

# BRITISH LICHEN SOCIETY

## BULLETIN

25 p

August 1974

No. 34

President: D. H. Brown, B.Sc., Ph.D.

### Health hazards of immersion oil

H. S. Bennett and P. W. Albro, in a letter published in Science, N.Y. 181: 990 (14 September 1973), draw attention to the dangers of using microscope immersion oil because it contains polychlorinated biphenyls (PCB's) which can be absorbed through the skin. Nine samples of immersion oil marketed in Europe, North America and Japan under the brand names of Cargille, Crown, Nikon, Zeiss, Fisher, Harelco and Carolina Biological Supply Co., all contained 30 - 45 per cent. polychlorinated biphenyls, yet their labels carried no indication or warning of this fact. In contrast no polychlorinated biphenyls were found in any of the 31 samples of electrical, vacuum pump and ultracentrifuge drive oils - the other oils to which workers in laboratories are commonly exposed. As over 1000 persons have been poisoned by ingestion of rice oil containing polychlorinated biphenyls, and repeated skin applications of the biphenyls kills experimental animals in 11 - 98 days, the dangers of polychlorinated biphenyls are well established. The authors point out that microscopists "frequently permit immersion oil to make contact with skin, especially when wiping lenses or slides with lens paper." They suggest that cedar oil should be used in place of immersion oil for routine light microscopy, and immersion oils should be reserved for special use, such as fluorescence microscopy. (The editor is grateful to Dr D. H. S. Richardson of Sudbury, Ontario, for drawing attention to this letter in Science.)

### Conservation Committee formed

The Council of the Society decided in January that the Lichen Site Committee should be renamed the Conservation Committee of the British Lichen Society. The new Committee's Chairman is Mr F. N. Haynes, Department of Biological Sciences, Portsmouth Polytechnic, Park Road, Portsmouth, Hampshire, and the Secretary is Mr F. H. Brightman, British Museum (Natural History), Cromwell Road, London SW7 5BD. The position of Conservation Officer was discontinued, but Mr Haynes was co-opted to the Society's Council. Members who know of any threats to any lichens, or proposals which might adversely affect lichen-rich areas, or who wish to raise matters relating to lichen conservation, should write to Mr Haynes or Mr Brightman immediately. A lichen site proforma is attached to this Bulletin for completion and consideration by the Committee; members are urged to make use of it. Further copies of the proforma are available from Mr Brightman. The Society's list of areas of importance for lichens is confidential, at least for the present.

### Day excursion to Essex 1974

A day excursion to Thorndon Park (Brentwood District), and possibly also to Bulphan church (Thurrock District), Essex, will be held on Saturday 14 September 1974 under the leadership of Dr K. L. Alvin. Meet at Brentwood Station at 11.00. Bring packed lunch. Train leaves Liverpool Street Station, London, at 10.24, arriving at Brentwood at 10.57.

### Autumn meeting at Cambridge 1974

The autumn meeting will be held at Cambridge under the leadership of Mr F. H. Brightman from Friday evening 25 October until Sunday afternoon 27 October 1974. The Royal Cambridge Hotel, Trumpington Street, will be the headquarters hotel;

members must book their own accommodation either here or elsewhere. The form at the end of this Bulletin should be completed and returned to Mr Brightman. The programme is as follows:

- Friday 25 October. 20.00. Botany School, Downing Street. Short talks by Mr F. H. Brightman, Mr P. W. Lambley, Mr J. R. Laundon and Dr M. R. D. Seaward on various aspects of the lichens and lichen habitats of East Anglia.
- Saturday 26 October. 09.30. Meet outside Royal Cambridge Hotel, Trumpington Street. Bring packed lunch. Field excursion to study Breckland heath and corticolous lichens in old parkland.
- 20.00. Botany School, Downing Street. Lecture by Dr Oliver Rackham on the history of East Anglian woodlands.
- Sunday 27 October. 10.00. Meet outside Royal Cambridge Hotel, Trumpington Street. Tour of Cambridge walls for saxicolous lichens.
- 14.00. Visit University Botanic Garden, Cambridge.
- 16.00. Dispersal.

Some accommodation in Cambridge is as follows:

- Royal Cambridge Hotel, Trumpington Street (headquarters) (telephone: Cambridge 51631). AA two-star. 38 double, 45 single. Bed & continental breakfast £4.15 third floor or £4.70 first and second floors (room without bath) single, £7.20 third floor or £9.05 first and second floors double (room without bath). Evening meal from £1.75. Prices include VAT, service optional.
- Helen's Hotel, 167 Hills Road (telephone: 46465). 12 double, 8 single. Bed & breakfast £2.75 single, £5.50 double, including VAT. Evening meal from £1.50 + VAT. Service optional.
- Ellensleigh Guest House, 37 Tenison Road (telephone: 64888). 5 double, 2 single. Bed & breakfast £1.50 single, £3.00 double.
- Meikle's Guest House, 3 Bateman Street (telephone: 58182). 4 double, 2 single. Bed & breakfast £1.75 single, £3.50 double.

#### Meetings 1975

Provisional arrangements for the Society's meetings in 1975 include the annual general, lecture and exhibition meeting at Imperial College, London, on 4 January, the spring field meeting at Alderney (Channel Islands) from 2 - 9 April, and the summer meeting in Ayrshire from 31 July - 8 August.

#### Mapping Recorder's new address

The Society's Mapping Recorder, Dr M. R. D. Seaward, has relinquished his position at Trinity and All Saints' Colleges, in Brownberrie Lane, Leeds, and is now at the Postgraduate School of Studies in Environmental Science, The University, Bradford, Yorkshire, BD7 1DP. From his new address he can supply members with information relating to the Society's mapping scheme, and also mapping cards at the reduced rate of 1p each plus postage (an invoice with ordered cards will be sent on request). Dr Seaward holds the only stock of Watson's Census Catalogue of British Lichens (1953) which is available for 50p post free. He also has a range of maps for sale.

Dr Seaward would appreciate completed record cards (enclose only postage for replacement cards which are complimentary), lists, reprints with distributional data, and unwanted Ordnance Survey maps - including the obsolete one-inch. Lichen records are still needed for many areas (see list in Bulletin 32 : 4 (1973)).

#### Back numbers of The Lichenologist

Orders and enquiries regarding back numbers of The Lichenologist must in future be sent to Academic Press Inc. (London) Ltd., 24-28 Oval Road, London NW1 7DX (telephone: 01-267 4466). Members should state that they belong to the Society and are therefore entitled to a discount.

# Thin-layer chromatography for the identification of lichen substances

This article describes the methods used for the identification of lichen substances in the Department of Botany, British Museum (Natural History), London. It is based on the method outlined by Culbertson & Kristinsson (1970).

## Chemicals and equipment

### TLC plates

- Merck silica gel F254 pre-coated aluminium plates, 20 x 20 cm. Price £8.59 per pack of 25.
- Merck silica gel F254 pre-coated glass plates, 20 x 20 cm. Price £12.47 per pack of 25.
- Merck silica gel F254 pre-coated plastic plates, 20 x 20 cm. Price £9.98 per pack of 25.

All three are available from Anderman & Co. Ltd., Central Avenue, East Molesey, Surrey, KT8 0QZ.

(a) Aluminium plates are preferred as they are easy to handle and may be cut into sections when it is necessary to test only a few samples at a time. (b) Glass plates may be used, but they are bulky for storage and are impossible to cut. These plates however must be used for the identification of fatty acids which only show up when the plates are sprayed with water and are held up to the light.

(c) Plastic plates turn black when sprayed with sulphuric acid and heated, but they are satisfactory for use with an alternative developer, such as C, J, K, KC (= K followed by C), FeCl<sub>3</sub> or Pd solution, where heat is not required.

### TLC tanks

Camag chromatography tanks with lids, Price £13.25 each. These are available from Griffin & George Ltd., Ealing Road, Alperton, Wembley, Middlesex, HA0 2HJ. Three tanks with lids are required. Griffin & George also make a slightly larger rectangular tank, price £3.10.

### Capillary tubes

Disposable capillary tubes (used for haematology), approx. 80 x 0.5 mm bore. Price £2.45 per 1000.

These are available from A. R. Horwell Ltd., 2 Grangeway, Kilburn High Road, London NW6.

The tubes may be re-used if they are well-cleaned with acetone.

### Ultraviolet lamp

Camag Universal UV lamp, wavelengths 254 nm and 350 nm. Price £74.25. Available from Griffin & George (address above).

The lamp should be used in a darkened room. It is advisable to have some protection from reflected UV rays. A sheet of clear Perspex placed in front of the lamp will stop any harmful rays without altering the colours of the spots.

### Spray

Laboratory spray gun. Price £3.10. Available from Shandon Southern Instruments Ltd., Frimley Road, Camberley, Surrey.

It is used for spraying the plates with sulphuric acid or other developing reagent.

### Solvent systems

HEF. Hexane: diethyl ether: formic acid; 130: 100: 20 ml.

TDA. Toluene: dioxan: acetic acid; 180: 60: 8 ml.

TA. Toluene: acetic acid; 200: 30 ml.

These solutions should be made up in a fume-cupboard as a protection against harmful vapours. They should be stored in a cool place and replaced at frequent intervals as they deteriorate on storage. The HEF solution, in particular, is subject to evaporation, giving poor results after a short time of storage, but the separation can be improved by adding more ether to the solvent. The TDA solution can be improved by adding more dioxan.

### Additional substances

Acetone. Used for extracting the lichen substances.

Sulphuric acid. A ten per cent. solution for developing the plates. Other developing agents such as solutions of C, K, KC, FeCl<sub>3</sub> and Pd may be

required to give specific colour reactions.

Silicone grease. Used for making the tanks airtight.

### Method

1. Make up the three solvent systems, HEF, TDA and TA, and put them in the chromatography tanks; each to a depth of about 1 cm. Place either a spare plate or a large sheet of filter paper at the back of each tank; this helps to give a saturated solvent vapour and assures even running of the solvents. Grease the top and lid of each tank with silicone grease to prevent undue evaporation of the solvents.
2. Mark up three TLC plates, using a soft (2B) pencil, with a base line 1.5 - 2 cm from the bottom, and a front line 11 cm above this. Mark and number points 1 cm apart, along the base line. 19 points can be put on each 20 cm plate. A ruler with small notches at 1 cm intervals is useful for marking the points.
3. Place a small sample of the lichen to be tested on a glass slide and carefully put a few drops of acetone on to the specimen which will extract any lichen substances present, depositing them as a residue on evaporation. Small phials containing the samples may be used as an alternative to the slides, so that the specimen extract may be dried out and stored for reuse if necessary. Larger quantities of certain lichen substances may be released by gently heating the slides, preferably on a hot plate, while extracting with acetone. For each specimen, redissolve the extract with another drop of acetone and, using a clean capillary tube, transfer the extract to one of the points (see 2) on the TLC plate. The spots should be kept as small as possible to prevent merging. A minimum of three applications of a particular extract on each point is necessary to obtain clear results. Certain genera such as Ramalina and Usnea may need larger applications. At points 3 and 17, put a control from a mixture of Parmelia acetabulum and Platismatia (Cetraria) glauca which gives spots for norstictic acid (Rf value class 4) and atranorin (Rf class 7); these markers enable the Rf classes of the unknown spots to be determined. Make up three plates (one for each solvent) for every set of samples. Many substances can be identified using only two solvent systems, HEF and TDA, but the third solvent TA, is necessary for critical work.
4. Place a completed plate in each of the three tanks and leave until the front line has been reached. The running time is 30 - 40 minutes.
5. Remove the plates and air-dry for a few minutes in a fume-cupboard. Examine each plate in turn. With (a) daylight some pigments show up as coloured spots. With (b) 254  $\mu$ m UV light the substances are indicated by dark shadows. With (c) 350  $\mu$ m UV light note especially any fluorescence of the spots and also any darker shadows which are mainly pigments, including usnic acid. Circle any spots that appear with a soft pencil, and note the colour and any fluorescence of the spot. Even faint spots should be noted.

6. The spots may be developed by spraying with a ten per cent. solution of sulphuric acid, which should be done in a fume-cupboard. Make sure that the plates are well moistened, then heat the plates in a pre-heated oven at 110°C for about five minutes, until the various diagnostic colours are well developed. On heating, extra spots of a purplish colour may appear, these are triterpenes (e.g. zeorin). They should be carefully compared with the substances that may occur in bark substrates which can look similar. Alternatively the plates may be developed by spraying with C, K, KC, FeCl<sub>3</sub> or Pd, for certain colour reactions; no heat is required for these developing agents. Great care should be taken when spraying with Pd solution - an alternative would be to paint the solution on to the plate. Once a plate has been developed it cannot be used again or treated with another developing agent.

7. Join up the control spots for norstictic acid and atranorin. The Rf classes for the unknown spots can now be determined and the substances identified, using the tables in Culberson & Kristinsson (1970) and Culberson (1972). For confirmation of the results the specimens may be chromatographed for comparison against samples of lichens in which the substances are known (see Culberson (1969), Culberson (1970), Dahl & Krog (1973)); small phials of specimens containing known substances may be kept for this purpose. In the case of critical analysis it is recommended that no pure extracts are used.

The developed plates may be easily stored and cross referenced with data sheets containing information on the identity of the spots. Each specimen tested should be labelled to show the substances found.

References

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 CULBERSON, C. F. 1972. Improved conditions and new data for the identification of lichen products by a standardized thin-layer chromatographic method. J. Chromat. 47: 113 - 125.  
 CULBERSON, C. F. & KRISTINSSON, H. 1970. A standardized method for the identification of lichen products. J. Chromat. 46: 85 - 93.  
 DAHL, E. & KROG, H. 1973. Macrolichens of Denmark, Finland, Norway and Sweden. 27-33. Universitetsforlaget, Oslo.

JANET E. MENLOVE

Ordnance Survey goes metric

Britain's metrication creeps slowly, and apparently unenthusiastically, forward, and the latest victim is the one-inch Ordnance Survey map. These are now rarely available south of York, they having been replaced by the 1: 50 000 series. This series will not cover Scotland until 1976. The maps of the 1: 50 000 series have been sold since March of this year, their scale being 2 cm to 1 km, or about one-and-a-quarter inches to the mile. Apart from their larger scale, the most notable changes from the old one-inch maps is that the spot heights are now in metres. The contour value is also to the nearest metre, but unfortunately the lines themselves have not been redrawn, so the contours stay at intervals of 50 feet, and in consequence the corresponding heights (i.e. 396, 411, 427 m) look rather bizarre. However the maps do alleviate the necessity of metric conversion in scientific fieldwork. Unfortunately the Second Series of 1: 50 000 maps (some of which are already published) do not show the parish boundaries, and it is planned to replace the First Series, on which parish boundaries are indicated, with the Second Series in due course. This omission of parishes is a most regrettable step, as it ensures that precision in the presentation of locality data will no longer be possible by the use of the 1: 50 000 series.

## Books on lichens - 2

The book Introduction to British Lichens (1970) by U. K. Duncan is now available from The Richmond Publishing Co. Ltd., Orchard Road, Richmond, Surrey, for £4.00 post free. This work is generally considered to be the most useful book currently available for the identification of British lichens. The publishers, T. Buncle & Co. of Arbroath, no longer deal with its distribution.

A limited number of new copies of Alvin & Kershaw's The Observer's Book of Lichens (1963), which is now out of print, are available from the Secretary, Mr J. R. Laundon, Department of Botany, British Museum (Natural History), Cromwell Road, London SW7 5BD, for 50p plus 15p postage and packing. This popular work is useful for beginners.

## Book on nomenclature

C. Jeffrey's book Biological Nomenclature, published by Edward Arnold, London, (in conjunction with The Systematics Association) in 1973 provides a very useful explanatory treatment of the nomenclature of all groups of organisms, and compares the International Codes of Nomenclature in Bacteria, Botany and Zoology. A glossary/index is also included. It is written for those who require a greater understanding of the names of organisms, authorities and their citation, and the principles of nomenclature. The book is £1 paperback and £2 clothbound.

## Lichenologist published

Parts 5 and 6 of volume 5 of The Lichenologist were published as a single issue on 13 November 1973. Any member who paid a subscription for 1973 and who did not receive a copy should inform the Treasurer, Mr S. A. Manning, 10 Alliance Court, Hills Road, Cambridge, CB2 4XE.

## Report on lecture and exhibition meeting, 1974

The lecture and exhibition meeting, held after the Annual General Meeting, on 5 January 1974 at the Department of Botany, Imperial College, London SW7, was attended by 35 members. The following exhibits were displayed:

DOBSON, F. S. Photographs of lichens.  
EARLAND-BENNETT, P.M. Species new to the British list: Lecanora subaurea Zahlbr.,  
Umbilicaria spadochroa (Hoffm.) DC.  
GILBERT, O. L. Calicium corynellum (Ach.) Ach.  
ROSE, F. Distribution maps of British lichens.  
TOPHAM, P. B. Lecidea taeniarum.

There were four lectures, all dealing with island floras. Dr O. L. Gilbert spoke about North Rona, where its remote position accounted for its reduced diversity; the communities were of interest because of their adaptations to withstand salt spray and eutrophication. Dr D. J. Galloway dealt with the Three Kings Islands of northern New Zealand, outlining their history, in which the grazing by goats has had a considerable influence on the flora. Mr P. D. Crittenden spoke on his lichen studies in Iceland, where nitrogen fixation was investigated on sites in various stages of colonisation at the edge of a moraine. Mr P. W. James discussed the lichen floras of the islands of western Britain, comparing the habitats and lichen flora on each island from Jersey in the south to Mull and Lismore in the north; the percentage of the various elements which make up the British lichen flora were given for each island. The President, Dr D. H. Brown, thanked the speakers for their interesting communications.

## Watson hand lenses wanted

£5 each is offered for Watson Barnet x10 hand lenses in good condition. Please contact the Secretary, Mr J. R. Laundon, Department of Botany, British Museum (Natural History), Cromwell Road, London SW7 5BD.

New members

The following new members joined the Society between October 1973 and June 1974.  
 F.M. = family member; H.M. = honorary member.

- Adlem, Mrs. J.C.A., 35 Maxwell Road, BOURNEMOUTH, Hampshire, BH9 1DQ.  
 Ainsworth, B., 33 Kinloch Drive, BOLTON, Lancashire.  
 Asperges, M., Minderbroedersstraat 5, B-3300 TIENEN, Belgium.  
 Asta-Giacometti, Dr. J., Laboratoire de Botanique, 38041 SAINT MARTIN D'HERES, (France).  
 Banham, M., 2 Abinger Cottages, Maplehurst, HORSHAM, Sussex.  
 Bousfield, Miss J., B.Sc., 82 Tantobie Road, Denton, Burn, NEWCASTLE-UPON-TYNE 5.  
 Brand, A. M., Jaagpad 54, DELFT, Netherlands.  
 Chandler, M. R., 111 Orchard Way, Flitwick, BEDFORD, MK45 1LF.  
 Cooper, P., Rose Glen, Grayshott, HINDHEAD, Surrey, GU26 6HG.  
 Crane, J. L., Illinois Natural History Survey, Natural Resources Annex, URBANA, Illinois, U.S.A.  
 Dawe, Miss E.M., 6 Queen's Close, ESHER, Surrey.  
 Dellert, P. F., 137 King Street, FALMOUTH, Mass. 02540, U.S.A.  
 Dey, J. P., Botany Department, Duke University, DURHAM, North Carolina 27706, U.S.A.  
 Dobben, H. F. van, Mariaplaats 16, UTRECHT, Netherlands.  
 Foster, Mrs. M., 484 Talbot Street, Apt. 4, LONDON, Ontario, Canada, N6A 253.  
 Fowles, Dr. B., Department of Biology, Colby College, WATERVILLE, Maine 04901, U.S.A.  
 Gibby, J. M., Flat 3, 20 Parkfield Road, LIVERPOOL, L17 8UJ.  
 Gibby, Mrs. M., Flat 3, 20 Parkfield Road, LIVERPOOL, L17 8UJ. (F.M.)  
 Hadaway, Mrs. J., 21 Haddon Close, RUSHDEN, Northamptonshire, NN10 9HZ.  
 Haslem, Miss M. M., 5 Haven Bank, BOSTON, Lincolnshire, PE21 8SB.  
 Henderson, A., 42 Headingley Avenue, LEEDS 6.  
 Hoham, R. W., Department of Biology, Colgate University, HAMILTON, New York 13346, U.S.A.  
 Huss, Miss K., Department of Plant Physiology, University of Umea, S-901 87 UMEA, Sweden.  
 Johnson, E.E.B., Stagsden Bird Gardens, Stagsden, BEDFORD, MK43 8SL.  
 Lamb, Dr. L. M., P.O. Box 512, CAMBRIDGE, Mass. 02139, U.S.A. (H.M.)  
 Lawrey, J. D., Botany Department, 1735 Neil Avenue, COLUMBUS, Ohio 43210, U.S.A.  
 Lonsdale, J., c/o Jodrell Gate, Royal Botanic Gardens, Kew, RICHMOND, Surrey.  
 Lye, K.A., Agricultural College of Norway, Botanical Institute, 1432 AS - N.L.H., Norway.  
 Østhaugen, Dr. H., Botanisk Museum, Universitetet i Oslo, OSLO 5, Norway.  
 Peveling, Professor Elisabeth, Botanisches Institut of the University, Schlossgarten 3, 44 MUNSTER/WESTF., Germany.  
 Roper, G.W., Little Faugan, Ingol Grove, Hambleton, BLACKPOOL, Lancashire.  
 Roux, Dr. C., 16 Bd. des Pins, Les Borels, 13015 MARSEILLE, France.  
 Schoknecht, Dr. Jean D., Indiana State University, Life Science Department, TERRE HAUTE, Indiana, U.S.A.  
 Sturm, Professor N., 140 Baldwin, YOUNGSTOWN, Ohio 44505, U.S.A.  
 Syrratt, Dr. W. J., 36 Ashbrook Road, OLD WINDSOR, Berkshire, SL4 2NB.  
 Wade-Evans, Miss M.E., 68 Billesley Lane, Moseley, BIRMINGHAM, B13 9QU.  
 Wall, Miss C.L., The Close, Drayton Beauchamp, AYLESBURY, Buckinghamshire.  
 Wall, Dr. S., Gibraltargatan 44, 41258 GÖTEBORG, Sweden.  
 Wang Yang, Professor Jen-Rong, 4, Long 1st Lane 145, WU-HSING ST. TAIPEI, Taiwan, R.O.C.

Gambling with lichens

Lichens are being used to decorate "penny falls" gambling machines in various amusement arcades in Britain (e.g. the Britannia Pier at Great Yarmouth, Norfolk; the Palace Pier at Brighton, Sussex). Yellow-dyed plants of *Cladonia stellaris* (C. alpestris) lie on the cakewalks, which ply backwards and forwards pushing penny coins towards the chasms and so down into the winning cups, beneath the concentrated gaze of speculators, both young and old.

References of general interest from The Lichenologist are now included in this list.

- AHMADJIAN, V. & HALE, M. E. (editors) 1974. The Lichens. Academic Press, New York & London. (\$35.00; £16.20. xiv + 697 pp. An important review work of many aspects of lichenology.)
- AHTI, T. 1973. Taxonomic notes on some species of Cladonia, subsect. Unciales. Annls. bot. fenn. 10: 163 - 184. (Taxonomic account of the Cladonia boryi group; the correct name for C. destriata auct. is shown to be C. zopfii Vain.)
- AHTI, T. & VITIKAINEN, O. 1974. Bacidia chlorococca, a common toxitolerant lichen in Finland. Memo. Soc. Fauna Flora fenn. 49: 95 - 100. (Discussion of nomenclature, ecology and distribution. The "most toxitolerant lichen in the boreal zone ... most difficult to distinguish from green algae". Lichenized Protococcus is thought to represent the initial stages of Bacidia chlorococca.)
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- ARMSTRONG, R. A. 1974. The descriptive ecology of saxicolous lichens in an area of south Merionethshire, Wales. J. Ecol. 62: 33 - 45.
- BAILEY, R. H. 1973. Some Irish lichen records. Ir. Nat. J. 17: 392 - 394. (Notes on seven species.)
- BAILEY, R. H. & STOTT, P. A. 1973. A contribution to the lichen flora of the Wirral Peninsula, Cheshire. Naturalist, Hull 926: 101 - 105. (Descriptive account.)
- BRIGHTMAN, F. H. 1974. 29th April - wall tour at Tunbridge Wells. Bull. Kent Fld Club 19: 12 - 13. (Lichen records from field meeting.)
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- DODGE, C. W. 1973. Lichen Flora of the Antarctic Continent and Adjacent Islands. Phoenix, Canaan, U.S.A. (Flora with keys.)
- FLETCHER, A. 1973. The ecology of marine (littoral) lichens on some rocky shores of Anglesey. Lichenologist 5: 368 - 400. (Detailed account. "The distribution of most of the species was related to the amount of seawater in the environment.")
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- WIRTH, V. & TURK, R. 1973. Über Standort, Verbreitung und Soziologie der borealen Flechten *Cetraria sepincola* (Ehrh.) Ach. und *Parmelia olivacea* s. ampl. in Mitteleuropa. *Veröff. Landesst. N. u. E. Bd. Wttb.* 41: 88 - 117.
- Secretary's report for 1973

The year has proved a difficult one financially for the Society. It began with the raising of the ordinary subscription from £2 to £3, and will subsequently be going up to £5. As a result the total membership declined for the first time in our history, from 480 to 465, the lowest since 1969. The number of new members joining during the year was 47, compared with 48 last year. It is with great regret that I have to report the death of two of our members: Mr T. Laffin and Mr J. H. G. Peterken. Mr Peterken was a past President, and he has kindly bequeathed us his lichen herbarium and related colour transparencies.

The Society's field meetings were rather poorly attended, with scarcely more than a dozen persons taking part on any of them. The spring field meeting was based on Cardigan from 18 - 25 April, the day walk tour with the Kent Field Club to Royal Tunbridge Wells on 29 April, the summer meeting in Kintyre from 28 July - 8 August, and the autumn meeting at Chester from 26 - 28 October. The Society is grateful to Mr F. H. Brightman, Mr B. Ing, Mr P. W. James, Dr F. Rose, Mr S. N. Tallwin, and Dr Pauline B. Topham for arranging and leading these meetings.

A combined number of parts 5 and 6 of volume five of The Lichenologist was published on 13 November 1973; we thank the Editor Mr James and Assistant Editor Dr Hawksworth for maintaining the high standard; we also thank Blackwell Scientific Publications for having published our journal for several years, and we look forward to our new association with Academic Press. As usual two numbers of the Bulletin were issued.

The Society has suffered a set-back in that planning permission for the Plymouth power-station has been granted without any measures to remove sulphur dioxide from the flue gases. We are grateful to the working group on the conservation of endangered species for the grant of £500 for work on lichens. This should help in distribution mapping amongst other things, and it is pleasing to report that the first set of distribution maps were published in The Lichenologist this year; the mapping recorder, Dr Seaward, and all the members involved in the scheme are thanked for their hard work which is now bearing visible results.

All officers, council members, referees and members are thanked for all their help in the running of the affairs of the Society.

J. R. LAUNDON

Honorary Secretary

(This report was presented at the Annual General Meeting on 5 January 1974).

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BULLETIN 34. Issued by the British Lichen Society, c/o Department of Botany, British Museum (Natural History), Cromwell Road, London SW7 5BD. Edited by J. R. Laundon. Duplicated by Brown's Typewriting Service Ltd., Helena Street, Burnley, Lancashire. August 1974.