

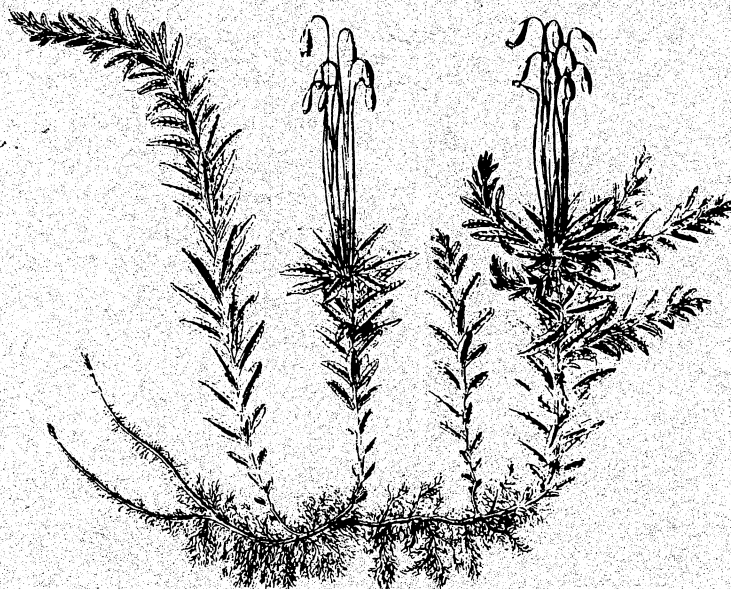
NUMBER 60



JULY 1992  
ISSN 0142-3169

**BULLETIN**  
**OF THE**  
**BRITISH BRYOLOGICAL**  
**SOCIETY**

*Edited by A. R. Perry*



PUBLISHED BY THE BRITISH BRYOLOGICAL SOCIETY  
CARDIFF

# BRITISH BRYOLOGICAL SOCIETY



## BULLETIN

Number 60

July 1992

*Editor:* A.R. Perry, National Museum of Wales, Cardiff, CF1 3NP, U.K.

### CONTENTS

Subscriptions .....	1
Reports of Officers for 1991 .....	2
Minutes of the Annual General Meeting, Sheffield, 1991 .....	10
Future Meetings of the Society .....	13
Local Meetings Programme .....	15
Other Bryological Meetings 1992-1993 .....	16
Proposed change of rules: financial matters .....	17
Election of Officers and Elected Members of Council .....	17
Copy deadline .....	17
Recording Matters 4 .....	18
The Living Churchyard Project .....	20
Coarse <i>Antitrichia</i> and <i>Schistostega</i> Growing. By M.V. FLETCHER .....	21
Referees (July 1992) .....	23
Erratum .....	23
New Vice-county Records and Amendments to the Census Catalogue .....	
Hepaticae. By D.G. LONG .....	24
Musci. By T.L. BLOCKEEL .....	25
Area Group Reports .....	29
Bookshelf .....	30

### SUBSCRIPTIONS

Subscriptions were increased in January 1991 and they now are £15 for full members, £7.50 for junior members and £1.00 for family members. They are due on 1 January. Some standing order mandates have not yet been altered and some 1992 subscriptions are still outstanding. Members should send any outstanding amounts to the Membership Secretary as soon as possible.

*A. V. Smith, 1 Carr Meadow Cottages, Glossop Road, Little Hayfield, via Stockport, Cheshire SK12 5NR*



## REPORTS OF OFFICERS FOR 1991

### a) GENERAL SECRETARY'S REPORT

Events and achievements of the year have been both significant and varied, and all, I hope, augur well for the future. Early fears about the effect of the increased subscription on membership proved unfounded. Although it is deeply regretted that the increase prevented anyone from remaining a member, total numbers have not seen an overall decline. Indeed, there is generally a good response to the wide-ranging programme of meetings, and this may be taken to signify a thriving Society. Nevertheless, continuous efforts are being made to increase the appeal of meetings and to cater for the many different interests of members.

Council's work is vital and often conspicuous, but it must be remembered that many other members are making invaluable contributions to the life of the Society in less public ways. The referees, a panel of local recorders, local organizers of meetings, and the two archivists are just some of the people who give freely of their time and expertise for the benefit of the Society as a whole. We owe them a considerable debt of gratitude.

During the year, negotiations with the Hampshire and Isle of Wight Wildlife Trust have been completed for the establishment of a Wallace Memorial Reserve, which was opened in September by our President on behalf of the B.B.S., and by the Chairman of the Trust. A venture of this sort is new to the Society, and so too will be the management of bequests from the estates of Mrs A.G. Side and Mr J.C. Gardiner.

There have been other innovations as well. One of the most pleasurable was the publication of the first of three volumes of the *Bryophyte Atlas* incorporating the joint efforts of very many members over a period of thirty or so years. It is a splendid book, readable, attractive and informative, and future volumes are awaited eagerly. We were additionally fortunate in that Britain was host to two consecutive meetings in Exeter of the International Association of Bryologists, which B.B.S. members were able to attend. International co-operation was also paramount in the expedition to Malawi during the summer of the B.B.S. Tropical Bryology Group.

These are all new ventures made by choice, but the Society is entering the New Year in the midst of planning unavoidable changes to the *Journal of Bryology*, a publication which is at the heart of B.B.S objectives. For financial reasons, our publisher, Blackwell Scientific Publications Ltd, has notified us of its intention of terminating our contract at the end of 1992, and a small committee is now examining alternative means of publication with the intention of maintaining the *J. Bryol.* as a major outlet for reporting bryological research.

In an eventful year, the Society has been extremely fortunate in its President, Dr M.O. Hill, in the second of his two-year term of office. Every member, however, has a contribution to make, and any views you may have on the work of Council would be welcomed.

M.E. Newton, January 1992

### b) TREASURER'S REPORT

Preliminary statement of affairs as at 31 December 1991.

<u>Current assets</u>	£
Nat West Current a/c	2,605.77
Business Reserve a/c	20,994.12
Giro	1,007.60
National Savings Investment a/c	34,115.08
	<hr/>
	58,722.57

### Current Liabilities

Wallace Memorial stone	500.00
Blackwell's invoice (estimate)	10,533.00
	<u>11,033.00</u>
	£ 47,689.57
	=====

### Represented by:

Capital account brought forward	28,731.44
Side bequest	24,553.68
	<u>53,285.12</u>
Less payment for Wallace Memorial	5,000.00
Less excess of expenditure over income	595.55
	£ <u>47,689.57</u>
	-----

These figures have yet to be finalized when all the relevant invoices arrive. Blackwell's bill for publishing the *Journal* for us is the most substantial and as yet I only have an estimate which may be a little too high.

Despite increasing the subscriptions substantially for 1991, we still end the year with an excess of expenditure over income of nearly £600. Bearing in mind that our income includes nearly £4,000 from interest on our capital, this is a serious position to be in. Council has never felt it to be the Society's aim to accumulate capital and we are fortunate in having a substantial reserve to cushion us from unforeseen expenses, nevertheless I feel strongly that we need to put our finances on a sounder footing and take steps to live within our means.

The root of the problem is the expense of publishing the *Journal* which, at over £10,000 p.a., is greater than the sum of all the subscriptions put together. We are, at the time of writing, negotiating to change our publisher to a company that gives us better value for our money.

The Wallace Memorial Fund was closed during the year. The renewed appeal for funds produced an extra £646 during 1991 and, with interest added, gave a grand total of £2548.26. The Society added nearly as much again from general funds to enable us to hand £5,000 to the Hampshire and Isle of Wight Wildlife Trust for the Wallace Memorial Reserve.

The other large item of exceptional expenditure in 1991 was a grant of £1000 to the expedition to Malawi to study tropical bryophytes.

Sales of miscellaneous Society publications have been more successful than in 1990, the proceedings of the Edinburgh symposium have sold exceptionally well, but we must still pay much more attention to sales and marketing before we commit ourselves to producing special volumes.

But more than anything else, Trudy Side's bequest to us of £24,553.68 has overwhelmed the look of the financial statement. Positive steps are being taken to decide how best to use this astonishingly generous donation in the interests of bryology.

Giles Clarke, March 1992

### c) BIBLIOGRAPHER'S REPORT

In the last year, two lists of 'Recent Bryological Literature' (numbers 75 and 76) have appeared in *J. Bryol.*, number 77 is in press and number 78 is in preparation.

I am grateful to all those who have sent references or reprints for inclusion in these lists. In particular, I wish to thank Mr Malcolm Beasley (Botany Library, BM) who (as in the previous year) has provided many references which otherwise would have been difficult to obtain.

As ever, I would greatly appreciate receiving details of papers and books that I appear to have overlooked.

L.T. Ellis, January 1992

### d) BULLETIN EDITOR'S REPORT

Two *Bulletins*, 57 and 58, were prepared and published during the year. Though number 58 (July) appeared on time, number 57 (March) was unfortunately delayed and was not posted to members until 12 April. This lateness was regretted as it posed some problems for those arranging field meetings, and I apologise to them. It was caused initially by lateness of receiving copy and then illness at the Printer's. But it is hoped that by bringing deadlines for receiving copy forward to 15 May and 15 December this will not happen again. I am very glad to say that so far everyone has responded very well to these earlier deadlines and am very pleased, too, that most people submitting articles are sending me their files on disk as well as hard copy. Both 5¼" or 3½" disks are acceptable and will be returned.

I have been publishing for the Society the *Bot.J.Linn.Soc.* vol. 104 Symposium issue ("Bryophyte Ecology"). This has now sold out.

A.R. Perry, February 1992

### e) CONSERVATION OFFICER'S REPORT

1. The project on Conservation Requirements for Threatened Lower Plants was concluded early in the year with the submission of all the data and accompanying commentary by Nick Stewart to the Nature Conservancy Council shortly before its break-up.

2. Nick Stewart subsequently worked in Ireland on a similar project for the three groups (bryophytes, lichens and charophytes) for all of Ireland, completing work on the charophytes and being well advanced on the bryophytes at the end of the year.

3. The Joint Nature Conservancy Committee arranged with Plantlife for a contract to produce Red Data Books for the three groups. Arrangements were agreed with the two Irish authorities for each of the three publications to cover all Ireland as well as Great Britain. Work was nearly completed on the charophyte book by the end of the year and some preliminary work was carried out on the bryophyte volume.

4. The JNCC approved a list of 31 species of bryophytes (most of those recommended by the Conservation Committee) for inclusion in Schedule 8 of the Wildlife and Countryside Act and submitted these for approval by the Secretary of State for the Environment.

5. The Conservation Committee met twice during the year, in London and in Sheffield (when Alan Crundwell was co-opted for the meeting). David Long resigned from the Committee during the year. Nick Hodgetts now acts as Secretary to the Committee.

6. RCS continued to attend meetings of Plantlife Conservation Committee and of BBS Recording Committee. Among the diverse issues dealt with (some of them ongoing) was the threatened development at the Burren in Ireland; a letter of protest was sent to the EC Commissioner and to the Taoiseach, pointing out the importance of this site for bryophytes.

R.C. Stern, February 1992

## f) CURATOR'S REPORT

Voucher specimens incorporated during the year were 126 mosses and 57 hepatics. There were 12 loans from BBSUK during 1991, totalling 180 packets, rather fewer than last year. The largest loan, of *Seligeria* species, was to Dr R. Ochyra (Poland) who is revising the European species.

A.R. Perry, February 1992

## g) JOURNAL EDITOR'S REPORT

The number of papers submitted to *J. Bryol.* during 1991 was, as in 1990, down on previous years. This is a feature shared with other bryological journals and may be a reflection of less money being available for bryological research. This fall in number of papers resulted in Volume 16 being 120 pages short of the budgeted total. It was agreed to publish selected papers from the symposia 'The Biology of *Sphagnum*' and 'Experimental Bryology' held at Exeter in July 1991. Nine papers on *Sphagnum* will appear in Volume 17(1) and some six or eight papers on other topics in 17(2).

I am most grateful to Dr Phil Stanley for his masterly compilation of the index to Volume 16.

A.J.E. Smith, 17 March 1992

## h) LIBRARIAN'S REPORT

Sales: J. Bryology (parts)	11
TBBS (parts)	16
Distribution of Bryophytes	14
Census Catalogues (old)	0
Hepatics of Europe and the Azores	1
BBS Bulletins	30
Library Catalogues	3
Moss Wall Charts	4
Special Volume : Jubilee	0
Special Volume : Chromosomes	7
Special Volume : Tropical Bryophytes	2
Bryology (Linn. Soc.)	3
German/English Glossary	1
x20 lenses	20
Stainless steel forceps	17
BBS ties	6
Loans: 35mm slide sets	2

Once again the Librarian apologises for an erratic service in 1991 due to continuing personal pressures. In addition considerable difficulty has been experienced in obtaining back numbers of the TBBS and Journal, which is why some people have had to wait up to six months for their orders.

Ken Adams, March 1992

## i) MEETINGS SECRETARY'S REPORT

In Spring 1991 we visited Clevedon, near Bristol. As ever, the meeting at this time of year was popular and attendance was good, despite the weather which blew gales for much of the week. Peter Martin made a splendid job of organizing the meeting and programme. His work was made much more frustrating by the headquarters hotel which declared itself bankrupt very shortly before the meeting! Is this a first?

Our summer meeting was exceptional, consisting of two symposia organized jointly with the

International Association of Bryologists. Roger Daniels organized the *Sphagnum* symposium, which is intended to be the first of many. Others, however, are unlikely to be on our doorstep.

The *Sphagnum* meeting comprised a peripatetic field excursion which began in Scotland and finished in Exeter where a two-day symposium was held. Attendance was good and Roger is to be congratulated on the success of the meeting.

The second symposium followed on from the *Sphagnum* meeting. The IAB Biennial meeting on Experimental Bryology was organized by Royce Longton and Michael Proctor and attracted participants from all over the world.

Tom Blockeel hosted the AGM meeting in Sheffield. As usual the meeting was popular, and the pleasant surroundings and Tom's excellent field excursion made the meeting a memorable one.

Our Workshop meeting was held at Rogate Field Centre near Petersfield in Hampshire. June Chatfield made arrangements for this meeting, designed to boost the expertise of beginners and intermediates. Enviably she was assisted by a home team of high-calibre tutors — Alan Crundwell, Francis Rose and Rod Stern.

I think it would be helpful to list the number attending meetings — something perhaps which might usefully be done every year. The numbers refer to all those who attended, some of whom may have only been present for part of the time. The numbers in brackets are the number of residential participants, where available.

Spring Meeting	37 (26)
Sphagnum field excursion	36
Sphagnum symposium	70
Experimental Bryology symposium	55 (49)
AGM weekend	49 (38)
Workshop meeting	22 (19)
<b>TOTAL</b>	<b>269</b>

There are now five groups organizing local meetings around the country. I hope this number will continue to increase, and would like to remind members considering starting such a group that Council has agreed to the principle of refunding postage expenses to regional secretaries who organize these meetings.

Lastly, I would like to thank all the secretaries, regional and local, for their diligence and dedication in making this year's full meetings programme possible. Thanks are also due to all those who gave helpful suggestions for future venues. Needless to say, comments, suggestions and offers are always welcome — please do not hesitate to get in touch.

Philip Lightowlers, January 1992

## **j) MEMBERSHIP SECRETARY'S REPORT**

This has been an encouraging year. In addition to the 36 new members recorded for 1991, 11 have enrolled for 1992. This means that our numbers are higher than for some years - despite the higher subscription. Details of membership are shown below.

Our thanks are due to Dr Diana Horton for taking on the job of collecting the subscriptions of the North American members. This task, formerly most efficiently carried out by Professor Ronald Pursell, effects a considerable saving in conversion charges and much time and trouble in correspondence.

MEMBERSHIP NUMBERS					
Year	1987	1988	1989	1990	1991
New Members	32	26	27	28	36
Members lost by:					
Death	* <sup>1</sup>	3	8	5	3
Resignation	9	8	11	9	11
Other	(33) <sup>2</sup>	(18)	10	15	9
Total Losses	(42)	(29)	29	29	23
NET TOTAL	(535)	(532)	530	529	542
Comprising Ordinary and Junior	503	506	502	503	512
Family	18	13	14	13	18
Honorary	14	13	14	13	12

Notes: <sup>1</sup> Not known

<sup>2</sup> Best Estimate

A.V. Smith, January 1992

#### k) PUBLICITY OFFICER'S REPORT

TRAVELLING EXHIBITION: Since it first opened on 5 December 1987 at Cliffe Castle Keighley, it has travelled constantly with breaks only for maintenance; this is remarkable for an exhibition that was so nearly aborted on the grounds that no-one would want an exhibition on mosses. Since the last Report the exhibition has visited the National Museum of Wales (Cardiff), Ulster Museum (Belfast), The Environmental Information Centre (Dublin), and the Armagh County Museum. It is next due at Keighley; Margaret Hartley reports that future bookings now look thin, and the Society may shortly inherit the exhibition and will need to consider what to do with it.

LOGO: The redrawn logo is available for Society use as a paper ("hard") copy, or in WordPerfect (\*.WPG) format, or as a fine resolution \*.TIF file. Attempts to convert this to WordStar format (\*.PIX) have been dogged with problems, but WordStar 7.0 (due 4 April) has a promised conversion program.

ADVERTISING: I enclose two sample proposed classified advertisements, for Council to consider, for (several?) magazines such as *BBC Wildlife*; more cost-effective would be submission of articles.

SWEAT-SHIRTS: Of the original order for 56 BBS sweatshirts, 31 have been sold, almost all (28) at the Autumn Sheffield meeting. Two were sold by post, and one collected personally. All of the Large and XLarge sizes are sold out, leaving 24 (out of 32) Medium. One Large sweatshirt is unaccounted for. Original cost was £502.43; takings £372.00, leaving £130.43 deficiency and stock worth £288.00 if sold at £12 each. I still recommend reducing the price of these shirts to £9, i.e. just over cost.



COMMON NAMES: As a result of my requests for common names for bryophytes, and searches of published literature, I now have compiled a fully referenced list of 1,114 common names. Common names may not be relevant to all existing BBS members (especially those established enough to be in executive positions), but they may encourage the floating subscriber, and for this reason I feel that the project merits support.

S.R. Edwards, March 1992

## I) READING CIRCLE SECRETARY'S REPORT

There are currently 28 members who subscribe to the reading circle; postage costs continue to rise, which has perhaps accounted, in part, for the drop in subscribers outside the UK in the past two years. Contents lists of 15 issues of 4 journals were circulated to members and 18 articles were requested by 10 members. There is now approval to renew the lapsed subscription to *The Bryologist* and that journal should reappear on the circulation list during 1992.

### FINANCIAL STATEMENT

#### INCOME

Members' credit at 1.i.1991	£115.57
Income	£ 30.00
TOTAL	£145.57

#### EXPENDITURE

Photocopies supplied	£ 31.13
Postage	£ 23.69
Administration	£ 2.45
TOTAL	£ 57.27

Excess of income over expenditure	£ 88.30
Less members' credit at 31.xii.1991	£ 90.68
Excess of expenditure	£ 2.38

M.A.S. Burton, March 1992

## m) REPORT OF RECORDER FOR HEPATICAE

	New records collected 1990-91	New records collected pre-1990	Deletions
England	11	3	2
Wales	2	0	0
Scotland	14	0	0
Ireland	6	0	1
TOTALS	33	3	4

The total numbers of new records is disappointingly low. Only one voucher was collected on a BBS meeting, probably because no meetings were held in poorly-recorded parts of Britain or Ireland in 1991. However, some choice finds have been made in 1991, proving that exciting discoveries can readily be made in some regions. Noteworthy in England are *Anthoceros agrestis* in Sussex and *Fossombronina incurva* in Hampshire; in Scotland *Geocalyx graveolens* was found on the remote island of Hirta, St Kilda, and in Ireland there are several new finds of *Riccia fluitans* and *Ricciocarpos natans*, and range extensions for the rarities *Acrobolbus wilsonii* and *Geocalyx graveolens* in Donegal. During the year Jean Paton examined several critical specimens and her help is gratefully acknowledged.

D.G. Long, January 1992

## n) REPORT OF THE RECORDER FOR MOSSES

The number of new records is significantly reduced this year, and indeed is the lowest for many years. Nevertheless interesting finds continue to be made, even in well-worked areas. These include a second Irish record of *Atrichum tenellum*, and new stations in Scotland for *Grimmia montana*, *Hygrohypnum smithii*, *Scleropodium tourettii* and *Bryum dixonii*, and in England for *Dicranum polysetum*, *Tortula vahlana* and *Grimmia decipiens*. Most gratifying, however, has been the rediscovery of *Rhynchostegium rotundifolium* in Gloucestershire, a species hitherto thought to have become restricted to a single small population in Sussex.

An analysis of the year's records follows. The statistics exclude the revisions of *Racomitrium heterostichum* and the *Gymnostomum calcareum/viridulum* group.

	New records collected 1990-91	New records collected pre-1990	Deletions
England	51	1	9
Wales	4	0	0
Scotland	16	3	3
Ireland	9	0	0
TOTALS	80	4	11

Finally I wish to thank Alan Crundwell and David Long for their assistance with specimens and for information on various points, and Roy Perry for several loans of specimens from NMW and BBSUK.

T.L. Blockeel, January 1992

## o) RECORDING SECRETARY'S REPORT

The new BBS recording scheme was launched together with names and addresses of a network of Regional Recorders in 1991. Most of the vice-counties of England and Wales and about half of those in Scotland are now covered by a Regional Recorder. At present, a single recorder, Donal Synnott, is acting as Regional Recorder for Ireland. Additions and amendments to the list of Regional Recorders will be advertised in the "Recording Matters" column of the *Bulletin* which was also instigated in 1991. I am seeking to advertise members' local flora projects in this column and would welcome further material, especially from outside south-east England.

So far, only a handful of completed record cards has been received by me through the Regional Recorders' network. It is unlikely that this represents the true state of field bryology in Britain and Ireland. It is hoped that the appearance of the new BBS recording cards in early 1992 will stimulate activity. Members are encouraged to obtain stocks of the new cards from BRC or the Recording Secretary and submit any backlog of records which they may have on these. At its meetings in 1991 the Recording Committee discussed possible new recording ventures. A proposal for a survey of epiphytes in England and Wales is to be put before Council in April 1992.

J.W. Bates, March 1992



## MINUTES OF THE ANNUAL GENERAL MEETING, SHEFFIELD, 1991

Minutes of the Annual General Meeting held at Tapton Hall, University of Sheffield, at 4.30 p.m. on Saturday 14 September, 1991.

**PRESENT:** Dr M.O. Hill (President, in the chair) and 38 other members.

The President opened the meeting by recording the deaths in the past year of our Honorary Member, Prof. Per Størmer, and of Miss E.H. du Feu, who relinquished membership only latterly as a result of ill health.

(1) **APOLOGIES FOR ABSENCE:** Apologies were received from Dr K.J. Adams, Mr A.D. Banwell, Dr M.A.S. Burton, Prof. D.H. Lewis, Mr D.G. Long, Mrs J.A. Paton, Dr M.C.F. Proctor, Dr A.J.E. Smith, Mr C.C. Townsend, Dr E.V. Watson and Mr M.M. Yeo.

(2) **MINUTES OF THE LAST AGM, CAMBRIDGE, 1990:** The Minutes were approved and signed as a correct record.

(3) **MATTERS ARISING:**

- a) Item 3(a), **Wallace Memorial Reserve:** Mr R.C. Stern reported that an agreement with the Hampshire and Isle of Wight Wildlife Trust for the management of the reserve would be completed in the next week or two. At an official opening ceremony to be performed by Dr Hill for the BBS and by the Chairman of the Trust on 24 September, a cheque would be handed to the Trust. A number of invitations had been sent to people and societies that were particularly associated with Mr E.C. Wallace, as well as to certain local dignitaries. A memorial of Purbeck stone, 0.75 m high, and inscribed with words read by Mr Stern, would be unveiled.
  - b) Item 3(b), **Atlas:** Dr Hill reported that the first volume had been published more or less on time. The text of volume 2 was with the printer and, although the maps had still to be submitted, it was not expected to result in a delay. Meanwhile, legends for volume 3 were coming in at a steady rate.
  - c) Item 3(c), **Archives:** Mr A.R. Perry reported that he had taken delivery of all the archival material held by Dr Adams. Filling three or four large boxes, it consisted mainly of correspondence received by Mr Wallace and was the only material submitted, despite a note in *Bulletin* 57. Mr Perry appealed for a greater response, as did Prof. M.R.D. Seaward, who had received no additional photographs for the archives during the year. In response to a question from Dr P.E. Stanley, Mr Perry said there had been no official policy of taking group photographs during meetings. Dr S.R. Edwards observed that for archival purposes black and white photographs are preferable to colour in view of the latter's transience. Prof. Seaward was asked to draw up estimates of the likely cost to the Society of adequate archival work on the photographic collection for consideration at the next Council meeting. At the request of Prof. Seaward, it was also agreed to examine his position and that of Mr Perry. Dr M.E. Newton said both had been minuted on appointment.
- (4) **OFFICERS' REPORTS FOR 1990:** These had been circulated in *Bulletin* 58, in advance of the meeting, and gave rise to the following comments:
- b) **Treasurer:** Dr G.C.S. Clarke provided accounts for the year ended 31 December, 1990. They supplemented the preliminary statement of affairs published in the *Bulletin*, and showed an excess of income over expenditure of £737.01. Dr Clarke drew members' attention, in particular, to expenditure of £3,500 for publication of the *Atlas*. Offset against this were grants totalling £2,500, the Society's financial contribution to the *Atlas* thus being £1,000. Similarly, members' payments to the Cambridge AGM were to be deducted from outgoings to identify the cost of hiring rooms and expenses for invited speakers from abroad. Since no library purchase had been made, Mr Perry enquired whether popular floras were incorporated as a matter of policy. In reply to a question from Prof. Seaward, Dr Clarke reported it had been because the Society had been eating into reserves for some time that subscriptions had been raised.
  - d) **Bulletin Editor:** Mr Perry appealed to members to help him produce the *Bulletin* on time

- by submitting material within the deadlines. These were 15 May and 15 December each year and he would in future accept no copy after those dates. Mr Perry also announced that he had received notification of inaccurate costing of volumes 5 and 6 of R.M. Schuster's *Hepaticae and Anthocerotae of North America East of the Hundredth Meridian*, which had been advertized in a flier sent out with the *Bulletin*. For orders received before 31 October, the publisher would honour the advertized price of \$144; thereafter, the price would be \$290.
- e) **Conservation Officer:** Mr Stern said the account of the symposium mentioned in his report had been published in *Bulletin* 58: 27-28.
  - f) **Curator:** Mr Perry reported that an updated list of liverworts held in BBSUK is available.
  - j) **Meetings Secretary:** Dr P.J. Lightowlers wished to thank those members who had helped him throughout the year.
  - k) **Membership Secretary:** Mr A.V. Smith said that in view of the late payment of subscriptions by some members he was hesitant about predicting what effect the increased subscription would have on final numbers. At the moment, it appeared to have had little effect; of the same order as the last increase. Mr Smith read extracts from three letters of resignation, which led Prof. Seaward to comment that the BBS might consider reduced subscriptions for senior members after a specified number of years, or a reduced subscription if the member did not wish to receive the *Journal of Bryology*. A proposal (Prof. Seaward, seconded Prof. J.G. Duckett) to consider the possibility in Council was carried.
  - l) **Publicity Officer:** Dr S.R. Edwards announced that sweatshirts bearing the BBS logo were now on sale. He urged members to submit photographs for the competition to find good subjects for postcards; only one entry had been received so far. He also reported that he was maintaining lists of common names of bryophytes and would welcome additions.
  - o) **Recorder for Mosses:** Mr T.L. Blockeel expressed concern about the number of new records and urged members to submit more.
  - p) **Acting Recording Secretary:** Dr J.W. Bates announced that new recording cards were now available from Mr C.D. Preston, and encouraged members to send in completed cards.

#### (5) REPORT FROM COUNCIL:

**Journal of Bryology:** Dr Newton reported that Council was currently engaged in attempting to find a new publisher and editor following notification by Blackwells that they intend to terminate our contract at the end of 1992. This was the result of a revised pricing policy, which would have the effect of putting Blackwells' costs beyond the means of the Society. An unfortunate consequence of this had been the wish of Dr Smith to resign from the editorship, since the limited time available to him would prevent him from participating fully in what were expected to be lengthy negotiations. Council had set up a working group consisting of Dr Clarke, Prof. Duckett, Dr Hill, Dr Newton, and, it was hoped, Dr D.H. Brown. Its remit was to co-opt a prospective editor to the working group as soon as possible and to examine different kinds of publishers in time to make firm proposals to the next Council meeting. Mr A.C. Crundwell pointed out that these inevitable changes would come about in the middle of a volume, but Dr Newton reminded members that the last change of publisher had also taken place in mid-volume with little noticeable effect on format. In response to questions from Dr Stanley and Prof. Seaward, Dr Clarke reported that Blackwells proposed to charge £33 per member as opposed to the current price of £4. Prof. P.W. Richards observed that prices to non-members were higher, and Dr Clarke confirmed that subscribers were currently charged £64 in the U.K. Dr Clarke was not aware of Blackwells' policy towards other journals.

- (6,7) **ELECTIONS OF OFFICERS AND ELECTED MEMBERS OF COUNCIL:** Council had nominated Dr R.E. Longton for election as Vice-President, and their present incumbents to fill all outgoing Officers' posts. These were Mr L.T. Ellis (Bibliographer), Mr A.R. Perry (Bulletin Editor and Curator), Mr R.C. Stern (Conservation Officer), Dr A.J.E. Smith (Journal Editor), Dr K.J. Adams (Librarian), Mr A.V. Smith (Membership Secretary), Dr S.R. Edwards (Publicity Officer), Dr M.A.S. Burton (Reading Circle

Secretary), Mr D.G. Long (Recorder for Hepatics) and Mr T.L. Blockeel (Recorder for Mosses.) Council's three nominations for Elected Membership were Mr A.C. Crundwell, Mr R.D. Porley and Mr G.P. Rothero. In the absence of other nominations, they were **proposed en bloc** (Mr G. Bloom, seconded Dr G.C.S. Clarke) and declared **elected**.

(8) **PLACE AND DATE OF NEXT ANNUAL GENERAL MEETING:** Dr Lightowlers announced that this would be at the Isle of Thorns Training Centre, near Haywards Heath, at 4.30 p.m. on Saturday 26 September, 1992.

(9) **OTHER FUTURE MEETINGS:** Dr Lightowlers reported that these, up to and including the AGM of 1992, had been advertized in *Bulletin* 58. He encouraged members to suggest ideas for subsequent meetings, and Prof. Seaward considered the Society might wish to append its paper-reading meeting of 1993 to one he was organizing for the Linnean Society in York to mark the centenary of Richard Spruce's death. A local secretary would need to be found for the BBS part of the meeting. Dr E.W. Jones expressed the opinion that Spruce was an outstanding bryologist, far ahead of his contemporaries on the continent, and that the Society ought to mark his centenary in some way; this was endorsed by Prof. Richards. There were considerable sources of Spruce material in Manchester (Dr Edwards) and Bangor (Prof. Richards). Dr Hill said Council members had considered the possibility of marking our own centenary in 1996, the year which Mr Crundwell reminded members would also be the centenary of the publication of H.N. Dixon's first edition of *The Student's Handbook of British Mosses*. He referred to this as "the 1066 of bryology" and probably a bigger landmark than any of the other dates mentioned. For field meetings, Mr Preston proposed a joint one with the Nordic Bryological Society, perhaps in Shetland or the West of Scotland, and Mr Rothero said the Nordic Society had itself already raised the possibility of one in the West of Ireland. The idea met with widespread approval.

(10) **ANY OTHER BUSINESS:**

- a) **Cumulative Index to BBS Journals:** In reply to a question from Mr Preston, Dr Stanley predicted that this would be ready for printing by the middle of 1992. He asked for views on whether references to full papers should include both the first and last pages, and Dr Hill suggested that comments be sent direct to Dr Stanley.
- b) **Bryological Quotations:** Mr Preston enquired whether any plans had been made to publish this paper by Dr Edwards. Dr Hill said that all consideration of *Special Volumes* had met serious difficulties in that the Society had no satisfactory means of disposing of existing volumes. Various ideas concerning camera-ready copy and desk-top publishing (Dr Edwards, Mr P.J. Wanstall, Mr B.J. O'Shea) and publication as a supplement to the *Bulletin* (Prof. Seaward) were discussed. Concerning the latter, Dr Clarke confirmed the view of Mr R.G. Woods and Mr Bloom that the Society could afford to do this at the moment, but thought we ought to consider its wisdom, a view echoed by Mr Crundwell in observing that a volume of this sort is somewhat peripheral to a society that is primarily scientific. A **proposal** (Dr Longton, seconded Prof. Seaward) that the *Bryological Quotations* be published as a supplement to the *Bulletin*, extra copies to be advertized with other volumes in a flier in the bryological press, was **carried** (22 in favour, 1 against, with 16 abstentions). Dr Longton kindly offered to prepare the flier in consultation with the Executive Committee *re* pricing, etc.
- c) **Payments by Credit Card:** Dr A.J. Fife recommended that arrangements for payment by credit card on the order form of a flier would be greatly appreciated by overseas members, and probably also by members in Britain. There were seen to be many advantages to the idea, and Dr Clarke agreed to set up a scheme prior to Dr Longton's preparation of the flier advertizing publications.

There being no other business, the meeting adjourned at 6.08 p.m.

M.E. Newton, Hon. General Secretary  
September, 1991

## FUTURE MEETINGS OF THE SOCIETY

### SUMMER FIELD MEETING, 1992, Lochinver/the Uists, 29 July - 12 August.

#### Lochinver, 29 July - 5 August

Local Secretary: Gordon Rothero, Stronlonag, Glenmassan, By Dunoon, Argyll, PA23 8RA.  
Tel. 0369 6281

Headquarters: Culag Hotel, Lochinver.

For details of this meeting please refer to *Bulletin* 59, page 19.

#### The Uists, 5-12 August

Local Secretary: Dr Peter Pitkin, Nature Conservancy Council for Scotland, 2/5 Anderson Place, Edinburgh, EH6 5NP. Tel. 031 554 9797.

Headquarters: Craegorny Hotel, Benbecula.

For details of this meeting please refer to *Bulletin* 59, page 19.

### ANNUAL GENERAL MEETING AND SYMPOSIUM MEETING, 1992, East Sussex, 26-27 September.

Local Secretary: David Streeter, Sussex House, Falmer, Brighton, Sussex, BN1 9RH. Tel. 0273 678212

To be held at the Isle of Thorns Training Centre, Chelwood Gate, near Haywards Heath. The centre is purpose built for conferences and meetings in a quiet rural setting, and is managed by the University of Sussex. All facilities are provided for our autumn meeting at a cost of around £44 for a day's full board. The centre is conveniently close to Ashdown forest and other sites of bryological interest.

The meeting will follow the conventional pattern of a symposium on the Saturday (starting at about 9.00 a.m.) followed by the AGM, and a field excursion on the Sunday. As usual, there will be a Council meeting on the Friday evening, while on Saturday there will be a conversazione in the evening. Members are invited to bring posters or other items for discussion. Please contact the local secretary to discuss your space requirements.

The field excursion, lead by Dr Francis Rose, will explore Ashdown Forest in the morning. In the afternoon, the sandstone outcrops in Tilgate Wood, Wakehurst Place, will be visited.

Bookings, which should be sent to the Local Secretary, would be appreciated as early as possible, and not later than 7 September.

The programme on Saturday will include talks from:

Dr Royce Longton (University of Reading): Agrobryology in China.

Mr David Long (Royal Botanic Garden, Edinburgh): The hepatic genus *Asterella* in eastern Asia.

Mr Cliff Townsend (Twickenham): Temperate to tropical — taking the plunge.

Dr Michael Proctor (University of Exeter): Micro-environmental conditions and the growth of *Grimmia pulvinata*.

Dr Francis Rose (Petersfield): Bryophyte distribution in Sussex — the new Sussex atlas.

Mr Donal Synnott (National Botanic Gardens, Dublin): Title to be confirmed.

The ANNUAL GENERAL MEETING will be held at 4.30 p.m. on Saturday 26 September, 1992, at the Isle of Thorns Training Centre, Chelwood Gate, near Haywards Heath, East Sussex.

ANNUAL GENERAL MEETING, CHELWOOD GATE, 1992  
AGENDA

1. Apologies for absence.
2. Minutes of the last A.G.M., Sheffield, 1991 (see pp. 10-12 of this *Bulletin*).
3. Matters arising.
4. Reports of Officers for 1991 (see pp. 2-9 of this *Bulletin*).
5. Report from Council.
6. Election of Officers (see p. 17 of this *Bulletin*).
  - a) General Secretary.
  - b) Treasurer.
  - c) Journal Editor.
  - d) Meetings Secretary.
  - e) Recording Secretary.
7. Election of Elected Members of Council (see p. 17 of this *Bulletin*).
8. Change of Rules: Financial Matters (see p. 17 of this *Bulletin*).
9. Place and date of next Annual General Meeting.
10. Other future meetings.
11. Any other business.

**BRYOPHYTE WORKSHOP, 1992, London, 31 October - 1 November**

Local Secretary: Dr Ken Adams, 63 Wroths Path, Loughton, Essex, IG10 1SH. Tel. 081 508 7863.

The meeting — which will be the first specialist taxonomic meeting for some years — will be held at the Polytechnic of East London, Stratford, and will concentrate on the genera *Fissidens* and *Tortula*. There will also be a field trip to Chalk pits at Greys near Tilbury, which have produced a number of rarities in the past, such as *Lophozia pearsonii*.

**SPRING FIELD MEETING, 1993, Brittany, 31 March - 7 April.**

Local Secretary: Dr Jeff Bates, Imperial College Field Station, Silwood Park, Ascot, Berkshire SL5 7PY. Tel. 0344 23911.

The meeting will be centred on Quimper, a moderately sized town which allows a good choice of eating places and ready access to a range of habitat types. Members have the option of booking at the headquarters hotel through the local secretary, or arranging their own accommodation — Jeff can provide details of alternatives. The HQ hotel is currently being finalised but bed and breakfast is likely to cost around £18. Members interested in attending should contact Jeff Bates for the latest details. See also *Bulletin* 59, page 20.

**SUMMER MEETING, 1993, Dumfries and Galloway, 28 July - 4 August.**

Local Secretary: Alexander Rowan, 1 Robertson Avenue, Dumfries, DG1 4EY. Tel. (& fax) 0387 63051.

We had originally planned to visit western Ireland as a joint meeting with the Nordic Bryological Society at this time, but due to lack of time and the Irish postal strike this has proved impossible. We are now planning to delay this meeting until 1994.

The south-west of Scotland has been much neglected by the BBS: our last meeting there was in Dumfries in 1961. Many members have expressed an interest in returning there, and thanks to a kind offer by Alexander Rowan, we have been able to plan a summer meeting for 1993.

The meeting will probably be centred on Castle Douglas, and members can expect a varied programme, visiting the wealth of upland, woodland and coastal sites the area offers. More

details in the next *Bulletin*.

## **ANNUAL GENERAL MEETING AND SYMPOSIUM MEETING, 1993, Ripon, 17 - 19 September.**

Local Secretary: Mike Longman, 8 St Quentin Rise, Bradway, Sheffield, S17 4PR. Tel. 0742 368010.

A meeting with a special theme, the 100th anniversary of the death of Richard Spruce, the famous nineteenth century bryologist. Spruce was an extremely active bryologist in the UK before starting his collections and studies in South America, for which he is now mostly remembered.

The meeting is to be held in his native Yorkshire, close enough to York for members to travel on to another anniversary meeting in the city if they wish. The Linnean Society are holding a celebratory meeting on 20-22 September at York University. Further details can be obtained from Prof. Mark Seaward, University of Bradford, Bradford BD7 1DP, tel. 0274 384212. There will be more information on this Linnean Society meeting in the next issue of the *Bulletin*.

All facilities in Ripon will be provided by the College of Ripon and York St John. The cost is likely to be about £38 per day full board.

---

## **LOCAL MEETINGS PROGRAMME**

### **AVON AREA GROUP**

Peter Martin is planning to start a local group for Avon, Somerset, Gloucestershire and Wiltshire and members interested in joining this Group should contact him. Peter Martin, 37 Hughenden Road, Horfield, Bristol, Avon, BS7 8SF, tel. 0272 240355.

### **CAMBRIDGE GROUP**

Interested members should contact Harold Whitehouse, tel. 0223 333900 or 0223 352417.

### **LEICESTERSHIRE BRYOLOGICAL SURVEY**

A regular season of meetings is held by the survey, which is mapping the county's bryophyte flora. Contact: Dennis Ballard, 84 Leicester Road, Groby, Leicester, LE6 0DN.

### **NORTH WEST GROUP/NORTH WEST NATURALISTS' UNION**

Attendance at the three meetings already held this year (at the time of writing) has been good. Of particular note was the meeting led by Dr Martha Newton at which she gave us an excellent day devoted to the study of the genus *Sphagnum*. A laboratory demonstration was aided by the use of a video link to the microscope which was very kindly brought along by her colleague Dr Angus Gunn. This was followed by a day on one of our threatened peatlands — Red Moss, just North of Manchester. In this case the land is the subject of plans for use as a tip and it is hoped that we can do our part to save it.

July 18th LYMM DAM & ROSTHERNE CHURCH. Meet at SJ 682869 at 11.00 a.m.

Aug 15th PARSLEY HAY. Meet at Car Park SK 148637 at 11.30 a.m. Leader M. Bailey

Sept 19th DUNE SLACKS, AINSDALE. Meet at Freshfield Station car park at 11.00 a.m. SD 291083. Leader W. Johnson



Oct 3rd LATHKILL DALE. Meet at SK 181663 11.30 a.m. Leader Dr M.E. Newton

Nov 21st DAISY NOOK. Meet at Visitor Centre car park 11.00 a.m. SD 920005. Leader A. Bamforth

Dec 5th SALE WATER PARK. Meet at Visitor Centre car park 11.00 a.m. SJ 806925

We are hoping to arrange a weekend in mid to late October in South Cumbria. Please contact A.V. Smith for details.

**BRING FOOD AND DRINK AS REQUIRED. CHECK WITH SECTION SECRETARY OR LEADER BEFOREHAND TO ENSURE MEETING IS ON AND LET US KNOW IF YOU EXPECT TO BE LATE.**

A.V. Smith: 0663 744499 (BBS). E.W. McCann: 061 962 1226 (NWNNU).

## **SOUTH EAST GROUP**

For further details contact Roy Hurr, 6 The Woodlands, Chelsfield, Orpington, Kent, BR6 6HL. Tel. 0689 852966.

## **SOUTHERN GROUP**

Contact: Howard Matcham, 21 Temple Bar, Strettington, Chichester, PO18 0LB.

---

## **OTHER BRYOLOGICAL MEETINGS 1992-1993**

August 8, 1992: JOINT FIELD MEETING WITH BSBI, TREGARON BOG, WEST WALES. A special meeting with the Botanical Society of the British Isles which is being organised by Arthur Chater, a BBS and BSBI member and a retired chief of the herbaria at the Natural History Museum. The meeting is likely to be well attended by members looking at bryophytes and other plants. *Sphagnum* specialists are particularly encouraged to attend! Tregaron Bog, in the Cors Caron NNR, was visited during the BBS summer field meeting to Aberystwyth in 1989. Members can get some insight into the quality of the bryophytes to be found there from the account of the meeting in *Bulletin* 55: 6. There will be no danger of covering the same ground, however, as the meeting will concentrate on different areas of the site! The meeting will start at 11.00 a.m. at the car park 200 m along the road north of Maeslyn Lake, NE Tregaron, Grid ref. SN 694630 (bring packed lunch). Organiser: Mr A.O. Chater, Windover, Penyrangor, Aberystwyth, Dyfed, SY23 1BJ. Tel. 0970 617409.

August 8-15, 1992: MOSSES AND LIVERWORTS. Tutor: Dr Martha Newton, Kindrogan Field Centre, Enochdu, Blairgowrie, Perthshire, PH10 7PG. Details from the Warden, Dr A. Lavery.

August 17-21, 1992: MOSSES AND LIVERWORTS OF GRASSLAND AND ROCKY OUTCROPS. Tutor: Dr Martha Newton, Rhyd-y-creuau, Drapers' Field Centre, Betws-y-coed, Gwynedd, LL24 0HB. Details from the Warden, Mr A. Shärer.

August 21-28, 1992: MOSSES AND LIVERWORTS. Tutor: Dr Martha Newton, Malham Tarn Field Centre, Settle, North Yorkshire, BD24 9PU. Details from the Warden, Mr K. Iball.

August 22-29, 1992: BRYOPHYTES. A course suitable for beginners and for those with some experience. Highland Field Studies, Borelick, Trochry, Dunkeld, Perthshire, PH8 0BX. Details from the Warden, Mr Brian S. Brookes (s.a.e. appreciated).

August 28 - 4 September, 1992: MOSSES AND LIVERWORTS. Tutor: Dr Martha Newton, Preston Montford Field Centre, Montford Bridge, Shrewsbury, SY4 1DX. Details from the Warden, Mr J.A. Bayley.

April 23-25, 1993: MANX MOSSES. Tutor: Dr Martha Newton. This course offers an opportunity in Spring to see a wide range of the rich variety of species occurring on the Isle of Man. Particular emphasis will be placed on learning to identify them in the field, as well as on discovering what they tell us about the habitats in which they grow.

Details from the Director of Continuing Education, University of Liverpool, P.O. Box 147, Liverpool, L69 3BX. (Please enclose a stamped, addressed envelope.)

---

## PROPOSED CHANGE OF RULES: FINANCIAL MATTERS

It is the view of Council that the Society ought to be in a position to make carefully considered decisions on financial matters. The following amendment of the Rules is proposed with a view to offering protection by providing a sound framework for the discussion of items with financial implications. The resolution, if approved by the A.G.M., would supplement the existing Rules, as approved in September 1985 (*Bulletin 48*) and amended by the 1989 A.G.M. (*Bulletin 56*).

**Resolution.** Expenditure of £500 or more, other than that incurred in normal Society business, shall be considered by Council or an A.G.M. only as an agenda item. Questions raised without prior circulation of details shall be referred back, respectively, to either the Executive Committee or the next Council meeting.

---

## ELECTION OF OFFICERS AND ELECTED MEMBERS OF COUNCIL

Two Officers, Dr A.J.E. Smith (Journal Editor) and Dr P.J. Lightowlers (Meetings Secretary), have signified their wish to resign at the end of the year. The terms of three other Officers, the General Secretary, Treasurer and Recording Secretary, expire at the end of 1992, and their present incumbents are eligible for re-election. The three Elected Members of Council who retire at the end of 1992, Mr P. Martin, Mr H.W. Matcham and Mr F.J. Rumsey, are not eligible for re-election in this capacity until two years have elapsed. Members are invited to submit nominations for Officers and Elected Members, sending them, in an envelope marked PRIVATE, to the General Secretary, Dr M.E. Newton, Botany Department, Liverpool Museum, William Brown Street, Liverpool, L3 8EN, to arrive no later than 29 August, 1992. A nomination must not be made without the consent of the person it is wished to nominate. If elections are needed they will be held at the A.G.M. at the Isle of Thorns Training Centre, near Haywards Heath, on 26 September, 1992.

---

## COPY DEADLINE

Deadlines for receiving copy for the July and February *Bulletins* are 15 May and 15 December, respectively. Articles should be typed and those of more than one page in length should, in addition, be submitted on disk, as two files: a) a word processed file, and b) an ASCII file without underlining, boldface or italics. Disks will be returned.

## RECORDING MATTERS 4

### Regional Recorders

The following is a list of the BBS recorders for vice-counties in Britain and Ireland to whom completed field record cards should be sent. Records from vacant vice-counties should be sent directly to the Recording Secretary (address below).

- 1,2: Miss R.J. Murphy, Shang-ri-la, Reskadinnick, Camborne, Cornwall, TR14 0BH  
3,4: Mr M. Pool, 91 Warbro Road, Babbacombe, Torquay, Devon, TQ1 3PS  
6,34: Mr P. Martin, 37 Hughenden Road, Horfield, Bristol, BS7 8SF  
7: Mr R.D. Porley, English Nature, Foxhold House, Thornford Road, Crookham Common, Newbury, Berkshire, RG15 8EL  
8,11: Mr R.C. Stern, Botany Bay, Main Road, Fishbourne, Chichester, West Sussex, PO18 8AX  
9: Dr M.O. Hill, Monk's Wood Experimental Station, Abbots Ripton, Huntingdon, PE17 2LS  
10: Mrs L. Snow, Ein Shemer, Upper Hyde Farm Road, Shanklin, Isle of Wight, PO37 7PS  
12: Mr A.C. Crundwell, Acorn Cottage, 12 Kay Crescent, Headley Down, Hampshire, GU35 8AH  
13,14: Mr H.W. Matcham 21 Temple Bar, Strettington, nr Chichester, West Sussex, PO18 0LB  
15: Mr M.C. Watling, Top Flat, 30 Cliffe Avenue, Margate, Kent, CT9 5DU  
16: Mr E.R. Hurr, 6 The Woodlands, Chelsfield, Orpington, Kent, BR6 6HL  
18-21: Dr K.J. Adams, 63 Wroths Path, Baldwins Hill, Loughton, Essex, IG10 1SH  
22: Dr J.W. Bates, Imperial College at Silwood Park, Ascot, Berkshire, SL5 7PY  
23: Mr G. Bloom, 15 Tatham Road, Abingdon, Oxon., OX14 1QB  
24: Dr S.V. O'Leary, J.J. Thomson Physical Laboratory, P.O. Box 220, Whiteknights, Reading, RG6 2AF  
25,26: Mr R.J. Fisk, 1 Paradise Row, Ringsfield, Beccles, Suffolk, NR34 8LQ  
27,28: Mr R. Stevenson, 111 Wootton Road, Kings Lynn, Norfolk, PE30 4DJ  
29: Dr H.L.K. Whitehouse, Botany School, Downing Street, Cambridge, CB2 3EA  
30: Mr A.R. Outen, 15 Manor Close, Clifton, Shefford, Beds., SG17 5EJ  
31,99: Mr N.G. Hodgetts, Nature Conservancy Council, Northminster House, Peterborough, PE1 1UA  
32,60: Mr M.J. Wigginton, 36 Big Green, Warmington, Oundle, PE8 6TU  
33,101-104,110: Mr M.F.V. Corley, Pucketty Farm Cottage, Faringdon, Oxfordshire, SN7 8JP  
35,41,44: Mr A.R. Perry, Department of Botany, National Museum of Wales, Cardiff, CF1 3NP  
36,37: Mr P.J. Port, Hollybush Cottage, Newton Lane, Kington, Hereford, HR5 3NG  
38: Mr J.H. Field, 34 Wells Green Road, Solihull, West Midlands, B92 7PG.  
40: Mr R. Shoubbridge, 8 Mary Elizabeth Road, Ludlow, Shropshire, SY8 1LW  
42,43,47: Mr R.G. Woods, Nature Conservancy Council, 3rd Floor, The Gwalia, Ithon Road, Llandrindod Wells, Powys, LD1 6AA  
45: Dr P.M. Rhind, Field Studies Council Research Centre, Fort Popton, Angle, Pembroke, Dyfed, SA71 5AD  
46: Mr A. Hale, 26 Garth Dinas, Penparcau, Aberystwyth, Dyfed, SY23 3RZ  
48-52: T.H. Blackstock, Nature Conservancy Council, Ffordd Penrhos, Bangor, Gwynedd, LL57 2LQ  
53-54: Prof. M.R.D. Seaward, School of Environmental Science, University of Bradford, Bradford, BD7 1DP  
55: D.W. Ballard, 84 Leicester Road, Groby, Leicester, LE6 0DN  
57,61-65: Mr T.L. Blockeel, 9 Ashfurlong Close, Dore, Sheffield, S17 3NN  
58: Mr A.V. Smith, 1 Carr Meadow Cottages, Glossop Road, Little Hayfield, via Stockport, Cheshire, SK12 5NR  
66: Rev. G.G. Graham, 3 The Willows, Bishop Auckland, Co. Durham, DL14 7HH  
69,70: Mr F.J. Roberts, Eden Croft, Wetheral Pasture, Carlisle, Cumbria, CA4 8HU  
76, 86-88: Mr N.G. Hodgetts, Joint Nature Conservation Committee, Monkstone House, City Road, Peterborough, PE1 1JY.

**79-80:** R.W.M. Corner, Hawthorn Hill, 36 Wordsworth Street, Penrith, Cumbria, CA11 7QZ  
**81:** Mr D.G. Long, Royal Botanic Garden, Edinburgh, EH3 5LR  
**82-84:** Dr D.F. Chamberlain, Department of Botany, Royal Botanic Garden, Edinburgh, EH3 5LR.  
**89:** M.C. Robinson, Balrobbie Farm, Killiecrankie, Pitlochry, PH16 5LJ  
**96:** A.G. Payne, Nature Conservancy Council, Fraser Darling House, 9 Culduthel Road, Inverness, IV2 4AG  
**97,98,105:** Mr G.P. Rothero, Stronlonag, Glenmassan, By Dunoon, Argyll, PA23 8RA  
**100:** Mrs K.M. Cocking, 4 Ashwood Crescent, Marple, Stockport, Cheshire, SK6 6LS  
**107-109:** Mr N.D. Redgate, The Northern Highlands Environment Records Centre, Burnside, Murkle, Caithness, KW14 8YT.  
**Channel Islands:** Mr C.D. Preston, Monk's Wood Experimental Station, Abbots Ripton, Huntingdon, PE17 2LS  
**Ireland:**  
**H1-H7, H9-H35:** Mr D.M. Synnott, National Botanic Gardens, Glasnevin, Dublin 9, Ireland  
**H8:** Elinor Wiltshire, 62 Carroll House, Craven Terrace, Lancaster Gate, London, W2 3PR.  
**H36-40:** Mr P. Hackney, Ulster Museum, Botanic Gardens, Belfast, BT9 5AB

Recorders are needed for the following vacant vice-counties: 5, 17, 39, 56, 67, 68, 71-75, 77, 78, 85, 90-95, 106, 111 and 112. Donal Synnott would also be glad to hear from anyone willing to take on individual vice-counties in Ireland.

### **Recorders' Workshop**

A successful evening session for Regional Recorders was held on Friday 10 April at Ellesmere College during the 1992 Spring Field Meeting. The recording secretary gave a presentation on the importance of continuing field recording in Britain and Ireland and on the pathways for submitting records. This generated a lively discussion about the mechanics of making records and sending them in for use in the BBS scheme. In particular, it was agreed that Regional Recorders should keep a "data bank" consisting of photocopies of completed record cards which could be passed on to their successors. Afterwards Dr Alan Morton (Imperial College, Silwood Park) gave an extremely lucid description of the use of a personal computer for storing bryophyte records and for generating distribution maps using his popular DMAP package. We were particularly grateful for his comments about the limitations of the various available data-storing packages and hints on the choice of suitable computer hardware.

### **Churchyard Bryophytes**

Most recorders find that part of their time is spent looking for bryophytes in churchyards. I am indebted to Tim Pyner for compiling this account of "Bryophytes in Essex Churchyards".

I have been recording bryophytes from churchyards since taking up bryology ten years ago. I quickly found that churchyards had a varied range of habitats and species. They are easily accessible, usually quiet and tend to be in rather sheltered situations which makes them pleasant places during the winter when I carry out my recording. Only a limited number of saxicolous species occur in Essex and the old walls and gravestones often harbour species which are rarely found elsewhere in the county.

While in the churchyard I record all species within the boundaries including the outside of any surrounding walls. Close attention is paid to the bases of old walls and gravestones as these often hold small colonies of interesting species. Often the base of the church wall has a drainage channel, frequently lined with old bricks and this can be host to a good selection of species. Another productive habitat is provided by old paths, gravel and tarmac which can be very rich in uncommon species.

I now have data from over 250 Essex churchyards; the number of species per churchyard ranges from 7 to 51, the average being about 27. As the churchyards I have visited range across the county the records have been very useful in contributing towards a proposed Atlas of Essex Bryophytes, particularly ensuring even recording of common species.

Three years ago I was approached by the Rev. Nigel Cooper, chairman of the Essex Churchyard Conservation Group. He asked if I could provide details of the rarer species which could be used for conservation. Nigel passes the data on to the relevant churchyard manager

along with suggestions towards conserving the plants and their habitats. He also passes on my address so that the managers or wardens can contact me for advice on identification, exact location and conservation if they so wish. I have been contacted several times by church wardens interested in protecting their mosses and I feel that we have been quite successful in bringing bryophytes to the attention of churchyard managers and wardens.

Over the years several species new to Essex have turned up: these are *Didymodon nicholsonii* (in 6 churchyards), *Leptobarbula berica* (3), *Racomitrium heterostichum* (2), *R. lanuginosum* (1) and *Grimmia trichophylla* (1). Other species, rare in Essex, which have found refuges in churchyards include *Fissidens pusillus*, *F. viridulus*, *Seligeria calcarea*, *Gyroweisia tenuis*, *Pseudocrossidium revolutum*, *Leucodon sciuroides*, *Hygrohypnum luridum* and *Rhytidiadelphus triquetrus*. Others such as *Tortula marginata* and *Rhynchostegiella tenella* were previously much under-recorded and have been found quite frequently.

Another interesting discovery is the frequent occurrence of *Tortula virescens* in the north of the county. I often find this on limestone walls and gravestones, also on concrete walls and tarmac paths, only twice on trees. It often grows with or near *T. intermedia* and they are sometimes very hard to separate in the field. Apart from nerve section, slightly larger laminal cells and shorter basal cells in the former seem to be fairly constant differences.

I now find that I spend a lot of my free time during the winter in churchyards, not only recording bryophytes, but also vascular plants such as *Asplenium* and *Polypodium* spp. which often occur as one or two plants. I hope to cover the remaining Essex churchyards in the next few years and hopefully my recording will contribute towards better understanding and protection for their mosses and liverworts.

Tim Pyner, 260 Carlton Avenue, Westcliff-on-Sea, Essex, SS0 0PX.

Dr Jeff Bates, Imperial College at Silwood Park, Ascot, Berkshire, SL5 7PY.

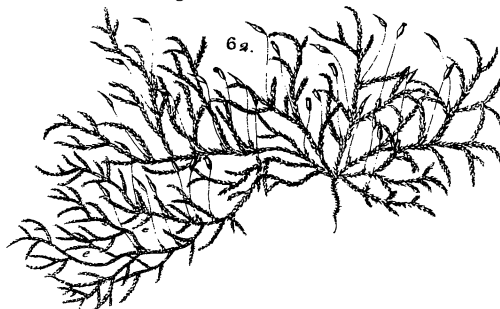
---

## THE LIVING CHURCHYARD PROJECT

Over the past few years the interest in 'things natural' associated with our churchyards has increased considerably as a result of the promotion of a package of audio-visual and do-it-yourself information launched under the above title in 1989. Many counties have been holding churchyard management training days, normally led by the local Diocesan representatives and the Wildlife or Nature Conservation Trust, associated with the specialist natural history interest. Records are gradually being extended and we would like to see more surveys being carried out on the mosses and liverworts, since these have not featured to date in any of the presentations and we do not know how far the churchyard habitat might be bryologically significant.

If any BBS members have already carried out surveys in churchyards, it would be particularly interesting to hear from them. Similarly, if any members would like to carry out more systematic surveys in churchyards, I could put them in touch with local Diocesan representatives or bring them up to date with other work going on in their area.

Eve Dennis, Development Officer - Church & Conservation Project, Arthur Rank Centre, National Agricultural Centre, Stoneleigh Park, Warwickshire, CV8 2LZ (Tel: 0203 696969 - ext.339)



## COARSE *ANTITRICHIA* AND *SCHISTOSTEGA* GROWING

by Michael V. Fletcher

70 South Street, Reading, Berkshire, RG1 3RA

I first saw *Antitrichia* at several sites on Skye during the 1968 meeting of the BBS. Some was brought home and grown. In the glass-sided frames it proved slow but tough, resisting long summer drought, poor light and low humidity. It was on well-drained granite chippings or peat.

When the live bryophytes were moved to a greenhouse in 1986, it was one of the healthiest pleurocarps, and was put on granite in a 6-inch clay pan. Growth between September 1986 and May 1987 exceeded 3 cm on most leading shoots, but as overhanging trees came into leaf it was far too shaded, and became pale and unhealthy. Most died soon after. The surviving material, after 24 years, still grows on well-drained acid stone and, since 1988, also on mounted bark, with high humidity in winter, and summer drought.

By the north-facing front of the house is a side wall, running north-south, with a coping of sloping hard bricks. It gets little sunshine except in high summer, and is shaded by a rambler rose and a nearby rowan tree, but is otherwise a typical urban street environment, near the centre of Reading (O.S. sheet 175, grid ref. 722732), arid and exposed to wind. The acid polluted brick has few mosses, but on the mortar on top are common urban acrocarps. In about 1986 two shoots of *Antitrichia* were stuck to the bare brick. In winter 1986-7 they went yellow and died, perhaps because of frequent desiccation or SO<sub>2</sub> damage. So did *Brachythecium velutinum* and *Hypnum cupressiforme*, though these persisted among the shelter of moss cushions on the mortar. Larger tufts of *Pterogonium gracile* were stuck on the bare brick and buffered from acidification in winter (I think) by an occasional sprinkling of soil. They persisted and held enough water and nutrients to grow and spread, forming two luxuriant mats, both containing smaller amounts of *Hypnum* and *Homalothecium sericeum*. In summer 1987 some shoots of *Antitrichia* from The Storr, Skye, were put among them. They increased and spread through the cushions.

In November 1988 a workman, demolishing a brick pillar in front of the offices next door, knocked the top off the wall. The loose coping bricks were rescued with their moss cushions intact, and put on the wall by the front steps. Next spring a blackbird had the best bits of *Pterogonium* for its nest. Visitors sometimes sat on what remained. Once one stubbed his cigarettes out on it. The largest piece of *Pterogonium*, about 100 square cm, came loose some time in 1990. In spring 1991 I took it indoors for safe-keeping till the damp autumn. It is now in the mosshouse. It still contains *Antitrichia*, scarce, but fairly vigorous, despite four months on a bookcase. I intend to put it out again this autumn.

Part of the smaller tuft is still on the original brick by the front door, containing two branched shoots of *Antitrichia*. One grew over the edge, turned pale and was almost dead by the beginning of 1992. Another, better sheltered by other mosses, is about 2 cm long, healthy, with several short branches. A fragment is also among *Grimmia pulvinata* on a piece of moss-covered asbestos, similarly exposed nearby.

The survival of *Antitrichia* for five years in inner urban conditions is noteworthy. Like some other commoner pleurocarps it cannot, on this site, colonize bare brick. The one undisturbed original shoot is in a precarious position. Climate seems a greater handicap than pollution. The severe drought of summer 1989 and 1990 did no harm, but there has simply not been enough wet weather to permit good growth. Even in November and December 1991 it was dry for much of the time and grew little. It is an opportunist, growing in mild or warm weather at any time of year, as in April 1991 and in the past week (June 1992).

In a less extreme setting, and with less disturbance, both *Pterogonium* and *Antitrichia* might flourish on brickwork.

In 1973 a small gathering of *Schistostega* was kept on deeply shaded neutral loam. It disappeared within months. The soil became covered in *Fissidens* sp.

I did not find *Schistostega* again until April 1990, when a few shoots were taken from a sandstone cleft in the Forest of Dean during a BBS field meeting. It was put on loose sandy acid soil, enclosed in a glass jam jar, on a deeply shaded greenhouse shelf. By September it, too, had apparently gone. Careful work with a x20 lens revealed the remains of one shoot among *Calypogeia arguta*. It was replanted on similar sandy loam, again enclosed, and soon started producing protonema. By March 1991 several new cultures had been started. All were on acid sandy loam, in pots in jam jars or similar small containers. All spread fast. One, kept on an indoor shelf, covered a 3-inch pot with glistening protonema by August. Several such cultures have been given away as presents.

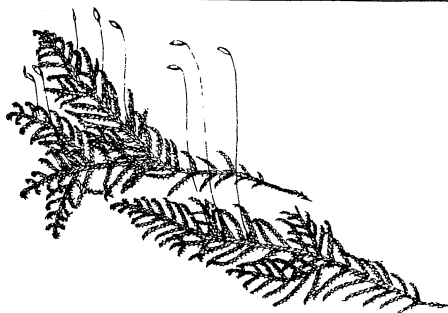
Such unremitting success can be monotonous. Three potfuls on the cool dark greenhouse floor were in jam jars whose metal lids rusted, and could not be undone. Algal growth on the inside of the glass made it impossible to see inside, so until May 1992 they were ignored. Then the lids were torn and wrenched off.

I found that mature tightly packed shoots of *Schistostega* covered them all, about 10 mm high, their lower parts of a rusty red colour. All had fruited. In one small sample 100 setae were counted. The total number of setae in the 2½ inch pot alone was estimated at between 800 and 1000. Many setae were covered in green growth, perhaps from germinating spores.

Recent indoor cultures have not done so well, spreading slowly and producing little or none of the reflective protonema which was such a striking feature of earlier cultures. Two, at least, also contain small springtails. Through a lens the soil can be seen to be disturbed, with tiny holes burrowed in it. One culture, in the kitchen in a tiny plastic box 35 x 55 mm has contained a population of up to 8 springtails for over a year. The *Schistostega* has not spread in this time. It is astonishing that such a small container supports a population of visible animals. They cannot get much to eat, except *Schistostega*. Another indoor culture, a flowerpot in a plastic container, also containing springtails, has recently been lightly sprayed with 'Vapona' fly killer, without apparently harming the *Schistostega*. That may solve this 'problem'.

Even so, there are other puzzles. In particular, if this plant can grow so fast, why did cultures fail initially? It is probably important to start with a pure culture, using tweezers and a strong lens.

Anyone who wishes can send me a s.a.e. for some live material, plus a few grams of suitable soil.



## REFEREES (July 1992)

Specimens sent to the referees should have a 4- or 6-figure grid reference in addition to the locality description. THEY SHOULD ALWAYS BE ACCOMPANIED BY A STAMPED, ADDRESSED ENVELOPE, EVEN IF MATERIAL IS SENT FROM UNIVERSITIES OR INSTITUTIONS. If anyone has difficulty in getting a specimen named they should send it to the appropriate Recorder — Mr David Long for hepatics (Herbarium, Royal Botanic Garden, Edinburgh, EH3 5LR) or Mr Tom Blockeel for mosses (9 Ashfurlong Close, Dore, Sheffield, S17 3NN).

The General Referee will help beginners who are having difficulty in placing their material in a genus. The numbers below refer to genera in *Distribution of Bryophytes in the British Isles* by M.F.V. Corley & M.O. Hill (1981).

**GENERAL REFEREE:** H.W. Matcham, 21 Temple Bar, Strettington, nr. Chichester, W. Sussex, PO18 0LB

### HEPATIC REFEREES:

- 1,2,11,12,38,53-55,58,64-67,69: D.G.Long, Herbarium, Royal Botanic Garden, Edinburgh, EH3 5LR  
3-10,18-24: Dr M.E. Newton, Dept of Botany, Liverpool Museum, William Brown Street, Liverpool, L3 8TN (All mail to be marked 'Confidential'.)  
13-17,36,37,39-44: G.P. Rothero, Stronlonag, Glenmassan, By Dunoon, Argyll, PA23 8RA  
25-35,45-47: M.F.V. Corley, Pucketty Farm Cottage, Faringdon, Oxfordshire, SN7 8JP  
48-52,78-86: M.J. Wigginton, Nature Conservancy Council for Scotland, 2-5 Anderson Place, Edinburgh, EH6 5NP  
56,57,59-63,68,70-74: T.L. Blackstock, Nature Conservancy Council, Ffordd Penrhos, Bangor, Gwynedd, LL57 2LQ  
75-77: G. Bloom, 15 Tatham Road, Abingdon, Oxfordshire, OX14 1QB

### MOSS REFEREES:

- 1: Dr M.O. Hill, Monk's Wood Experimental Station, Abbots Ripton, Huntingdon, PE17 2LS; A. Eddy, Dept of Botany, Natural History Museum, Cromwell Road, London, SW7 5BD  
2-10,143: Dr M.O. Hill (address above)  
11-36: M.F.V. Corley (address above)  
37,38,62-66: Dr A.J.E. Smith, School of Biological Sciences, Brambell Building, University College of North Wales, Bangor, Gwynedd, LL57 2UW  
39,67-81,96-104: N.G. Hodgetts, Joint Nature Conservation Committee, Monkstone House, Peterborough, PE1 1UA  
40-61: Dr D.F. Chamberlain, Dept of Botany, Royal Botanic Garden, Edinburgh, EH3 5LR  
82-90,105: Dr E.V. Watson, Little Court, Cleeve, Goring on Thames, Reading, Berkshire, RG8 0DG  
91-95: A. Orange, Dept of Botany, National Museum of Wales, Cardiff, CF1 3NP  
106-138: M.J. Wigginton (address above)  
139-142,144-175: A.C. Smith, End House, 24 Shelfanger Road, Diss, Norfolk, IP22 3EH

---

## ERRATUM

A correction is required to Whitehouse & Crundwell's 1992 paper on *Gymnostomum calcareum* and *G. viridulum* in *Bulletin* 59, page 50, column 2. Under Laois (v.-c. H14) the record 'mortar on underside of Cathole Bridge, over Owenass River, 5 km S.W. of Rosenallis, NU3, leg. H.L.K. Whitehouse, 17.8.1987' is in 10 km grid square 22/30, not 21/39.



## NEW VICE-COUNTY RECORDS AND AMENDMENTS TO THE CENSUS CATALOGUE

All undated records are based on specimens collected in 1991; for specimens collected in earlier years the year of collection is given before the collector's name. Where the specimen bears a collector's number, this is given after the collector's name. The 10 km grid square is given with each locality, when known. All specimens are deposited in BBSUK, except where otherwise indicated. Numbers and nomenclature follow Corley & Hill, *Distribution of bryophytes in the British Isles: a census catalogue of their occurrence in vice-counties* (1981).

### HEPATICAEE

#### D.G.LONG

- 1.1 *Anthoceros agrestis*, in stubble field with *Riccia glauca*, *R. sorocarpa*, etc., 25 m alt., Boxgrove near Chichester 41/80 (13), Matcham.
- 11.1 *Ricciocarpos natans*, floating in small ponds in poor fen, Ballydonagh Townland, near Grange R/94 (H7), Lockhart & O'Sullivan; in calcareous stream dammed by wall, with *Berula* and *Lemna minor*, The Wilderness, Clonmel S/22 (H7), FitzGerald & Clancy (DBN).
- 12.4 *Riccia fluitans*, floating and submerged amongst *Iris* in swamp, 100 m alt., Doonoor Townland, 1 km S of Grange R/94 (H7), Lockhart & O'Sullivan; on mud at base of *Carex*, etc., in small marsh, Culacussane, S of Annacarty, NE of Tipperary Town R/94 (H10), Scannell (DBN); submerged amongst *Carex rostrata*, 120 m alt., around Glassdrum Lough, S of Cappaghwhite R/84 (H10), Lockhart & O'Sullivan.
- 12.8 *R. subbifurca*, voucher for 5 [Rowford near Taunton, 1931, W. Watson (BBSUK, as *R. commutata*)] is *R. glauca*; replace entry by: wet track across heath, Chaffcombe (5), 1969, J.G. Duckett (herb. Duckett), comm. & det. Paton; voucher for 64 [Gouthwaite Reservoir, Pateley Bridge, 1969, J. Appleyard (BBSUK, as *R. warnstorffii*)] is *R. huebeneriana*; replace entry by: near Austwick (64), 1948, H. Walsh (BBSUK, as *R. bifurca*), comm. & det. Paton.
- 13.1 *Metzgeria fruticulosa*, on old elder in roadside thicket, SE of Lixwm 33/17 (51), Blackstock, Stevens & Yeo; on fallen log, 20 m alt., Fish Pond Wood, Sempringham, Pointon, Sleaford 53/13 (53), Lammiman; on old elders, 90 m alt., Valley Wood, Wold Newton 53/29 (54), Lammiman.
- 16.1 *Cryptothallus mirabilis*, under *Sphagnum* under *Betula* near path above W side of Glenlack, Glenveagh C/01 (H35), Stewart (DBN).
- 17.4 *Riccardia palmata*, on rotting bole of fallen mature tree on river bank, 150 m alt., SE of Calf Hall, Muggleswick, 45/04 (66), McCutcheon 1927, comm. Graham.
- 20.1 *Moerckia hibernica*, in rich fen, 225 m alt., SE side of road W of Medwyn Mains, 36/14 (78), Long 20169.
- 22.8 *Fossombronina incurva*, on soil in scrubby woodland, Bramsholt Common, near Liphook 41/83 (12), Crundwell.
- 26.6 *Barbilophozia hatcheri*, in grassy mossy turf, 315 m alt., E-facing slope of Mullach Bi, below summit, Hirta, St. Kilda 08/09 (110), Long 19762.
- 28.1a *Lophozia ventricosa* var. *ventricosa*, on moorland bank, ca. 430 m alt., Black Hill, Craswall 32/23 (36), Port; on damp peaty soil in boggy hollow by pool, 240 m alt., W side of road between Mendick and Medwyn Mains 36/14 (78), Long 20176; on steep bank in oak woodland, 10 m alt., near Tighavullin, Tayvallich, Kintyre 16/78 (101), Long 19599.
- 29.1 *Leiocolea turbinata*, vertical damp gravelly boulder clay moss- and hepatic-covered surface, with *Carex flacca*, *Festuca* sp., etc., 10 m alt., on slumping clay sea cliffs immediately NE of mouth of Clogfryn stream, 1.5 km SW of Aberaeron 22/46 (46), Chater.
- 29.2 *L. badensis*, damp calcareous soil on N-facing slope of railway cutting, 52 m, Broom Covert, 5 km E of Swaffam 53/70 (28), Stevenson.
- 37.1 *Mylia taylorii*, peaty bank under *Calluna*, 460 m alt., foot of Rotten Cleugh, Dye Water 36/56 (81), Long 19568.

- 38.6 *Jungermannia exsertifolia* ssp. *cordifolia*, drainage ditch, 25 m alt., Hill of White Hamars, S Walls, Hoy 39/38 (111), Saville.
- 38.13 *Jungermannia subelliptica*, on soil among rocks on bank of stream, 300 m alt., Carlin Gill, near Black Force, Howgill Fells 34/69 (65) Blockeel 20/678.
- 41.2 *Gymnomitrium obtusum*, on sheltered rocks, 530 m alt., Beard Stane, NW side of Buck of Cabrach 38/42 (93), Corner.
- 42.1 *Acrobolbus wilsonii*, amongst boulders on steep bank with tall *Calluna* on sea cliffs, 200 m alt., E of Coastguard Hill, Horn Head near Dunfanaghy C/04 (H35), Long 20270.
- 45.1 *Pedinophyllum interruptum*, delete H35, the voucher [Tory Island, July 1910, H. W. Lett, DBN] is *Chiloscyphus polyanthos*, comm. Synnott.
- 46.4 *Plagiochila britannica*, on shady rock face on wooded river bank, 120 m alt., R. Clyde between New Lanark and Corra Linn 26/84 (77), Long 19341; growing with *P. porelloides* amongst rocks on the NE-facing cliff by the jetty at Loch Skipport, S Uist 08/83 (110), Cocking.
- 46.9 *P. exigua*, on sheltered rock face by waterfall, 300 m alt., Cautley Spout, ca. 6 km NE of Sedburgh, 34/69 (65), Blockeel 20/671.
- 50.1 *Geocalyx graveolens*, wet hollow on cliff top, 145 m alt., NW peninsula above Glen Bay, Hirta, St. Kilda 09/00 (110), Long 19780; on shady boulder on steep bank with tall *Calluna* on sea cliffs, 200 m alt., E of Coastguard Hill, Horn Head near Dunfanaghy C/04 (H35), Long 20263 (E).
- 55.10 *Scapania nemorosa*, on bank on Oxford Clay, Brampton Wood, 52/16 (31), Hill & Stevenson.
- 61.1 *Cladopodiella francisci*, on peaty ditch side, 30 m alt., Cnoc na Fuarachad, near Ord, Sleat Peninsula, Skye 18/61 (104), Martin.
- 61.2 *C. fluitans*, on *Sphagnum papillosum* in bog N of Cranmer Pond, Woolmer Forest, 41/73 (12), 1985, Rose.
- 66.2 *Kurzia trichocladus*, peaty bank under *Calluna*, 460 m alt., foot of Rotten Cleugh, Dye Water 36/56 (81), Long 19570.
- 69.4 *Catypogeia trichomanis*, peaty bank under *Calluna*, 460 m alt., foot of Rotten Cleugh, Dye Water 36/56 (81), Long 19571; hollow amongst *Calluna* in blanket bog, 535 m alt., summit of Meikle Says Law 36/56 (82), Long 19595.
- 77.2 *Porella obtusata*, on exposed limestone outcrop on ridge of hill, 150 m alt., Crook Peak 31/35 (6), Hodgetts 2311.

#### Contributors of records, 1991

T.H. Blackstock, T.L. Blockeel, A.O. Chater, P. Clancy, K.M. Cocking, R.W.M. Corner, A.C. Crundwell, R. FitzGerald, G.G. Graham, M.O. Hill, N.G. Hodgetts, F.R. Lammiman, N. Lockhart, D.G. Long, P. Martin, H.W. Matcham, D.E. McCutcheon, A. O'Sullivan, J.A. Paton, J. Port, F. Rose, R.E. Saville, M.P.J. Scannell, D.P. Stevens, C.R. Stevenson, N.F. Stewart, D.M. Synnott, M.M. Ye0.

## MUSCI

### T.L. BLOCKEEL

- 1.7 *Sphagnum fimbriatum*, under Birch on cutaway bog, 60 m alt., 3 km north-west of Cappamore R/73 (H8), Lockhart & O'Sullivan.
- 1.17 *S. compactum*, flushed moorland, 1400 ft alt., Cefn Hill Craswall 32/23 (36), Port.
- 1.19 *S. auriculatum* b var. *inundatum*, wet meadow by stream, 200 m alt., west of Kilcommon R/86 (H10), Lockhart & O'Sullivan.
- 1.20 *S. subsecundum*, in peaty flush below Blaen Coel, Cwm Coel, Elan Valley 22/86 (43), Woods *et al.*
- 1.26 *S. pulchrum*, on hummock, open rather degraded raised bog, Shotts, north of Motherwell 26/86 (77), 1989, Watson, comm. Hodgetts.
- 1.27 *S. recurvum* a var. *amblyphyllum*, mire in woodland, 70 m alt., Highland Water Inclosure, New Forest 41/20 (11), Stern: b var. *tenue*, marshy ground, near

- Cranesmoor, New Forest 41/10 (11), Hill; under birches in wet woodland, Chartley Moss 43/02 (39), Hill; weakly minerotrophic ground, 380 m alt., edge of Malham Tarn Moss 34/86 (64), Hill.
- 2.2 *Andraea rupestris* a var. *rupestris*, one small tuft on grit boulder in rocky hollow on moorland, 310 m alt., below Esklets Crag, Westerdale 45/60 (62), Blockeel 20/038.
- 6.2 *Pogonatum aloides* b var. *minimum*, side of ditch dug about 2 years ago, Milestone Piece, Bagley Wood near Oxford 42/50 (22), 1990, Bloom.
- 8.2 *Atrichum tenellum*, on low vertical muddy bank by lake, 60 m alt., E end of Dunlewy Lough B/91 (H35), Long 20239.
- 14.1 *Ditrichum cylindricum*, light sandy soil, bare ground in car park, 86 m alt., The Dales, Upper Sheringham 63/14 (27), Stevenson.
- 18.8 *Seligeria recurvata*, on sandstone rock on cliff in wooded valley, 340 m. alt., Upper Dove Valley, near Tenterhill 43/06 (39), Blockeel 20/028.
- 32.2 *Dicranum polysetum*, N. of pond, in wet heath under canopy of *Pinus sylvestris*, Fir Toat Common, SE of Selham 41/91 (13), Rose.
- 37.14 *Fissidens taxifolius* b ssp. *pallidicaulis*, wet rock crevice by stream, 300 m alt., Upper Dove Valley, NW of Hollinsclough 43/06 (39), Blockeel 20/014.
- 40.5 *Tortula virescens*, tarmac path near marina, 3 m alt., Neyland 12/90 (45), Stern.
- 40.13 *T. vahliana*, vertical face of chalk pit, in shade under scrub, Little Blakenham 62/14 (25), Fisk.
- 45.11 *Pottia recta*, loose soil on ledge on chalk face in disused chalk pit, Little Blakenham 62/14 (25), Fisk; delete 66 (Graham, 1988).
- 46.1 *Phascum cuspidatum* b var. *piliferum*, short rabbit-grazed turf of tidal ditch bank, 3 m alt., Langstone Harbour, south of Havant 41/70 (11), Matcham & Matcham.
- 48.1 *Hyophila stanfordensis*, bare soil in flower beds, 50 m alt., St. Leonard's Gardens, St. Leonard's 51/70 (14), Stern; on soil, R. Tees bank at Newsham, Cleveland 45/31 (66), Blackburn.
- 49.15 *Barbula nicholsonii*, base of beech tree, 80 m alt., Teffont Manor, W. of Wilton 41/93 (8), Stern; boulder by R. Tees, Winston Bridge 45/11 (66), Wharton 877.
- 50.1 *Gymnostomum calcareum*, add 60, 90, H15 (Whitehouse & Crundwell, 1991, 1992)
- 50.1A *G. viridulum* Brid., 1-4, 6, 9, 34, 36, 41, 44, 45, 49, 63, 64, H1-7, 11, 14, 35, C (Whitehouse & Crundwell, 1991, 1992)
- 54.1 *Weissia controversa* c var. *densifolia*, delete 66 (Graham, 1988).
- 54.4 *W. rutilans*, bare patch in lawn, 25 m alt., Dunban Cottage, Isle of Muck 17/48 (104), Hodgetts 2293.
- 54.12 *W. longifolia* a var. *longifolia*, in old pasture, 40 m alt., top of Witches Cleugh, Edrington 36/95 (81), Long 19338
- 55.2 *Oxystegus tenuirostris* a var. *tenuirostris*, delete 66 (Graham, 1988): b var. *holtii*, delete 66 (Graham, 1988).
- 57.8 *Tortella nitida*, serpentine rock outcrop, Inchcailloch, Loch Lomond NNR 26/49 (86), 1982, McG. Stirling.
- 59.1 *Trichostomopsis umbrosa*, on side of moist kerbstone, Petworth House 41/92 (13), Blockeel 20/656.
- 63.2 *Schistidium alpicola* a var. *alpicola*, on boulders, 100 m alt., in Bilboa River R/85 (H8), Lockhart & O'Suillivan.
- 63.6 *S. strictum*, delete 66 (Graham, 1988).
- 64.3 *Grimmia laevigata*, on dry rock on hillside, 50 m alt., Druim Mor, Isle of Muck 17/47 (104), Hodgetts 2295.
- 64.4 *G. montana*, on low basalt outcrop, 190 m alt., Hareheugh Craigs 37/63 (81), Long 19806.
- 64.8 *G. affinis*, delete 66 (Graham, 1988); delete 103, the specimen is *G. funalis* (q.v.).
- 64.16 *G. funalis*, on exposed sloping basic rock near sea, 25 m alt., dune system N of Sorisdale, Coll 17/26 (103), 1988, Rothero 88/196 (BBSUK, as *G. affinis*).
- 64.20 *G. decipiens*, on wall of churchyard, St. Genevieve's, Euston, near Thetford 52/97 (26), A.C. Smith.
- 66.5 *Racomitrium heterostichum*, delete the existing entry and replace with: 1-8, 11-14, 16, 17, 22-24, 29, 32, 34-37, 40-45, 47-50, 52, 54, 57, 60, 63-70, 72, 73, 78, 81, 87, 88, 90-93, 95-100, 102, 104, 105, 108-110, 112, H1, 2, 4, 6, 7, 11, 14, 15, 19, 20, 22, 24, 25, 27, 28, 31, 35, 37, 38, 39 (Blockeel, 1991) - the correct name for the

- locality of the record for H31 is Flurry Bridge; N.-facing, sloping tiled roof of church, 75 m alt., Bobbingworth 52/50 (19), Pyner; on rocky outcrop, Gorse Field, Buddon 43/51 (55), 1988, Ballard (Hb. Ballard).
- 66.5A *R. affine* (Schleich.) Lindb. 3, 4, 13-17, 35, 40-44, 48-50, 57, 60, 63, 64, 69, 70, 72, 73, 75, 79, 80, 86, 87, 90, 94, 96-98, 103, 106, H27, 34, 38, 39 (Blockeel, 1991); on ironstone outcrop, Sproxton Gullet, north side 43/82 (55), 1990, Ballard (Hb. Ballard); on rock face in ravine by waterfall, 300 m alt., Cautley Spout, c. 6 km NE of Sedbergh 34/69 (65), Blockeel 20/669.
- 66.6 *R. sudeticum* (Funct.) B. & S. (*R. affine* sensu A.J.E. Smith), delete the existing entry and replace with: 4, 40-42, 44, 46-50, 52, 60, 63-65, 68-70, 72, 73, 79-81, 86-90, 92-94, 96-100, 102-110, H1, 3, 12, 16, 20, 27, 28, 30, 33, 35, 38, 39 (Blockeel, 1991); the record for 66 has been excluded - the locality (White Force) is in VC 65, comm. Blackburn; the record for 108 is insufficiently localised (comm. Redgate) and should be replaced with: Ben Loyal 29/54, leg. W. Lillie, 1912 (BBSUK).
- 66.6A *R. macounii* Kindb. ssp. *alpinum* (Lawt.) Frisvoll, 44, 48, 49, 88, 90, 92, 94, 96-98, 105, 106 (Blockeel, 1991).
- 66.7 Delete the entry for *R. microcarpon* and replace with: *R. himalayanum* (Mitt.) Jaeg., 88, 98 (Blockeel, 1991).
- 66.9 *R. canescens*, on soil in limestone grassland, 610 m alt., by Loch Valigan, S. of Beinn a Ghlo 27/96 (89), Rothero 91/021.
- 66.11 *R. elongatum*, on dry rocky bank, 320 m alt., Linn Dean Water, Soutra 36/45 (82), Long 19787
- 80.2 *Splachnum ampullaceum*, on cutaway bog, 60 m alt., 3 km north-west of Cappamore R/75 (H8), Lockhart & O'Sullivan.
- 85.1 *Pohlia elongata* a ssp. *elongata* var. *elongata*, delete the previous entry for 66 (Graham, 1988) and replace with: on ledge of hard sandstone rock face in a small clough, just N. of Sharnberry Beck, in Sharnberry Gill, to the NW of Hamsterley Forest 45/03 (66), Humphreys.
- 85.6 *P. drummondii*, sandy soil, periodically irrigated, 975 ft. alt., Beldon Burn 35/94 (66), Graham & McCutcheon.
- 85.12 *P. myldermansii*, moist rock ledge near waterfall, 300 m alt., Cautley Spout, c. 6 km NE of Sedbergh 34/69 (65), Blockeel 20/670; delete 107, the locality (see *Bull. Brit. Bryol. Soc.* 40: 27) is in 108, comm. Redgate.
- 89.18 *Bryum intermedium*, delete 66 (Graham, 1988).
- 89.21 *B. elegans*, delete 99, the specimen (see *Bull. Brit. Bryol. Soc.* 54: 29) has axillary bulbils and apparently belongs to *B. bicolor* agg., comm. Hodgetts.
- 89.23 *B. flaccidum*, on old elder, 120 m alt., Hodgemoor Wood, Chalfont St. Giles, 41/99 (24), Stern.
- 89.27 *B. pallescens*, on old lead-mine waste, 600 m alt., Moor House 35/73 (70), Hill.
- 89.28 *B. pseudotriquetrum* a var. *pseudotriquetrum*, damp chalky soil just above water level in bottom of pit, probably just below sea level, Warren farm Chalk Pit, South Stifford 51/57 (18), Pyner: b var. *bimum*, path in rich *Schoenus-Juncus* fen, Scarning Fen 53/91 (28), Hodgetts 2331.
- 89.36 *B. dixonii*, in crevices of rocks by burn, 130 m alt., Abhainn Mhor gully above Village Bay, Hirta, St. Kilda 08/09 (110), Long 19740.
- 89.40 *B. dunense*, farm track on clay soil, Brundish 62/26 (25), Strauss.
- 94.3 *Plagiominium elatum*, damp hollow in grazing marsh, Barnby 62/49 (25), Fisk.
- 94.5 *P. ellipticum*, 'fen' at edge of Barnby Broad 62/49 (25), Fisk.
- 95.1 *Pseudobryum cinclidioides*, wet boggy ground by burn, 455 m alt., foot of Rotten Cleugh, upper Dye Water 36/56 (82), Long 19562.
- 105.3 *Philonotis arnellii*, between stones on sandy north beach, 400 m alt., Lochan a'Chait 38/01 (96), Watling.
- 105.4 *P. caespitosa*, on boulders, 100 m alt., in Bilboa River R/85 (H8), Lockhart & O'Sullivan.
- 105.6 *P. tomentella*, on damp peat in a gully, 330 m alt., Traeth Mawr, c. 8 km WSW of Brecon (42), Townsend 91/632.
- 109.2 *Zygodon baumgartneri*, on old *Quercus* in relic woodland of former deer park, Walcot Park 32/38 (40), Rose & Woods; basic rock face under trees, 110 m alt., Little Tairn, Eden Water, Nenthorn 36/63 (81), Long 19648.

- 109.3 *Z. conoideus*, branch of elder in scrub near car park, Minsmere Nature Reserve 62/46 (25), Fisk, 1990; frequent on branch of one elder at edge of ride, 110 m alt., Ditton Park Wood 52/65 (29), Preston; on elder on sheltered bank, Brampton Wood 52/16 (31), Hill.
- 110.11 *Orthotrichum cupulatum* a var. *cupulatum*, on wooden footbridge over river, 70 m alt., Clatterford wash, over River Wid, Blackmore 52/60 (18), Pyner.
- 110.14 *O. stramineum*, a few small tufts on a single old elder on top of Buckland Hills, c. 3.5 km N.W. of Reigate (17), Townsend.
- 110.15 *O. pallens*, delete 66 (Graham, 1988).
- 110.18 *O. pulchellum*, on *Salix* by pond, 105 m alt., Pipers Hill, Hanbury, near Stoke Prior 32/96 (37), Long 19434.
- 111.3 *Ulota crispa* a var. *crispa*, on shaded branch of *Salix* in swampy woodland, Fordham Wood 52/66 (29), 1990, Preston; b var. *norvegica*, bark of *Salix* near pond, 30 m alt., Brampton Wood 52/16 (31), Preston.
- 111.6 *U. phyllantha*, amongst *Dicranoweisia cirrata* on elder, Hyde Lane Reserve, near Buckingham 42/73 (24), Higgs.
- 125.1 *Eriopus apiculatus*, 14 (Stern, 1991).
- 137.3 *Thuidium delicatulum*, in calcareous grassland next to a small waterfall at Elph Clough, just SW of Swinhope Burn, at Swinhope in Weardale 35/83 (66), Humphreys & Wharton.
- 141.1 *Amblystegium serpens* b var. *salinum*, on soil on ledges of crags above sea, 20 m alt, N of Lossit Bay, Rhinns of Islay 16/15 (102), Rothero 91/032.
- 141.3 *A. tenax*, cutting of pink rock at road layby below limestone cliffs, Inchnadampf 29/22 (108), Watling.
- 143.1 *Drepanocladus aduncus*, poor fen, 100 m alt., Ballydonagh Townland, near Grange R/94 (H7), Lockhart & O'Sullivan.
- 143.4 *D. fluitans* a var. *fluitans*, in and around a small pond, Winterton Dunes 63/42 (27), Strauss.
- 143.8 *D. uncinatus*, on decaying timber in boggy area, edge of small pond, 45 m alt., Longrope Wood, Orlestone Forest 51/93 (15), Stern.
- 144.3 *Hygrohypnum luridum* a var. *luridum*, place 11 in (), the voucher for the recent record (see *Bull. Brit. Bryol. Soc.* 56: 33) is *Scleropodium cespitans*.
- 144.5 *H. smithii*, in wet crack of steep granite retaining wall of small gully, 1075 m alt., Coire an t'Sneachda, N. Coires, Cairngorm 28/90 (96), Rothero 91/018.
- 146.3 *Calliergon cordifolium*, in *Equisetum fluviatile* swamp, 100 m alt., Doonoor Townland, 1 km south of Grange R/94 (H7), Lockhart & O'Sullivan; in wet, sedge-dominated cutaway bog, 50 m alt., 3 km west of Newport R/66 (H10), Lockhart & O'Sullivan.
- 152.1 *Scleropodium cespitans*, tarmac path with *Bryum capillare*, c. 50 m alt., churchyard, Theydon Garnon 51/49 (18), 1990, Pyner.
- 151.2 *S. touretii*, in turf on cliff top, 65 m alt., Siccar Point 36/87 (81), Long 19369.
- 154.5 *Rhynchostegium megapolitanum*, mossy turf, Aberlady Bay 36/48 (82), Nagy, comm. Long.
- 154.6 *R. rotundifolium*, small limestone rocks in steep roadside bank beneath dogwood shrub, 230 m alt., Bisley 32/90 (33), Hodgetts 2338.
- 155.6 *Eurhynchium swartzii* b var. *rigidum*, on thin soil overlying Magnesian limestone boulder in woodland, 76 m alt., Anston Stones Wood 43/58 (63), Porley.
- 155.8 *Eurhynchium speciosum*, Pennywaste Wood, Foston 43/23 (57), 1990, Wade, comm. Hall.
- 158.1 *Entodon concinnus*, calcareous drift, 200-250 m alt, Waterhead Burn, Dryfe Water 35/19 (72), Corner.
- 159.6 *Plagiothecium laetum*, bark at base of oak, Hardwick Wood 52/35 (29), Hill; on fallen tree trunk across path in woodland, Coed Gors-Wen, S. of Roewen, nr Dolgarrog 23/77 (49), Newton.
- 161.1 *Isoterygium pulchellum*, creeping among other mosses in sandstone rock crevice in wooded valley, 340 m alt., Upper Dove Valley, near Tenterhill 43/06 (39), Blockeel 20/029.
- 166.1 *Platygyrium repens*, on willow, Atcham Bridge, near Shrewsbury 33/50 (40), 1976, Bloom, first found by J.G. Duckett.
- 175.4 *Hylocomium splendens*, on gravelly soil and banks, 35 m alt., old gravel pits, Liston

### Contributors of records, 1991

J.M. Blackburn, T.L. Blockeel, D.W. Ballard, G. Bloom, R.W.M. Corner, R.J. Fisk, G.G. Graham, L.E. Hall, Mrs. F.A. Higgs, M.O. Hill, N.G. Hodgetts, B.M. Humphreys, N. Lockhart, D.G. Long, H.W. Matcham, Mrs. L.G. Matcham, D. McCutcheon, L. Nagy, Dr. M.E. Newton, A. O'Sullivan, R.D. Porley, J. Port, C.D. Preston, T. Pyner, N.D. Redgate, F. Rose, G.P. Rothero, A.C. Smith, R.C. Stern, C.R. Stevenson, A. McG. Stirling, D. Strauss, C.C. Townsend, P.M. Wade, M.C. Watling, K. Watson, T.S. Wharton, H.L.K. Whitehouse, R.G. Woods.

### References

- Blockeel, T.L. (1991). The *Racomitrium heterostichum* group in the British Isles. *Bull. Brit. Bryol. Soc.* 58: 29-35.
- Stern, R.C. (1991). *Tortula freibergii* and *Eriopus apiculatus* in East Sussex. *J. Bryol.* 16: 488-489.
- Whitehouse, H.L.K. & A.C. Crundwell (1991). *Gymnostomum calcareum* Nees & Hornsch. and allied plants in Europe, North Africa and the Middle East. *J. Bryol.* 16: 561-579.
- Whitehouse, H.L.K. & A.C. Crundwell (1992). *Gymnostomum calcareum* Nees & Hornsch. and *G. viridulum* Brid. in Europe, North Africa and the Middle East. *Bull. brit. Bryol. Soc.* 59: 35-50.

---

## AREA GROUP REPORTS

### SOUTHERN GROUP MEETINGS 1991-92

The newly formed Southern Group held the first of three winter meetings at Snelsmore Common Country Park in Berkshire, to assist in recording for the forthcoming Bryophyte Flora of Berkshire by Dr Jeff Bates. Nine members and friends recorded eighty-one species. Notable were: *Hookeria lucens* c.fr., *Dicranum polysetum*, *Nardia geoscyphus* and *Cephaloziella hampeana* c.per.

Fourteen members arrived at the Rufus Stone in warm January sunshine to search for *Zygodon forsteri*, which was duly found c.gemmae, but only on the beech where it had recently been found by Rod Stern. Other notable bryophytes in this well-recorded wood were *Hookeria lucens*, *Hylocomium brevirostre*, *Bazzania trilobata*, *Saccogyna viticulosa*, *Frullania fragilifolia* and, the find of the day by a sharp eyed Jeff Bates, *Plagiochila killarniensis* growing on a beech tree. This is the first New Forest record this century.

The afternoon was spent on wet heath where Dr Francis Rose showed us *Breutelia chrysocoma* and *Thuidium delicatulum* and, in Stricknage Wood, sheets of *Hylocomium armoricum* with *Lejeunea lamacerina* and *Trichocolea tomentella*. The day finished well with Rod Stern re-finding a previous Francis Rose record of *Harpalejeunea ovata*.

The final meeting was held at the Wallace Memorial Reserve at Greywell Fen near Odiham in Hampshire. Eleven members spent the morning recording in one of Ted's favourite places. Nice finds here were *Platygyrium repens*, *Plagiomnium elatum*, *P. undulatum* c.fr., *Cratoneuron commutatum* and extensive *Riccia fluitans*. The afternoon was spent in nearby Butter Wood assisting Alan Crundwell recording for his Bryophyte Flora of North Hampshire.

Howard Matcham

---

## BOOKSHELF

The *Atlas of Sussex Mosses, Liverworts and Lichens* by F. Rose, R.C. Stern, H.W. Matcham and B.J. Coppins is now available. The work lists over 500 bryophytes and over 500 lichens recorded in Sussex, and includes a large number of distribution maps. There is also a comprehensive account of the ecology of Sussex by Francis Rose, covering vascular plants as well as bryophytes and lichens. The book may be obtained at £5.00 + p.& p. £1.50 from the Booth Museum of Natural History, 194 Dyke Road, Brighton, BN1 5AA.

Rod Stern

*British Wildlife*. This independent bi-monthly magazine is richly illustrated and of high quality, featuring contributions by naturalists and ecologists. It covers all groups of wildlife, with frequent references to the lesser known groups of lower plants and invertebrates. There is also informed comment on current conservation issues and reviews of important new books.

Individual members of a number of societies are eligible for a concessionary subscription and arrangements have now been made for BBS members to be entitled to this concession. The magazine is available on subscription to BBS members in the British Isles for £15.95 per year, payable to Subscriptions Department, British Wildlife Publishing, Lower Barn, Rooks Farm, Rotherwick, Basingstoke, Hants., RG27 9BG. (The rate for overseas subscribers is £28.50.)

Rod Stern

A. Roy PERRY, *Mosses and Liverworts of Woodland: a Guide to Some of the Commonest Species*. National Museum of Wales, Cardiff, pp. 1-41, with 10 colour and 29 black & white photographs, 22 text figs. and 29 distribution maps (1992). [ISBN 0 7200 0362 8.] Paper (laminated cover) £2.95 (£3.45 incl. p.& p.).

This new publication from the National Museum of Wales is a photographic guide to some of the commonest species. In its short introduction the general life history and structure of mosses and liverworts is sketched out, and the differences between them explained. A series of black and white, and colour, photographs, some accompanied by drawings, illustrate 39 species. Through these, together with short descriptions of the plants as observed in the field, and distribution maps, it is hoped that this pocket-sized book will make mosses and liverworts more accessible to beginners.

Doris RÜCKERT & Wolfgang KORTH, *Bibliographie bryologischer Bibliographien — Bryophyta. Bibliography on Bryological Bibliographies*. Courier Forschungsinstitut Senckenberg 132: 1-144 (1990) [Available from: Forschungsinstitut und Naturmuseum Senckenberg, Senckenberganlage 25, 6000 Frankfurt 1.] [ISSN 0341-4116; ISBN 3-924500-71-1.] Price not given but approx. DM 30.00.

This unusual publication is the ninth in a series of secondary bibliographies and cites 1468 bryological publications, each of them containing at least 50 references. It does not include works that have their literature citations scattered through the text. (Its forerunners in the series dealt with vertebrates and, perhaps of more interest to BBS members, number 7 (1988, price DM 25.50), with lichens.) The works are arranged alphabetically under authors' names and then chronologically. Each entry gives the number of references and the pages on which they appear. Finally, keywords are listed bilingually (German/English). Two indexes are included: an author index lists all authors, co-authors, editors and co-editors, and a subject index lists subjects including biosystematic and thematic terms, and geographical words. The references run to 1990 and the earliest one I found was 1800 (Röhling, Deutschlands Moose).

A.R. Perry

---

*Edited and produced by*  
A.R. Perry, Department of Botany, National Museum of Wales, Cardiff, CF1 3NP, U.K.