium, Rijksuniversiteit Utrecht, UTRECHT, Netherlands.
Davis, N. R., 18 Nelson Street, Greenbank, PLYMOUTH, Devonshire.
Dove, N. R., B.Sc., 32 Hazelwood Road, LEICESTER, LE5 5HQ.
Dewer, Mrs. E. A., 810 W. Main Street, PLATTEVILLE, Wisc. 53818, U.S.A.
Engel, J., Lendershäuserstrasse 196, 8729 HOFHEIM, Germany.
Fabiszewski, Dr. J., Division of Botany, National Museum of Canada, OTTAWA 4,
Ontario, Canada.
Fane, R. J., 49 Princes Road East, Ellacombe, TORQUAY, Devonshire.
Feige, Dr. B., Department of Botany, Mittlerer Dallenbergweg 64, 8700 WÜRZBURG,
Germany.
Hickey, D. A., Department of Botany, University College, GALWAY, Irish Republic.
Hopkins, W. E., 8 Moxon Road, NEWPORT, Monmouthshire, NPT 6AA.
Huxley, Miss C. R., 1 Vicarage Drive, Grantchester, CAMBRIDGE, CB3 9NG.
Hyde, Miss L. M., 14 Springhurst Road, SHIPLEY, Yorkshire.
Kiestra, S.J., Tweeboomlaan 133, HOORN, Netherlands.
Kucharczyk, Z. M., 11 Newsham Drive, LIVERPOOL 6.
Lambley, P. W., B.Sc., Castle Museum, NORWICH, Norfolk.
Law, R., Derwent College, The University, Heslington, YORK.
Leslie, Miss T. V., 60 Margravine Gardens, Baron's Court, LONDON, W.6.
Liffen, C. L., B.A., 101 St William's Way, Thorpe St Andrew, NORWICH.
Madders, M., B.A., M.I.Biol., 46 St George's Street, CHELTENHAM, Gloucestershire,
GL50 4AF.
Manning, J., St Matthew's Vicarage, Wenlock Street, LUTON, Bedfordshire.
Morley, H. S., 133 Straight Road, Lexden, COLCHESTER, Essex.
Morrell, P. R., 53 Newbridge Road, Lower Weston, BATH, Somerset.
Murray, Miss S. A., 1522 Willow Street, ALAMEDA, California 94501, U.S.A.
Pearce, A. E. Mc. R., A.I.I.P., A.R.P.S., F.R.S.A., F.R.E.S., 5 Colmer Road,
YEOVIL, Somerset.
Pos, R., Ridderhoflaan 4, VLEUTEN, Netherlands.
Rossington, D. G., 101 Portland Road, LUTON, Bedfordshire.
Ryvarden, L., Botanical Museum, OSLO 5, Norway.
Søchting, U., Botanical Museum, University of København, Gothersgade 130,
DK 1123, KOBENHAVN K, Denmark.
Stanier, J. R., 12 Cecil Street, GLASGOW W.2.
Thompson, M. P., 14 Cedar Crescent, Chiltern Vale, THAME, Oxfordshire.
Turpitt, Miss L. W., Cladonia, Earl's Drive, Cawsand, PLYMOUTH, Devonshire,
PL10 1NT.

Spiritualism in lichenology?

"I scraped pieces off the rock and brought them to the late Miss M. C. Knowles, thinking they probably were some form of lichen. On examination Miss Knowles found it represented a mixture of two species." Ir. Nat. J. 16: 245 (1969).

The golden lichen

"The lichen was Princess Margaret's. She brought it in and asked Mr. Grima to copy it in gold with some earclips to match. So he did. He gets his ideas from everywhere ... Another thousand pound leaf or twig or lichen or pebble." Illustrated London News, 7 September 1968: 28 (1968). (Cutting from P.W. James & N. Wallace, London.)

Lichen conservationists

"The conservationist ... does not have to work at all for his living; otherwise he would not be able to spend so much time looking at useless birds, hideous lichens, and obscure forms of moth. His average age is 60. He wears, for choice, pince-nez and a wing collar. The female of the species - more deadly than the male - wears jangling hardware which she sometimes uses offensively. The whole race of conservationists, when not actually trespassing on farms, are writing to the Press, ganging up with RSPCA girls or laying on the BBC to take the mickey out of farmers." Farm and Country, September 1969: 27 (1969). (Cutting from F. A. Sowter, Leicester.)

Literature on lichens

- AHTI, T. 1969. Notes on brown species of *Parmelia* in North America. Bryologist 72: 233 - 239. (Account of *Parmelia albertana*, *P. elegantula*, *P. exasperata*, and *P. loxodes*.)
- BAILEY, R. H. 1969. Notes on Gloucestershire lichens - 5. N. Glouc. Nat. Soc. J. 20: 127 - 129. (Twelve spp. and three federations from Badgeworth Nature Res.)
- BRIGHTMAN, F. H. 1970. 11th May - 'wall tour' from Rye. Bull. Kent Fld Club 15: 19. (Report of field meeting; seven lichens.)
- BRIGHTMAN, F. H. 1970. Lichens. Bull. Kent Fld Club 15: 7 - 9 (Twenty-nine species new to Kent contributed by F. Rose, and records of *Lobaria pulmonaria*, *L. laetevirens*, *Nephroma laevigatum* and *Parmeliella plumbea* from Eridge Park, Sussex.)
- COKER, P. D. 1968. The epiphytic communities of the Ruislip district. J. Ruislip Distr. nat. Hist. Soc. 17: 26 - 37. (Account of five lichen federations as well as algal and bryophyte communities in the Ruislip district of the London Borough of Hillingdon.)
- CULBERSON, C. F. 1969. Chemical and Botanical Guide to Lichen Products. Chapel Hill, North Carolina, U.S.A. (Invaluable book on lichen substances, which includes a chemical guide and list of 2000 lichens with their acids.)
- CULBERSON, C. F. & KRISTINSSON, H. 1970. Studies on the *Cladonia chlorophaea* group: a new species, a new meta-depside, and the identity of "novochlorophaeic acid". Bryologist 72: 431 - 443. (Thirteen chemical variants of *Cladonia chlorophaea* are now known.)
- CULBERSON, W. L. 1969. The behavior of the species of the *Ramalina siliquosa* group in Portugal. Öst. bot. Z. 116: 85 - 94. (Second study of the habitat selection of the chemical races of *Ramalina siliquosa*.)
- CULBERSON, W. L. 1969. The chemistry and systematics of some species of the *Cladonia cariosa* group in North America. Bryologist 72: 377 - 386.
- ERBISCH, F. H. 1969. Ascus and ascospore development of five species of the lichen forming genus *Pertusaria*. Bryologist 72: 178 - 199.

- FOLLMANN, G. & HUNECK, S. 1969. Mitteilungen über Flechteninhaltsstoffe. LXI. Zur Chemotaxonomie der Flechtenfamilie Ramalinaceae. Willdenowia 5: 181-216. (Ramalina evernioides is transferred to become Desmaziera evernioides (Nyl.) Follm. & Huneck on chemical and anatomical grounds.)
- FERRY, B. W. & SHEARD, J. W. 1969. Zonation of supralittoral lichens on rocky shores around the Dale peninsula, Pembrokeshire (with a key for their identification). Fld Stud. 3: 41 - 67. (Four zones; key and glossary.)
- HALE, M. E. 1969. How to Know the Lichens. Dubuque, Iowa, U.S.A. (Introduction and key to the foliose and fruticose lichens of North America.)
- HAWKSWORTH, D. L. 1969. The scanning electron microscope. An aid to the study of cortical hyphal orientation in the lichen genera Alectoria and Cornicularia. J. Microscopie 8: 753 - 760. (Includes twenty-four photographs.)
- HAWKSWORTH, D. L. 1969. The typification of Lichen farinaceus L. Bryologist 72: 254 - 255. (Selection of lectotype and its chemical constituents.)
- HAWKSWORTH, D. L. & SOWTER, F. A. 1969. Leicestershire and Rutland lichens, 1950 - 1969. Trans. Leicester lit. phil. Soc. 63: 50 - 61. (Ninety-three species, including several new to the vice-county. Rhizocarpon geographicum subsp. prospectans (Räs.) D. Hawksw. & Sownt. is a new combination.)
- JACOBS, J. B. & AHMADJIAN, V. 1969. The ultrastructure of lichens. I. A general survey. J. Phycol. 5: 227 - 240.
- JAHNS, M., BELTMAN, H. A. & KNAAP, P. VAN DER. 1969. Cladonia ecmocyna Nyl. - investigations on the ontogeny. Acta bot. neerl. 18: 627 - 633.
- KERSHAW, K. A. & MILLBANK, J. W. 1970. Nitrogen metabolism in lichens. II. The partition of cephalodial-fixed nitrogen between the mycobiont and phycobionts of Peltigera aphthosa. New Phytol. 69: 75 - 79. (Nitrogen from the blue-green alga is shown to be utilised almost exclusively by the fungus; from this it is suggested that the association in lichens is one of controlled parasitism.)
- KRISTINSSON, H. 1969. Chemical and morphological variation in the Cetraria islandica complex in Iceland. Bryologist 72: 344 - 357. (Paper having an important bearing on the taxonomy of Cetraria islandica and C. ericetorum. Evidence of gene exchange is given. Morphological and chemical variation are not correlated with each other.)
- LEUCKERT, C. & HERTEL, H. 1969. Über Flechtenstoffe und Systematik einiger Arten der Gattung Lecidea II. Nova Hedwigia 17: 31 - 43. (Includes new information regarding Lecidea formosa, L. stigmatea and L. umbonella.)
- LYE, K. A. 1969. The distribution and ecology of Sphaerophorus melanocarpus. Svensk bot Tidskr. 63: 300 - 318. (World distribution with maps.)
- MAKAREVICH, M. F. 1967. (On species independence of) Pertusaria discoidea (Pers.) Malme. Ukr. bot. Zh. 24 (4): 33 - 36. (English summary. Pertusaria discoidea is considered to be a species distinct from P. globulifera, and the name P. albescens is rejected as being of doubtful application.)
- MARTIN, J.-F. & JACQUARD, F. 1968. Influence des fumées d'usines sur la distribution des lichens dans la vallée de la Romanche (Isère). Pollution Atmosphérique 38: 95 - 99. (Zonation around calcium carbide and aluminium works.)

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All contributions should include a concise and informative heading in lower-case with minimum capitalisation, underlined, and without a full point.

Lists should be in alphabetical or numerical order. In the text capitalisation should be kept to a minimum, and lower-case initials should be used in such expressions as "northern England". There should be no full point following Dr, Mr, Mrs or St. In descriptive matter numbers under 100 should be in words. Dates should follow the logical sequence of day, month, year (e.g. 28 July 1934). Times of day should conform to the twenty-four hour clock. Measurements should be in metric and should follow the SI system (Système International d'Unités); Imperial units may be included in parenthesis. Genus names should appear in full where first used within each paragraph. Scientific names should be underlined except in reference citations.

Localities in Britain, should, unless there is good reason to the contrary, follow the spelling given on the latest editions of the maps published by the Ordnance Survey. Localities abroad should follow the local official spelling, as given in The Times Atlas of the World. Anglicised names may be included in parenthesis.

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In text:

Bailey & Garrett (1968: 63). (Bailey & Garrett 1968).
Chaenotheca trabinella A.L.Sm., Monogr. Brit. Lich. ed. 2, 1: 6, pl. 2.
f. d (1918).

Lecanora conizaeoides forma tenuis (Erichs.) W.Wats. in J. Bot., Lond.
73: 150 (1935).

Lecanora varia (Hoffm.) Ach., Lichenogr. Univers.: 377 (1810).

In list:

ALMBORN, O. 1952. A key to the sterile corticolous crustaceous lichens occurring in south Sweden. Bot. Notiser 1952: 239 - 263.
ANON. 1965. Dermatitis from lichens. Br. med. J. 1965 (2): 1447,
DAHL, E. 1968. Analytical Keys to British Macrolichens. Ed. 2. London.
PYATT, F. B. 1969. Ascospore germination in Pertusaria pertusa (L.) Tuck. Revue bryol. lichen. II, 36: 316 - 320.
SHEARD, J. W. 1968. The zonation of lichens on three rocky shores of Inishowen, Co. Donegal. Proc. R. Ir. Acad. B, 66: 101 - 112.

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