

BRITISH BRYOLOGICAL SOCIETY

PRESIDENT: MRS J. A. PATON, M.Sc., F.L.S.

BULLETIN

No. 28. July, 1976

Price £0.40

CONTENTS

Notes from the Secretary	1
Reports of Officers for 1975	2
Proceedings of the British Bryological Society	
The Meeting at Knutsford, Cheshire, April, 1976	7
Warburg Memorial Fund	9
Future Meetings of the Society	10
Library Sales and Service	13
NERVE SECTIONS IN THE DICRANALES. I. Campylopus and Dicranodontium By M.F.V. CORLEY	14
NEW VICE-COUNTY RECORDS AND AMENDMENTS TO THE CENSUS CATALOGUES	
Hepaticae By Mrs J.A. PATON	16
Musci By A.C. CRUNDWELL	21
New Referee for Weissia	33
A NOTE ON SOME OF THE TAXA IN THE GENUS RACOMITRIUM Brid. By A.J.E. SMITH	34
New Members, June 1975 - July 1976	35
Requests for Material	36
Cumbria Naturalists' Trust Reserves	36

NOTES FROM THE SECRETARY

I hope that those members who have recently complained about the 'small, flimsy, easily-lost' nature of the Bulletin now find it, with its excellent blue cover, bigger, sturdier and much more tenacious. It is certainly the most voluminous number yet produced and shouldn't fail to give hours of amusement. Some of our foreign members, insistent on immediate delivery, have requested that it is sent by Air Mail. This will be done if members are willing to pay the extra postage involved. At present this amounts to about £0.70 per year for two issues to north America and Australasia. Please send this amount together with your request to me.

Would north American members please note that, owing to the fluctuating state of sterling and the bank charges involved in converting dollar cheques, the Treasurer finds it difficult to fix a dollar subscription that is both fair to the subscriber and yields the Society £6.00 sterling. He would, therefore, much appreciate north American members paying their subscriptions by a bankers draft or money order payable in sterling. This is the practice of all our other foreign members at present.

Your attention is drawn to page 10 where the closing date for applications for the dinner being held in honour of Professor Paul Richards is given as 10 September, 1976.

REPORTS OF OFFICERS FOR 1975

(a) SECRETARY'S REPORT

The increases in subscription rates that came into force on 1 January 1975 produced a slight initial depression in membership number, but twenty-nine new members joined over the year so that by 31 December the membership totalled 486 (420 ordinary and junior, 10 honorary, 11 family 36 institutional and 9 exchange). Of these, however, we can expect to have to expunge about 20 who have been in arrears for two years. To add another gloomy note, at the time of writing the Treasurer has a list of about 75 British members who in one way or another are in arrears for 1976. Do these members know the great amount of trouble they cause, I wonder? In spite of constant reminders some members still pay the old subscription of £3.50 by Banker's Order. Others pay by cheque many months after the subscription falls due. This all causes the Treasurer and myself a great deal of extra work, because members still in arrears in July are entered on the famous (or infamous) Stop List and our publishers are instructed to remove them from the mailing list for the Journal until further notice. At this point I would like to thank sincerely those members who add to the well-being of the Society by paying the correct amount on 1 January each year.

It is with regret that I have to report the deaths of Mr. I.G. Hall, Dr. Kjeld Holmen, Mr. Z. Pilous, Dr. A. Schumacher and Prof. A. Vaarama. Dr. Schumacher was one of our members of longest standing, having joined the Society in 1928. Members who knew the late Mr. J.H.G. Peterken will be sorry to hear of the death of his widow, Mrs E.A. Peterken, until 1973 one of our staunchest supporters.

The year has been eventful both in activities and in changes. Field meetings organized have been at Newtown, Powis, in April and at Arklow, Co. Wicklow, in August. The Annual General Meeting and Paper-reading meeting was held at Reading University in September, a month earlier than usual, with accommodation arranged in one of the Halls of Residence, a new and completely successful venture. In November the second Taxonomic Workshop was based on Cardiff. I was able to attend all four meetings and was struck by members' enthusiasm. Our thanks go to the local secretaries for making them successes. It is perhaps not widely appreciated that being a local secretary is not just acting the genial host: there is the effort of making bookings, finding suitable sites for fieldwork and getting permission to visit them (and now, since the appearance of the Conservation of Wild Creatures and Wild Plants Act 1975, possibly getting permission to collect!), producing a programme for field meetings, and so on.

Some of the year's changes have been in Council and took effect on 1 January, 1976. The new Vice-President is Prof. P.W. Richards. Mrs. J.A. Paton becomes President in place of Mr. A.C. Crundwell whom we thank for serving us so conscientiously and well. Mr. Crundwell has at the same time resigned as Recorder for Mosses (being replaced by Mr. M.O. Hill) and although this would normally mean his loss from Council we fortunately benefit from his guidance for a further two years as he remains as Ex-President. It is with sincere regret that we lose the services of our Treasurer, Mr. R.D. Fitzgerald. In 10 devoted years he has battled with our Publishers over rising prices, collected our subscriptions (persuading wayward members to pay up), invested our capital, produced yearly accounts and made ends meet. He tells me he looks forward to getting out his mosses again; let us wish him many new species to Britain during his retirement. Dr. W.D. Foster was elected as the new Treasurer and I hope you will all endeavour to make his office as easy as possible. Dr. G.C.S. Clarke and Dr. J.G. Duckett have swapped offices on Council so that now Dr. Clarke is Bibliographer and Dr. Duckett Meetings Secretary. At the next A.G.M. Council will recommend that a new post of

Conservation Officer be created on Council. In the meantime Dr. P.D. Coker has been co-opted onto Council and should be consulted on all matters of conservation.

In October 1973 Council established a small Working Party (Dr. S.W. Greene, Treasurer and Secretary) to investigate how best Council could run the affairs of the Society. The Working Party wrote a questionnaire which was answered by all members of Council, then a report which was the subject of a special Council meeting held in January, 1975. One of the results of this meeting was some recommended alterations and additions to the Rules which you accepted at the A.G.M. Another was the formation of an Executive Committee whose function was to decide on matters of immediate importance, and of a Strategic Planning Committee which was to look into matters requiring long-term consideration. Council hasn't been asleep !

During the year the New Vice-County Records lists were moved from their traditional place in the Journal to the Bulletin. This produced vehement letters from two members and enquiries from a third, and it is presumed that the move has been generally accepted. The matter will no doubt be raised at the next A.G.M. so it would have been useful to have heard from more members, especially those who feel that £15.00 per printed page of the Journal (which is what we are currently being charged) is justifiably spent on keeping the lists in the Journal.

Volume 8 parts 3 and 4 of the Journal were published and we thank our Editors, Drs. Whitehouse and Birks, for ably maintaining their consistently high standards. We also thank Mr. Crundwell for preparing the Index to volume 8. Two new Associate Editors of the Journal, Mr. Crundwell and Dr. P.J. Grubb, were appointed during the year; we appreciate their giving us so much of their time.

It is a great pleasure to express my thanks to members of Council for their help and support throughout the year. I look forward to our continued co-operation.

A.R. Perry,
March, 1976.

(b) TREASURER'S REPORT FOR THE YEAR ENDED 31 DECEMBER, 1975

The surplus of £2738 shown on the Balance Sheet (see p. 4 of this Bulletin) should be treated with caution for the following reasons:

1. It includes the proceeds of the repayment of £900 of 3% Bonds from our investments which had not been re-invested by the year's end.
2. It also includes a donation of £200 which cannot be expected every year.
3. Deducting these we are left with a net surplus of income over expenditure of some £1600. This has been mainly due to an increase in income from sales of the Journal by Blackwells caused by the increase in the charge and not alas an increase in subscribers and a reduction of the number of pages in Vol 8, pts 3 & 4.
4. It should be remembered that we have instructed Blackwells to reprint Vol 2 of the Transactions at an estimated cost of some £1150.

The membership still stands at about 500 and has not shown any appreciable alteration over the last three years, as at the year's end 32 members had still not paid their subscriptions for the year compared to the normal average of 12.

In this, my final report as Treasurer, I would like to express my appreciation of the assistance I have always received from the officers and members of Council.

R.D. Fitzgerald,
July, 1976.

INCOME & EXPENDITURE ACCOUNT

INCOME

To Subscriptions	
Sales of Journal	1716.81
" " Census Catalogues	31.67
" " Maps and Cards	37.18
" " Separates	
Interest 3% Savings Bonds	27.00
" " " 7%	8.40
" " Save and Prosper Units	30.40
" " Drayton Comm.	21.75
" " Lloyds 3rd Unit Trust	35.12
" " Added for Deposit a/c	
Donations to Library Fund	
Income Tax Refund (2 years)	
Postages	
ICI Donation	
Repayment 3% Savings Bonds	
Sundries	

2818.55
1785.66
97.50
122.67
213.77
42.32
67.96
16.79
200.00
900.00
1.38
6266.60

BALANCE SHEET

LIABILITIES

Subscriptions received in advance	
Sundry Creditors	
Library Fund	94.54
General Fund	2834.56
	<u>2929.10</u>
Ddt sale of	
3% Bonds	654.39
	<u>2274.71</u>
Add profit	2738.54
	<u>5013.25</u>

Idylwild, Hexham
Northumberland
R.D. Fitzgerald
Hon. Treasurer
30th June 1976

5013.25
<u>£6762.69</u>

YEAR ENDED 31st DECEMBER 1975

EXPENDITURE

By Printing Journal, Vol 8, Pts 3 & 4	
Stationery and Circulars	
Library Expenses	
Postages	
Subs. overpaid	
Hire of rooms at meetings	
Biological Council subs.	
Mapping Cards etc	
Typing	

3046.93
275.95
10.00
28.25
51.95
47.77
14.00
41.91
11.30

Excess of Income over Expenditure

<u>3528.06</u>

2738.54

<u>6266.60</u>

31st DECEMBER 1975

ASSETS

Cash at Bank	840.41
Dep. a/c at Bank plus Interest	3741.01
£120 - 7% Savings Bonds at Cost	120.00
500 Drayton Comm " " "	459.37
1600 Save & Prosper Income Units at Cost	530.00
1350 Lloyds 3rd Units at Cost	1071.90

<u>£6762.69</u>

Audited and found correct, Hon. Auditor - Lloyds Bank Ltd
S. Mattewson Rowlands Gill
9th July 1976 Tyne & Wear

(c) EDITORS' REPORT

We are glad to be able to report that with vol. 9, part 1, it has been possible to ease the severe restriction on the size of parts of the Journal that was introduced in 1973 with vol. 7, part 4. The larger size of vol. 9, part 1, has been made possible partly by changing to IBM type setting and litho printing, as this is considerable cheaper than the previous hot metal setting and letterpress printing.

With vol. 9, part 1, we have been able to clear most of the backlog of manuscripts, and the time between submission of a paper and its publication should now be reduced. As announced in the Bulletin in January, we have moved the closing dates for the receipt of manuscripts to 1 November and 1 May in order to ensure that publication is in the year on the cover.

At the suggestion of the new Bibliographer, a list of recent bryological publications will now appear in each part of the Journal. This will keep readers more up-to-date about the literature.

H.L.K. Whitehouse
H.J.B. Birks
February, 1976.

(d) REPORT OF THE RECORDER FOR MOSSES

The number of new records is slightly, though not significantly, less than last year. Substantial contributions have been made to our knowledge of the bryophytes of some rather neglected areas in mid-Wales, the lowlands of Scotland and eastern Ireland.

A.C. Crundwell,
February, 1976.

(e) REPORT OF THE RECORDER FOR HEPATICS

The number of new vice-county records received in 1975 was 138, slightly more than in 1974, from approximately the same number of contributors. I would like to thank all those who kindly sent data cards with their vouchers.

Jean A. Paton,
February, 1976.

(f) LIBRARIAN'S REPORT (1 January to 31 December 1975)

Sales:	Census Catalogues	83
	Transactions (parts)	108
	M.E.C./B.B.S. Reports	10
Loans:	25 loans of books/separates, 4 loans of sets of slides	
	4 copies of Xeroxed separates supplied	

The new six month loan limit seems to have successfully regulated the loans system. As all three loan copies of the 95 page library catalogue now appear to have been appropriated by certain members no more will be issued for loan. A new catalogue of shelf items (books and journals) and slides, has however been made available for purchase at 10p per copy. The reprint collection now consists of several thousand items, about 50 new separates being added per year, and is still in the process of being catalogued onto a typed card index.

Kenneth J. Adams,
February, 1976.

(g) BIBLIOGRAPHER'S REPORT

In December 1975, following completion of the list for that year, the BBS bibliography was transferred to Dr. G.C.S. Clarke.

After five years as BBS bibliographer (my predecessor Dr. E.V. Watson, held the post for 25 years) it is with some sadness that I relinquish the position. I have greatly enjoyed the stimulus of constantly discovering new advances in bryology provided by the weekly screening of periodicals. On the debit side, the checking of journal abbreviations is more onerous and can be extremely frustrating. Although I have found other bryological bibliographies exceedingly helpful these would have been even more so if a little more care had been taken with journal citations.

To all who have supplied titles, otherwise inaccessible to me, the BBS is most grateful. Figuring strongly, as always in this context, is Dr. G.C.S. Clarke. It thus seems particularly fitting that he is now elected new bibliographer.

Jeffrey G. Duckett,
March, 1976.

(h) CURATOR'S REPORT

294 mosses and 110 hepatics were received from the Recorders. They have been incorporated. Incorporation of the J.H.G. Peterken bequest (c.3000 specimens) is also well under way. The herbarium was visited by a party of about 12 participants in the Society's Teach-in which was held in University College, Cardiff in November. Individual members who visited the herbarium during the year were Mrs. M. Milnes-Smith, Mrs. J.A. Paton, Messrs. J.M. Cressey, J.C. Gardiner and M.O. Hill. There were 6 loans totalling 99 specimens.

S.G. Harrison,
March, 1976.

(i) MAPPING SECRETARY'S REPORT

Very little recording appears to have been done except at BBS meetings which, for the last two or three years, have been the main source of records for the mapping scheme. The provisional atlas of 100 bryophyte species may prove a stimulus to recording, but its production is held up because of difficulties at the Biological Records Centre.

A.J.E. Smith,
February, 1976.

(j) MEETINGS SECRETARY'S REPORT

The Society has again held four meetings this year and it has been encouraging to see that the general level of attendance has been improving. Attendance at the summer meeting, was, however, still disappointing; members are apparently finding it difficult to commit themselves in terms of time and finance to travelling long distances for extended meetings.

We have been very lucky this year in being able to base two of our meetings on centres where University accommodation was available to members. This has proved a great success and is clearly a practice which should be continued whenever possible.

G.C.S. Clarke,
December, 1975.

PROCEEDINGS OF THE BRITISH BRYOLOGICAL SOCIETY

THE MEETING AT KNUTSFORD, CHESHIRE, APRIL 1976

The Spring Meeting (8-13 April) was held at Knutsford, Cheshire (v.-c. 58), and attended by 33 members. Excursions were also made into Derbyshire (v.-c. 57) and Staffordshire (v.-c. 39).

8 April. The morning was spent in the rocky millstone grit Goyt Valley, (v.-c. s 57 and 58), where Schistostega pennata, Plagiothecium laetum (57), and Sphagnum robustum (58) were seen; all were seen again later on the meeting. At lunchtime the party removed to the Stanley Arms at Bottom-of-the-Oven. Each day's excursion was planned complete with a suitable hostelry for lunch. Two members openly eating their packed lunches in preference to the pub sandwiches were bounced by the landlord, thus setting a pattern of surreptitious feeding for the rest of the meeting. After lunch, the Ridgegate and Trentabank Reservoirs in Macclesfield Forest were investigated, producing Riccardia incurvata and Ephemерum serratum var. serratum, and later the Teg's Nose was assaulted whilst many of the party remained in the woods below. Grimmia doniana was recorded on the millstone grit boulders. The afternoon foray ended abruptly as members raced for Macclesfield Hospital, where Dr Foster, the Local Secretary, very generously provided copious refreshment, together with an excellent buffet.

9 April. The River Dane, upstream of Danebridge (39 and 58), was worked, yielding abundant Dicranodontium denudatum on rotten logs and damp sandstone boulders in the woods near the river. Lejeunea lamacerina var. azorica (39), Plectocolea paroica (39), Scapania umbrosa and Leptodontium flexifolium were also seen on sandstone boulders, and Discelium nudum on shaded clay banks. Shell Brook, the afternoon venue, was similar, but had Cephaloziella rubella on a rotten log and Nardia geoscyphus. On the way back to Knutsford, Weissia rostellata and Blindia acuta were collected at Bosley Reservoir.

10 April. Much of the morning was spent unsuccessfully searching lime beds at Plumley Nature Reserve (58) for Desmatodon cernuus, seen in October 1966 by the B.B.S. The more open ground appeared to have become drier and the lime waste more friable, although this might be attributed to the exceptionally dry winter. This disappointment was greatly diminished by the discovery of Aloina brevirostris in considerable quantity. Other interesting species included Barbula hornschurchiana c. spor., Campyllum polygamum, Weissia rutilans and Preissia quadrata. Damp soil on the margin of the pool produced Pottia heimii and Tortula subulata var. subinermis. In the afternoon members scattered widely over Cheshire, some visiting disused caustic soda workings and more lime beds near Northwich, seeing Bryum intermedium and Aloina brevirostris again, and abundant Campylopus introflexus growing on the grassy banks of a salt-pan. The Peckforton Hills, Triassic sandstone outcrops near Tarporley, exhibited a typical sandstone rock flora, including Calypogeia neesiana var. meylanii and Lepidozia tri-choclados. Dicranum strictum was seen with immature capsules, apparently the first British fruiting record. Mrs Appleyard saw Amblystegium kochii on planking by the Shropshire Union Canal, north of Crewe. Dr Jones, examining the disturbed sandy margin of the mere at Rudheath, encountered an unusually robust Lophozia in great quantity, with both male and fruiting

plants. This later proved to be L. capitata, not previously seen north of Essex. Mr Perry gathered Atrichum tenellum on slightly drier ground nearby. In the evening a Council Meeting was held at the Royal George Hotel, Knutsford, reputedly the most expensive hotel ever used by the Society. Many members found alternative accommodation, including the author, who 'camped' in a lay-by in his ancient van, becoming a constant source of interest and irritation to the Cheshire Constabulary, who visited him on three occasions.

11 April. Brookhayes Nature Reserve on the edge of the drained Carrington Moss, is an oakwood established over old marl pits. No marl had been extracted for a very long time and the bryophyte flora was disappointing, although Acrocladium cordifolium thrived in some of the wetter hollows. Subsequently a pilgrimage was made to Rudheath, where many bryologist-hours were spent in admiring Lophozia capitata. Pohlia bulbifera was also recorded. After lunch one party journeyed to the north-east corner of Staffordshire, working millstone grit areas close to the Derbyshire border at Hollinsclough. Others visited a variety of habitats between Alderley Edge and Macclesfield. Dr Whitehouse went north to the Lancashire side of the Mersey near Urmston, and on the bank of the river found a form of Pohlia lutescens with axillary bulbils.

12 April. The first visit to limestone, at Wyedale (57) was marked by a notable change in the epiphyte flora, from the assemblage of Orthodontium lineare, Dicranoweisia cirrata, Aulacomnium androgynum, Tetraphis pellucida and Dicranum strictum with which we had become familiar in polluted Cheshire. Although Derbyshire is scarcely less polluted, the bark was here mollified by limestone dust from neighbouring quarries, and the epiphytes consisted principally of Grimmia apocarpa, Tortula subulata and Encalypta streptocarpa, with Eurhynchium murale on rotten wood. Dr Jones, while wetting up an epiphyte, took to the water, and was obliged to return to his car in search of dry clothing. The author forded the river without mishap and climbed the steep side of the valley to reach the upper part of the quarry in Great Rocks Dale, where Aloina rigida grew in great profusion. A small party, stepping out down Wyedale reached the bottom of the quarry, but had little time to examine it. Lunch was at the Rose and Crown, Allgreave, which proved to be that phenomenon of the outback, "a pub with no beer", although the landlady had managed to secure an adequate supply of tinned Export ale. After this unusually dry lunch, the party made its way to the Black Brook at Gradbach (39), which flows into the River Dane near Allgreave. On and between damp sandstone rocks by the stream were seen fruiting Schistostega pennata, Tetraphis browniana and Brachydontium trichodes, while Atrichum crispum and Solenostoma sphaerocarpum were abundant by the stream. Above the woodland was moorland reputed to be inhabited by herds of feral wallabies, which were not seen, but great quantities of kangaroo was evident. A few people reached Lud's Church, the spiritual home not of Luddites but of Lollards. This is a massive sandstone outcrop deeply cleft in two by a fault, harbouring Saccogyna viticulosa and Mylia taylori.

13 April. On the last morning, the Derbyshire side of the River Dove, south of Buxton, provided an extensive limestone flora, with Bryum elegans, Pleurochaete squarrosa and Porella laevigata at High Edge and Seligeria acutifolia and Amblystegiella confervoides at Tor Rock. The

cliffs of the dry valley at Dowel Farm had Seligeria pusilla and Cololejeunea rossettiana. One car-load of members travelled south to Swallow Moss (39), but were not exploded by the army, neither were they able to find any bryophytes of note. Lunch was consumed in Hartington, where Stilton cheese from the local factory was on sale. Ecton Hill (39) is a limestone hill near Butterton, with old copper mines. Much of the copper mine waste was almost devoid of vegetation, but for much Bryum pallens and Cephaloziella hampeana and a little C. stellulifera and Leiocolea badensis. Seligeria pusilla was seen on shaded limestone rocks, and Leiocolea muelleri on damp limy soil. The first significant rain of the meeting fell during the afternoon, and members were generally happy to make an early return to Knutsford.

Although the selection of species seen in some of the sandstone and moorland areas and the epiphyte flora were generally rather limited and uniform, this was more than compensated for by the richness of the limestone and the limebeds and the remarkable flora at Rudheath. Even the most blasé experts were stimulated by some of the plants seen, and less experienced members found much to interest them. We are all most grateful to Dr Foster for all the work he put into making the week a success, and congratulate him on finding so many interesting localities in a district which many of us had feared likely to prove uncompromisingly dull.

M. F. V. CORLEY

WARBURG MEMORIAL FUND

An award of up to £100 will be made in 1977. Botanists under the age of 21 wishing to be considered for the award should write to the address given below with the following information:

1. Full name and address of applicant
2. Date of birth
3. Proposed further education
4. Education and examination record to date
5. Short details of project involving travel, including an estimate of expenses and information relating to candidate's experience and other qualifications for carrying out the proposed work
6. Name and address of two referees to whom Trustees can refer if necessary.

Preference will be given to candidates who intend to undertake a project involving field work. Successful applicants will be requested to submit a report on the work they have carried out as a result of the scholarship.

Applications must be lodged not later than 31 December, 1976, and should be addressed to:

The Secretaries,
Warburg Memorial Fund,
Botanical Society of the British Isles,
Department of Botany,
British Museum (Nat. Hist.),
Cromwell Road,
London, SW7 5BD

FUTURE MEETINGS OF THE SOCIETY

(a) Summer Field Meeting, 1976: Melrose, Roxburghshire, 21 - 28 August.
Local Secretary: Mr D. G. Long, Royal Botanic Garden, Edinburgh, EH3 5LR.

For details of accommodation, etc. , see Bulletin 27.

(b) Annual General Meeting and Paper-Reading Meeting, 1976: University College of North Wales, Bangor, 24 - 26 September. Local Secretary: Dr J. G. Duckett, School of Plant Biology, U.C.N.W. , Bangor, Gwynedd, LL57 2UW.

For this meeting the University College of North Wales has permitted us to use accommodation in a Hall of Residence and thus allow us all to stay under one roof. This was a very pleasant feature of the 1976 paper-reading meeting at Reading University and it is hoped that as many members as possible will take advantage of it in Bangor.

Since we have to book in advance please contact Dr Duckett for full details and send him your bookings by 10 September AT THE LATEST. Please note that meals will be available for those who are not staying at the Hall of Residence but these must also be booked in advance. The charge at the hall is £5.80 per day, plus V.A.T. , for bed, breakfast, lunch and dinner.

Dinner in Honour of Professor Paul Richards, C.B.E.

As you may know, Professor Paul Richards, C.B.E. , the longest standing member of the B.B.S., will be retiring in September this year from the Chair of Botany at Bangor, a position that he has held with considerable distinction for 27 years. As a mark of appreciation an informal farewell dinner has been arranged for Friday 24 September, and all B.B.S. members are most cordially invited. It seems particularly fitting that the dinner should coincide with a B.B.S. meeting in Bangor: not only has Professor Richards had an almost lifelong association with the Society but the last B.B.S. meeting here was during his first year as Professor of Botany.

The dinner will take place in the Glanrafon Refectory, U.C.N.W. , Bangor, on Friday 24 September at seven for seven-thirty p.m. , dress informal. Cost: £4.50 (including reception, wines and V.A.T.). If you would like to attend please send your remittance to Dr W.S. Lacey, School of Plant Biology, University College of North Wales, Bangor, LL57 2UW, not later than September 10. (N.B. If you are attending the farewell dinner please remember not to book for dinner at the hall of residence. It will not be possible to make refunds at a later date.)

The paper-reading meeting will take place on 25 September in Room F27 at the School of Plant Biology (5 minutes walk from the Hall of Residence), and this will be followed at 1650 hrs by the Annual General Meeting. There will be a *Conversazione* from 2000 to 2200 hrs after dinner on the 25th, when U.C.N.W. has kindly offered to provide the B.B.S. with informal refreshments. People who would like to display exhibits should contact Dr Duckett regarding their requirements for space and facilities.

Among those who have agreed to speak at the meeting are:

Dr L. Kass (A.R.C. Unit of Developmental Botany, Cambridge, and Cornell University, Ithaca, New York): "Chloroplast replication in the moss *Polytrichum*."

Dr T. G. A. Green (University of Naikato, Hamilton, New Zealand): "The growth of Dawsonia superba."

Dr P. D. Coker (Thames Polytechnic, London): "Microclimates, mosses and man."

Professor P. W. Richards (Bangor): "Robert Hooke on mosses."

Dr G. A. M. Scott (Monash University, Victoria, Australia): "Bryology in Australasia."

Dr S. W. Greene (Institute of Terrestrial Ecology, Penicuik, Midlothian): "The phenology and taxonomy of Ulota crispa and U. bruchii."

The Annual General Meeting will be held in room F27 in the School of Plant Biology, University College of North Wales, Bangor, on 25 September at 1650 hrs.

ANNUAL GENERAL MEETING, BANGOR, 1976

A G E N D A

1. Apologies for absence
2. Minutes of the last A.G.M., Reading, 1975 (see Bulletin 27)
3. Matters arising
4. Officers' Reports for 1975 (see pp. 2-6 of this Bulletin)
 - (a) Secretary
 - (b) Treasurer
 - (c) Editor
 - (d) Recorder for Mosses
 - (e) Recorder for Hepatics
 - (f) Librarian
 - (g) Bibliographer
 - (h) Curator
 - (i) Mapping Secretary
 - (j) Meetings Secretary
5. Election of Recorder for Hepatics (Mrs J. A. Paton is resigning at the end of 1976)
6. Election of three members of Council (Dr E. W. Jones retires at the end of 1976)
7. Creation of new post of Conservation Officer
8. Election of Conservation Officer
9. Place and date of Annual General Meeting, 1977
10. Other meetings in 1977 and 1978
11. Any other business

On Sunday 26 September there will be a field excursion to the Conway Valley and (weather permitting) basic cliffs on the eastern side of the Carnedd range which are poorly known bryologically. Interesting plants which should be seen include Coscinodon cribrosus, Fissidens monguillonii, Orthotrichum sprucei, Fossombronia incurva and Haplomitrium hookeri.

(c) Taxonomic Workshop, 1976: Thames Polytechnic, London, 20-21 November. Local Secretary: Dr P. D. Coker, School of Biological Sciences, Thames Polytechnic, Wellington Street, London, SE18 6PF.

Following the success of our two previous Workshops this meeting has been arranged specifically to assist beginners and those who lack confidence in naming and examining bryophytes. The topics this year will be:-

1. Archegonia and antheridia in hepatics (J. A. Paton)
2. Barbulas and taxa with which they may be confused (J. G. Duckett)

The first day will be devoted to the handling of material for microscopic study and will be followed by a day in the field. Members intending participating in all or part of the meeting should write to Dr Coker for further information.

(d) Easter Field Meeting, 1977: Wareham, Dorset, 30 March - 6 April. Local Secretary: Mr M. O. Hill, Institute of Terrestrial Ecology, Penrhos Road, Bangor, Gwynedd, LL57 2LQ.

South-east Dorset is an area of exceptional diversity of habitat. Large flat valley bogs support an abundance of Sphagnum pulchrum - and it is beautiful! - with numerous less plentiful associates such as Cladopodiella fluitans. Cart tracks, and the like, support C. francisci and Archidium alternifolium. On the Purbeck there are also base-rich seepages on the heaths; these have so far attracted little attention but could prove interesting. A very promising habitat which has also been neglected is the acidic clay and sand pits in the area. On the chalk and limestone there is a good Mediterranean flora, including Acaulon triquetrum, Funaria muhlenbergii, Pottia commutata, P. starkeana, Weissia tortilis and Porella thuja. Portland, readily accessible for a free day, is renowned for Eurhynchium meridionale, Cephaloziella baumgartneri and Southbya nigrella.

It is hoped that permission will be obtained to visit localities on property owned by the Ministry of Defence. This is virgin territory and virtually anything might turn up!

(e) Summer Field Meeting, 1977: Perthshire and Morayshire.

Blair Atholl, Perthshire, 23-30 July. Local Secretary: Dr P. D. Coker, School of Biological Sciences, Thames Polytechnic, Wellington Street, London, SE19 6PF.

Excursions are planned to Glen Tilt, Ben Vrackie, Loch Loch, Rannoch Moor, Cnoc an Daimh (nr. Schichallion) and Aonach Beag (nr. Ben Alder). There is no need to list the esoteric bryophytes to be found!

Elgin, Morayshire, 30 July - 6 August. Local Secretary: Dr R. Richter, 55 Dunbar Street, Burghead, Elgin, Morayshire.

Excursions are planned to the Findhorn Gorge and Randolph's Leap (Pterygynandrum filiforme, Orthotrichum speciosum), Loch Loy and the Culbin Forest (Drepanocladus lycopodioides, Haplomitrium, Fossombronina incurva, F. foveolata), Covesea Cliffs, Lossiemouth (Aongstroemia longipes, Riccia cavernosa), Bridge of Brown (Cynodontium tenellum, Meesia uliginosa, Catoscopium, Camptothecium nitens). Further details will appear in Bulletin 29 or may be obtained from the local secretaries.

BRITISH BRYOLOGICAL SOCIETY

LIBRARY SALES AND SERVICE

Members wishing to borrow papers from the Library should indicate when a xerox copy would do instead of the original. With bound journals this would save enormously on postage and also reduce postal damage. The cost of xerox copies is 5p per page. It should be noted that the Librarian is under no obligation to supply xerox copies but may do so at his discretion.

Members wishing to consult the Library in person should write to the Librarian, or telephone (01-508-7863), at least three days in advance.

FOR LOAN:

Approximately 200 bryological books. Bryological journals, and several thousand reprints of individual papers. Catalogue available from the Librarian, price 10p.

Transparency collection, list available (s.a.e.). 624 slides in the collection. Loan charge 25p plus return postage. Only 50 slides may be loaned at once to minimise possible loss.

FOR SALE:

Transactions of the British Bryological Society - annual parts:

- Vol. 1 parts 1-5 (£1.60 each)
- Vol. 2 parts 1-4 (price on application)
- Vol. 3 parts 1-5 (£3.00 each)
- Vol. 4 part 1 (£3.00), part 2 (£1.50), parts 3-5 (£2.00 each)
- Vol. 5 part 1 (£2.00), parts 2-4 (£3.00 each)
- Vol. 6 parts 1 & 2 (£3.00 each)
- Vol. 7 parts 1-4 (£2.50 each)
- Vol. 8 parts 1 & 2 (£3.00 each), part 3 (£3.50), part 4 (£5.00)

Some parts available only in reprint. Volume 6 part 2 completes the series of Transactions: volume 7 part 1 (1972) continues the series but is re-named Journal of Bryology.

Postage and packing is extra on all orders.

LIBRARIAN

K. J. Adams, 63 Wroths Path, Baldwins Hill, Loughton, Essex IG10 1SH

NERVE SECTIONS IN THE DICRANALES. I. CAMPYLOPUS AND DICRANODONTIUM

By M. F. V. CORLEY

In certain genera of the Dicranales, nerve sections provide particularly useful characters for separating species or groups of species. Such characters are based on the relative sizes of different layers of cells, the presence or absence and distribution of various types of cell, particularly stereids, and the presence or absence of lamellae on the dorsal (lower or abaxial) surface of the nerve. Stereid cells are small cells with extremely thick walls and much reduced lumen.

Adequate nerve sections, especially of the larger species, can be readily made by laying a moistened shoot on a microscope slide, and cutting across the comal tuft of leaves at the level required with a razor blade several times. Except where otherwise stated, sections are taken in the basal quarter of the leaf, just above the auricles (if present).

Key to Campylopus species on nerve section characters

1. (three alternatives) Stereids absent C. subulatus
C. schimperii
C. schwarzii
 - Stereids present in groups in a single layer below the median layer of wide cells 2
 - Stereids present on both side of the median cells 5
2. Ventral*layer of thin-walled cells smaller and more numerous than median cells C. paradoxus Wils. (C. flexuosus)
 - Ventral layer of thin-walled cells approximately equalling median cells in number, and equal in size or larger than them 3
3. Ventral layer of cells very large, occupying over $\frac{1}{2}$ total thickness of nerve section C. shawii
C. fragilis pro parte
 - Ventral layer of cells smaller, under $\frac{1}{2}$ total thickness of nerve section 4
4. Back of nerve in upper part of leaf (not visible in sections from near leaf base) with lamellae 2-4 cells high C. polytrichoides
 - Back of nerve smooth or with low ribs up to 1 cell high C. fragilis
C. pyriformis
C. setifolius
C. atrovirens
C. introflexus
5. Ventral layer of stereids \pm broken up into groups C. brevipilus
 - Ventral layer of stereids forming a band (often of considerable thickness in the middle), not broken up into groups Dicranodontium spp.

* = adaxial

Campylopus subulatus, C. schimperi and C. schwarzii cannot be reliably distinguished by their nerve sections. Some C. pyriformis with weakly developed stereids would key out with them.

Campylopus fragilis tends to have larger ventral cells than the remaining species of the group, but plants with small ventral cells are not distinguishable from other plants of the group (step 5" in the key).

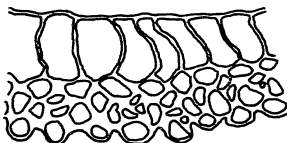
Robust forms of C. paradoxus sometimes have a few groups of stereids on the ventral side of the nerve, and then might be confounded with C. brevipilus.



Campylopus setifolius



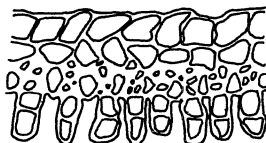
Campylopus shawii



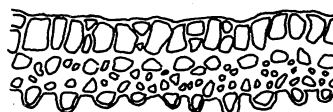
Campylopus schwarzii



Campylopus paradoxus



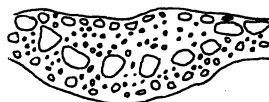
Campylopus polytrichoides



Campylopus introflexus



Campylopus brevipilus



Dicranodontium denudatum

Fig. 1. Leaf sections of *Campylopus* species and *Dicranodontium denudatum*. All x200. Sections are taken in lower $\frac{1}{4}$ of the leaf, except those of *C. polytrichoides* and *C. introflexus* which are taken shortly above mid-leaf.

NEW VICE-COUNTY RECORDS AND AMENDMENTS TO THE CENSUS
CATALOGUES

All undated records are based on specimens collected in 1975.

HEPATICAE

Mrs J. A. PATON

The names and numbers follow Paton, Census Catalogue of British
Hepatics ed. 4 (1965).

- 1/2. Anthoceros husnotii, wet clay ditch-bank by lane nr Rhyd-y-meirch, Llanbrynmair (47), Benoit (B.B.S. exc.); forestry track S.E. of Killinierin, N. of Gorey (H. 12), Paton (B.B.S. exc.).
- 1/3. A. laevis, side of ditch nr Flodigarry, Isle of Skye (104), Foster; forestry track S.E. of Killinierin, N. of Gorey (H. 12), Paton (B.B.S. exc.); gravel path, Devil's Glen, Ashford (H. 20), Paton (B.B.S. exc.).
- 4/1. Reboulia hemisphaerica, Binny Craig, Winchburgh (84), J. McAndrew 1908 (E).
- 7/1. Preissia quadrata, wet limestone by R. Findhorn, Darnaway (95), Richter.
- 8/1. Marchantia polymorpha β var. aquatica, wet rocks in small stream, New Galloway (73), H. Birks: γ var. alpestris, basic flush by Medwin Water, on west bank opposite Medwinhead, Pentlands (77), Long.
- 9/1. Dumortiera hirsuta, wet dripping rocks in wooded ravine, L. Gail (98), J. Birks.
- 10/1. Riccia glauca, damp cart track, New Galloway (73), J. & H. Birks; damp stubble field nr East Kerse Mains, Bo'ness (84), Long & Chamberlain.
- 10/12. R. canaliculata, dried out muddy margin of reservoir, Antermoney L., Milton of Campsie (86), Stirling, 1974.
- 10/13A. R. cavernosa, damp sandy ground nr Frensham Little Pond (17), Crundwell; mud at margin of lake, Blenheim Park, Woodstock (23), Corley.
- 12/1. Riccardia incurvata, bank of reservoir at Langley nr Macclesfield (58), Foster; damp hollow on dunes nr mouth of Sandmill Burn, Luce Bay (74), Long.
- 12/2. R. multifida, bank by stream, The Black Banks, Mt. Leinster (H. 13), Paton (B.B.S. exc.).
- 12/3. R. sinuata, waterfall, Harley Dingle, Radnor Forest (43), Woods.
- 12/4. R. latifrons, peaty bank in bog N. of the Punch Bowl, Lundy (4), Paton; bare peat in bog, Lagnabenae Moss nr New Luce (74), Hill; boggy slope nr Ballycayle, Glencree R. (H. 20), Paton & Pitkin (B.B.S. exc.).

- 12/5. R. palmata, rotten wood, Motelinn, Howden Cleuch (79), Corner; rotten wood, Whitmuir Moss (80), Corner, 1974; rotten wood nr Balerno Moss (83), J. McAndrew, 1903 (E).
- 13/1. Cryptothallus mirabilis, beneath Sphagnum recurvum in willow/birch wood, S. end of L. Dan (H. 20), Pitkin (B.B.S. exc.).
- 14/3. Pellia neesiana, Juncus-dominated grassland, Cefn Wood, Cross Gates (43), Woods; amongst Juncus, shore of L. Dungeon, Rinns of Kells (73), Long & Hill; amongst Juncus by R. Cree above Newton Stewart (74), Hill & Long; deep tuft on boulder, Medwin Water nr Medwinhead (77), Chamberlain & Long; margin of Upper Lake, Vale of Glendalough (H. 20), Foster (B.B.S. exc.); wet flush, N.-facing slope, Ben of Howth (H. 21), Pitkin.
- 15/5. Metzgeria pubescens, dry E.-facing calcareous cliffs at 1200ft alt., Lamachan Hill range, Galloway (73), J. Birks.
- 18/1. Blasia pusilla, bare ground among rushes, Tylwch, S. of Llanidloes (47), Hill.
- 20/1. Fossombronina foveolata, mud exposed on margin of Vartry Reservoir (H. 20), Paton & Pitkin (B.B.S. exc.).
- 20/3. F. incurva, damp dune hollow nr mouth of Sandmill Burn, Luce Bay (74), Long; damp gravelly slope, W. bank of Medwin Water above Medwinhead, Pentlands (77), Long.
- 20/4. F. angulosa, flushed bank at top of sea cliff, Pigstone Bay, Skomer Island (45), D.W. Thomas.
- 20/8. F. pusilla, marshy woodland S. of Clonough Bridge, E. of Inch (H. 12), Paton (B.B.S. exc.); path in Devil's Glen, Ashford (H. 20), Pitkin (B.B.S. exc.).
- 20/9. F. wondraczekii, damp mud nr edge of Belmont Reservoir, N. of Bolton (59), Blockeel; forest ride nr Sorbie (74), Hill; marshy field nr bridge over R. Ow, S. of Aghavannagh (H. 20), Paton & Foster (B.B.S. exc.).
- 21/1. Haplomitrium hookeri, gravel banks by inflow stream to reservoir nr Bontnewydd above Dolgarrog (49), Duckett; damp hollow on dunes nr mouth of Sandmill Burn, Luce Bay (74), Long; damp gravelly slope by stream, W. bank of Medwin Water above Medwinhead, Pentlands (77), Long; W. margin of Upper Lake, Vale of Glendalough (H. 20), Paton & Perry (B.B.S. exc.).
- 22/1. Anthelia julacea, rocks in stream, The Black Banks, Mt. Leinster (H. 13), Paton & Perry (B.B.S. exc.).
- 27/2. Ptilidium pulcherrimum, rotting log in Betula pubescens woodland nr Llanuwchllyn (48), Benoit.
- 28/1. Trichocolea tomentella, wet rocks beneath oaks, Glannan nr Rhayader (43), Woods; on tufts of moss near small stream, Ounmanway (H. 3), Kirby.
- 31/3. Lepidozia pearsonii, amongst Calluna on rocky slope above L. Ouler, Tonelagee (H. 20), Paton & Perry (B.B.S. exc.).

- 31/4. L. setacea, bog by stream, S. slope of Black Rock Mt. (H. 12), Paton (B.B.S. exc.).
- 31/5. L. trichoclados, peaty banks S. of Cloroge, Mt. Leinster (H. 12), Paton (B.B.S. exc.).
- 31/6. L. sylvatica, peaty banks in bog N. of the Punch Bowl, Lundy (4), Paton; with L. trichoclados on boggy slope nr Ballycayle, Glencree R. (H. 20), Paton (B.B.S. exc.).
- 33/1. Calypogeia neesiana α var. neesiana, wet exposed peat on moorland nr Burntshield, E. of Sorn (75), Long & Crundwell; peat on steep rocky slope above L. Bray Upper, Kippure (H. 20), Paton (B.B.S. exc.).
- 33/2. C. muellerana, shaded bank of woodland stream, Aldouran Burn above Leswalt, Stranraer (74), Long; peaty stream bank, Croghan Mt. (H. 12), Paton (B.B.S. exc.).
- 33/3. C. trichomanis, peaty ditch-side in spruce plantation, Forest of Ae (72), Hill; peaty ditch-side in forestry plantation, Dodd Hill, Carsphairn Forest (73), Hill; flushed slope above L. Ouler, Tonelagee (H. 20), Synnott (B.B.S. exc.).
- 34/4. Lophozia alpestris, damp rocks, Ashes Hollow, Longmynd (40), Duckett, 1974.
- 34/6. L. excisa, damp soil on sea bank nr Lady Bay, Kirkcolm (74), Long.
- 34/9. L. incisa, moist slope, The Black Banks, Mt. Leinster (H. 13), Kirby (B.B.S. exc.).
- 35/1. Leiocolea turbinata, basic seepage on Silurian rock face, Ardwell Bay, S. of Portpatrick (74), Long; wet base-rich sandstone rocks on small tributary on E. bank of Medwin Water, Pentlands (78), Long.
- 35/4. L. bantriensis, basic flush below Dugwm Rocks (47), Duckett (B.B.S. exc.).
- 36/1. Barbilophozia floerkei, under Calluna, The Black Banks, Mt. Leinster (H. 13), Pitkin (B.B.S. exc.).
- 36/6. B. hatcheri, with Ptilidium ciliare, Well Hill, Moffat (72), H. Milne-Redhead, 1962 (E); rocky ground on hillside at 1000ft alt., Dunsyre Hill (77), Long.
- 36/8. B. barbata, top of drystone roadside wall at Garreg, Glandyfi (46), Benoit.
- 39/2. Sphenolobus minutus, drystone rock face by Medwin Water, W. bank above Medwinhead, Pentlands (77), Long.
- 43/1. Anastrepta orcadensis, amongst turf on rocky slope, North Prison, Lugnaquilla Mt. (H. 20), Paton (B.B.S. exc.).
- 47/2. Plectocolea subelliptica, moderately basic boulders in stream in oak wood, Cwm Nantcol (48), Benoit.

- 47/3. P. hyalina, slightly basic flush, Callow Hollow, Longmynd (40), Duckett.
- 48/1. Nardia compressa, rocks in stream, The Black Banks, Mt. Leinster (H. 13), Paton & Perry (B.B.S. Exc.).
- 48/3. N. geoscyphus, sandstone rocks, Sweeney Mt. S.W. of Oswestry (40), Paton (B.B.S. exc.).
- 49/1. Jamesoniella autumnalis, place 50 in [], no record traced (Birks, 1975 a).
- 52/7. Marsupella ustulata, soft rock on slope above L. Ouler, Tonelagee (H. 20), Paton (B.B.S. exc.).
- 52/9. M. funckii, heathy bank W. of Cloroge, Mt. Leinster (H. 12), Paton (B.B.S. exc.).
- 53/1. Gymnomitrium concinnum, slate rocks, Creigiau Pennant S. of Llanbrynmair (47), Corley (B.B.S. exc.).
- 53/2. G. obtusum, on slate rocks, Creigiau Pennant S. of Llanbrynmair (47), Corley (B.B.S. exc.); side of granite boulder, ridge N. of North Prison, Lugnaquilla Mt. (H. 20), Paton & Kirby (B.B.S. exc.).
- 54/1. Mylia taylori, rotting oak log in shaded valley, Cefn Wood, Cross Gates (43), Woods.
- 56/2. Plagiochila asplenioides β var. major, wood by R. Went, Brockdale, between Wentbridge and Kirk Smeaton, nr Pontefract (63), Blockeel; woodland bank S. of Clonough Bridge, E. of Inch (H. 12), Paton (B.B.S. exc.).
- 56/4. P. ambagiosa, delete entire entry and replace with P. atlantica F. Rose, new species, recorded from 97, H. 1, H. 3 (Jones & Rose, 1975).
- 56/6. P. tridenticulata, wet rock ledges below Dugwm Rocks (47), Duckett (B.B.S. exc.); shaded rocks in wooded cascade, Glen Trosdale, Isle of Jura (102), J. Birks & Adam.
- 58/2. Chiloscyphus pallescens, fen S.W. of Yellowford Cross Roads, S. of Baltinglass (H. 13), Synnott & Kirby (B.B.S. exc.); marshy field N.E. of Avoca (H. 20), Synnott & Paton (B.B.S. exc.).
- 62/1. Cephaloziella pearsonii, shaded rock-face in wooded cascade, Glen Trosdale, Isle of Jura (102), J. Birks & Adam.
- 62/3. C. subdentata, delete 60, the specimen from Tarnbrook Fell is C. rubella; place 104 in [], (Birks & Birks, 1974).
- 62/5. C. hampeana, bog, Challoghglass Moss S.W. of Kirkcowan (74), Hill.
- 62/7. C. stellulifera, delete 30, the specimen from Rowney Warren is C. rubella; soil in derelict building, old lead works below L. Nahanagan N.W. of Laragh (H. 20), Paton (B.B.S. exc.).

- 63/3. Cephalozia pleniceps, on Sphagnum palustre in marshy bog N. of the Punch Bowl, Lundy (4), Paton; peat in base rich flush at 1200ft alt., Garval Syke, Upper Medwin Water, Pentland Hills (83), Long et al.; boggy slope nr Ballycayle, Glencree R. (H. 20), Paton (B.B.S. exc.).
- 63/5. C. connivens, bog by stream, S. slope of Black Rock Mt. (H. 12), Paton (B.B.S. exc.).
- 63/9. C. macrostachya, on Sphagnum in bog W. of Bohemia Farm, Godshill (10), Rose; bog on Shortheath Common S.E. of Alton (12), Paton; delete 48, available material is either sterile or C. media, comm. Hill; exposed wet peat on moorland nr Burntshild E. of Sorn (75), Long & Crundwell; side of ditch, Blawhorn Moss (84) Chamberlain & Long; cutover bog, Rathduffmore N. of Knockananna (H. 20), Paton (B.B.S. exc.).
- 63/10. C. catenulata, under Calluna, West Anstey Common, Exmoor (4), Paton.
- 63/11. C. leucantha, boggy slope nr Ballycayle, Glencree R. (H. 20), Paton (B.B.S. exc.).
- 64/2. Cladopodiella fluitans, amongst Sphagnum recurvum, bog W. of Bohemia Farm, Godshill (10), Rose.
- 66/2. Odontoschisma denudatum, Calluna moor, West Anstey Common, Exmoor (4), Paton; bare peat in bog nr Dovey Junction (47), Benoit, 1974.
- 66/3. O. elongatum, place 104 in [], (Birks & Birks, 1974).
- 67/1. Adelanthus decipiens, mossy rocks in oakwood at 200ft alt., glen under Cairnsmore of Fleet (73), Ratcliffe; boulders in S-facing birch-hazel wood nr L. Alsh (105), J. Birks.
- 69/3. Diplophyllum obtusifolium, below Creigiau Pennant, S. of Llanbrynmair (47), Corley (B.B.S. exc.); by forestry road nr Cyffylliog (50), Hill.
- 70/3. Scapania calcicola, path, Offa's Dyke, top of Blodwell Rocks, N.W. side of Llanymynech Hill (40), Perry & Benoit (B.B.S. exc.) - new to England; short stony limestone turf, golf course, Llanymynech Hill (47), Duckett, 1974 - new to Wales.
- 70/6. S. scandica, steep bank below Creigiau Pennant crags (47), Paton (B.B.S. exc.); heathy stream bank by Mid Burn E. of Cairnsmore of Fleet (73), Hill.
- 70/8. S. irrigua, marshy slope, Croghan, Croghan Mt. (H. 12), Paton (B.B.S. exc.).
- 70/10. S. aequiloba, shaded base-rich rock face in ravine, Linn Dean waterfall, Soutra Hill (82), Long & Chamberlain.
- 70/14. S. crassiretis, delete entire entry (Paton, 1975).
- 70/15. S. degenii, Honister Pass (70), R.M. Schuster, 1972 (Schuster, 1974).

- 71/5. Radula aquilegia, shaded rocks in ravine, Glen Trosdale, Isle of Jura (102), J. Birks & Adam.
- 71/6. R. voluta, boulders in S.-facing block-strewn cascade, L. Alsh (105), J. Birks.
- 73/5. Porella pinnata, alder trunks nr R. Bann, Camolin (H. 12), Paton (B.B.S. exc.).
- 75/1. Lejeunea cavifolia, gully, Elrig (74), Hill; damp basic rock face in sandstone gorge of Mouse Water at Lanark (77), Long.
- 75/2. L. patens, shaded boulder at foot of sea-cliffs, Clachan Heugh nr Kirkcolm, Stranraer (74), Long & Shepherd.
- 75/5. L. holtii, wet shaded rocks near sea-level, N. coast of Islay (102), J. Birks - new to Scotland.
- 76/1. Drepanolejeunea hamatifolia, hazel branch, wooded ravine, Glenistar (H. 8), Pitkin.
- 77/1. Harpalejeunea ovata, shaded rocks in gully near the sea, Bunnahabhain, Islay (102), J. Birks.
- 78/1. Cololejeunea calcarea, shaded cleft in deep base-rich gorge below Dugwym Rocks (47), Long (B.B.S. exc.).
- 78/2. C. rossettiana, amongst Lejeunea cavifolia on limestone rock, S. bank of Ings Beck, E. of Downham Bridge, Downham (59), Blockeel.
- 79/1. Aphanolejeunea microscopica, rocks in small gorge nr Cairnerzean, above New Luce (74), Hill; hazel branch, wooded ravine, Glenistar (H. 8), Pitkin.
- 80/1. Colura calyptrifolia, shaded rocks in wooded cascade, Glen Trosdale, Isle of Jura (102), J. Birks & Adam.
- 82/1. Frullania tamarisci γ var. cornubica, large boulder in Vartry R., Devil's Glen, Ashford (H. 20), Paton (B.B.S. exc.).
- 82/2. F. germana, shaded N.-facing basic rock between Talnотry and Glen of the Bar, Galloway (73), J. Birks.

MUSCI

A. C. CRUNDWELL

The names and numbers follow Warburg, Census Catalogue of British Mosses, ed. 3 (1963).

- 1/4. Sphagnum imbricatum, on raised bog, Rathduffmore (H. 20), Synnott (B.B.S. exc.).
- 1/7. S. teres, base-rich flush, Garval Syke, upper Medwin Water, Pentland Hills (83), Long et al.; in Carex rostrata fen, L. Tallant, nr Bowmore, Islay (102), Birks.
- 1/8. S. squarrosum, Wicken Fen (29), Leslie, 1974; in alder-willow carr, L. Tallant, nr Bowmore (102), Birks.

- 1/13. S. pulchrum, in depression in bogland nr Dovey Junction (47), Benoit, 1974.
- 1/17. S. contortum, flush, moorland nr source of R. Teme (43), Hill; basic flush on slope above woods nr Inverhope, L. Eriboll (108), Long & Chamberlain, 1974: β var. platyphyllum, Fair Mile Gate, Howgill (65), A. Wilson, 1923, conf. Hill (NMW); peaty runnel in damp field nr Glenamour Loch, N.E. of Newton Stewart (73), Hill; peaty depression on wet heath, Mindork Moss, S. of Kirkcowan (74), Hill; Ben Ledi (87), W. Wilson, 1867, conf. Hill (BM).
- 1/18. S. subsecundum α var. subsecundum, rushy flush, Pennant, S. of Llanbrynmair (47), Hill (B.B.S. exc.).
- 1/21. S. robustum, peaty bank by tributary of R. South Esk, Moorfoots (83), Long & Chamberlain; top of Cuilcagh (H. 30), "W.N.Y", 1909 (MANCH).
- 1/27. S. plumulosum, peaty hillside nr Clearburn Loch, Buccleugh (79), Long, 1973.
- 1/29. S. molle, heath at S. end of L. Dan, N. of Laragh (H. 20), Paton (B.B.S. exc.).
- 3/1. Atrichum crispum, in silt by stream, Holehouse Gill nr Ulpha, Valley (70), Birks.
- 5/4. Polytrichum alpinum, rock ledge nr source of R. Teme (43), Hill.
- 6/1. Buxbaumia aphylla, railway cutting N. of Riccarton Junction (80), Corner.
- 8/2. Fissidens bambergeri, on muddy elm roots by ditch, Pucketty Farm, Littleworth, nr Faringdon (22), Corley; on E. bank of R. Tees, E. Sockburn Farm (66), Graham.
- 8/3. F. minutulus α var. minutulus, stone on wooded bank, East Kerse Mains, Bo'Ness (84), Long & Chamberlain.
- 8/8. F. rufulus, rock beside Glencullin River, N.W. of Enniskerry (H. 20), Paton (B.B.S. exc.).
- 8/9. F. curnowii, rock beside Glencullin River, N.W. of Enniskerry (H. 20), Paton (B.B.S. exc.).
- 8/12. F. exilis, on soil, Glentress Forest, Peebles (78), Miss P. Evans.
- 8/12A. F. celticus, on shaded clay bank in wooded ravine, Fleuchlang, nr Gatehouse of Fleet (73), Birks; soil on rock face by waterfall, Aldouran Burn, above Leswalt, Stranraer (74), Long.
- 8/14. F. osmundoides, on roots by stream in carr, Wood Crates, New Forest (11), Rose, 1973.
- 8/19. F. polyphyllus, on wet rocks in wooded ravine, Glen Trosdale, Jura (102), Birks & Adam.
- 11/1. Pleuroidium acuminatum, gravel heap by roadside, top of Aldouran Glen, Leswalt, Stranraer (74), Long.

- 11/2. P. subulatum, stubble field, High Clachan, Kirkcolm, Stranraer (74), Long & Shepherd.
- 12/2. Ditrichum pusillum, delete 48, the specimen (MANCH) is Dicranella varia.
- 12/4. D. lineare, old quarry by road nr Clatteringshaws Loch (73), Hill.
- 12/5. D. zonatum, cleft in rock, Kirriereoch Hill (75), Hill; β var. scabrifolium, water track below spring, Ben Avon (94), Birse & Robertson.
- 15/1. Ceratodon purpureus β var. conicus, on soil, Hook Wood, above W. Horsley (17), Wallace, 1947; humus by pool in gravel pit nr sea, the Boar's Head, Lossiemouth (95), Richter.
- 21/1. Pseudephemerum nitidum, mud at edge of loch, Balloch, Comrie (88), Birse & Robertson, 1974.
- 22/2. Dicranella schreberana, bank on edge of fen S.W. of Yellowford Cross Roads, S. of Baltinglass (H. 13), Paton (B.B.S. exc.).
- 22/4A. D. staphylina, S.E. bank of R. Wye 2 miles S.W. of Hay (42), Whitehouse; arable field 1 mile N.E. of Llowes (43), Whitehouse; bare ground on embankment by R. Ouse nr Hook, Goole (63), Blockeel; stubble field, High Clachan, nr Kirkcolm, Stranraer (74), Long & Shepherd; stubble field nr Swineburn, Winchburgh (84), Long; ley pasture, Glenkindle (92), Birse & Robertson, 1974.
- 22/5. D. rufescens, bank nr R. Bann, Camolin (H. 12), Paton (B.B.S. exc.).
- 22/7. D. subulata, roadside nr Corsock (73), Hill: β var. curvata, quarry nr Uplawmoor (76), Kenneth, 1971.
- 24/1. Cynodontium bruntonii, cliff ledges by sea, Clachan Heughs, nr Kirkcolm, Stranraer (74), Long & Shepherd.
- 26/1. Dichodontium pellucidum β var. fagimontanum, on rocks on banks of Ridgeway Reservoir, Langley (58), Foster.
- 29/1. Dicranum falcatum, place 104 in () (Birks & Birks, 1974).
- 29/7. D. strictum, on oak log, Peckforton Hills (58), Foster.
- 29/8. D. scottianum, place 85, 106 and H. 12 in [] (Birks, 1975b).
- 29/10. D. fuscescens, boulder at foot of cliff, Clachan Heughs, Kirkcolm, Stranraer (74), Long.
- 30/3. Dicranodontium denudatum, soil under Fagus, Wood Crates, New Forest (11), Rose et al., 1972; fallen bole of sawn in marsh by Nant Iechyd, Cwm Dimbath (41), Perry, 1974.
- 30/4. D. subporodictyon Broth., 97 - new to the British Isles (Corley & Wallace, 1974).
- 31/2. Campylopus schimperi, place 104 in [] (Birks & Birks, 1974).
- 31/4. C. fragilis, thin peat over shingle among bushes, Dungeness beach (15), Rose, 1948 (MNE).

- 31/11. C. introflexus, on fallen hawthorn trunk between canal and R. Chelmer, Ulting Lock, nr Maldon (19), Corley; on bare peat surface in bogland nr Dovey Junction (47), Benoit, 1974; on dunes, Saltfleet-by-Theddlethorpe Nature Reserve (54), G. Walker; on old railway line, God's Bridge, nr Bowes (65), J. Robertson; burnt moorland N.E. of Dunsyre Mill (77), Long; rotten stump at edge of Kinneil Wood, nr Bo'Ness (84), Long & Chamberlain.
- 31/12. C. brevipilus, Wicken Fen (29), Leslie, 1974.
- 33/2. Leucobryum juniperoideum, on chestnut stumps, Blake's Wood, Danbury, nr Chelmsford (18), Corley; on stump in beech wood, Wasing Wood, nr Aldermaston (22), Crundwell (B.B.S. exc.); on rotting long nr Danebridge (59), Vince; soil by path, Torc Cascade (H. 1), Foster - new to Ireland.
- 35/2. Tortula ruraliformis, on sand, Barrow Hills, Everton (56), Blockeel.
- 35/6. T. laevipila β var. laevipiliformis, on elm bole, bank of R. Teviot below Roxburgh Castle, Kelso (80), Long.
- 35/8. T. papillosa, fallen elm trunk, Plas Gogerddan, Aberystwyth (46), Woods, 1974.
- 35/9. T. latifolia, base of tree by R. Aire nr Carleton, Skipton (63), Blockeel; pier of bridge W. of Courtown (H. 12), Paton (B.B.S. exc.).
- 35/10. T. subulata β var. subinermis, tree base by R. Aire nr Carleton, Skipton (63), Blockeel: δ var. graeffii, limestone in cutting of disused railway E. of Morlais Hill (41), Perry, 1973; on base-rich sandstone boulder by stream, E. bank of Medwin Water, Pentlands (78), Long.
- 35/11. T. canescens, on bare soil among dolerite rocks, Roundton, nr Church Stoke (47), Corley (B.B.S. exc.).
- 35/14. T. stanfordensis, vertical bank of R. Severn, Upton-upon-Severn (37), Whitehouse; on path by R. Severn, Coalport, nr Ironbridge (40), Whitehouse; under alder on S. bank of R. Wye, $2\frac{1}{2}$ miles S.W. of Hay (42), M.P. & H.L.K. Whitehouse; at foot of hazel on N. bank of R. Wye $\frac{1}{2}$ mile E. of Llowes (43), M.P. Whitehouse; on bare soil in woodland on magnesian limestone opposite sewage works between Roche Abbey and Maltby (63), Blockeel.
- 36/4. Aloina aloides, soil overlying limestone outcrop in quarry, Petershill Reservoirs, Bathgate (84), Long & Chamberlain.
- 40/1. Pottia lanceolata, soil on rocky hillside, Roundton, nr Old Church Stoke, Montgomery (47), Long (B.B.S. exc.).
- 40/7. P. wilsonii, sandy bank nr shore, Tanner's Lane, E. of Pylewell Park, S. of Boldre (11), Rose, 1974.
- 40/12. P. bryoides, gravel path in churchyard, Wyton, nr Huntingdon (31), Hill; on limestone outcrop, Llanymynech Hill (47), Long (B.B.S. exc.).

- 40/13. P. recta, bare soil, disused lime kiln, Llanon (46), Woods, 1974; soil on limestone outcrop, Llanymynech Hill (47), Long (B.B.S. exc.).
- 42/1. Acaulon muticum, place 104 in [] (Birks & Birks, 1974).
- 44/1. Barbula convoluta β var. commutata, top of wall by Kinneil Wood, nr Bo'Ness (84), Long & Chamberlain.
- 44/4. B. hornsuschiana, waste ground, Arklow (H. 20), Paton (B.B.S. exc.).
- 44/6. B. acuta, turf, golf-course, Llanymynech Hill (47), Duckett, 1974.
- 44/8. B. reflexa, disturbed soil of limestone quarry, Colyhir (43), Woods.
- 46/1. Gyroweisia tenuis, mortar of wall, Thornton-in-Craven (63), Blockeel.
- 48/1. Anoetangium aestivum, wet basic rock ledge nr road on W. side of Lake Vyrnwy (47), Benoit.
- 49/4. Tortella inclinata, bare soil by old mine shafts, foot of Glen Sannox, Arran (100), Long, 1969.
- 49/5. T. densa, boulders at foot of limestone cliff nr Knockanrock (105), Long, 1973.
- 49/6. T. flavovirens α var. flavovirens, sea-wall, Llandrillo (50), T. Barker 1899.
- 50/1. Pleurochaete squarrosa, floor of old quarry, Llanymynech Hill (40), Duckett, 1974; golf-course and cliff above Blodwell Wood, Llanymynech Hill (47), Duckett, 1974.
- 51/1. Trichostomum tenuirostre, delete 78, the specimen is Dichodontium pellucidum; damp rock face by Whalplaw Burn, above Carfraemill, Lammermuirs (81), Long, 1973.
- 51/4. T. crispulum β var. elatum, rocks above Glencullin River, N.W. of Enniskerry (H. 20), Paton (B.B.S. exc.).
- 51/5. T. brachydontium, basalt outcrop, Blackness Castle (84), Long & Chamberlain.
- 52/1. Weissia controversa β var. densifolia, bank of stream by building, Sampford Moor (5), McFarlane, 1973.
- 52/1A. W. perssonii, rocks by shore of Mawddach estuary between Barmouth Junction and Fairbourne (48), Benoit; bank on sea shore, 2 miles S.W. of Inverary, L. Fyne (98), Corley.
- 52/11. W. crispa, bare magnesian limestone ground, Brockadale, E. of Wentbridge (63), Blockeel: β var. aciculata, S.-facing slope, Roundton, Church Stoke (47), Hill (B.B.S. exc.).

- 55/3. Grimmia conferta, basalt outcrop, Roundton, nr Old Church Stoke (47), Long (B.B.S. exc.); on rock by road nr Bwlch-y-groes, W. of L. Vyrnwy (48), Appleyard (B.B.S. exc.); place 104 in [] (Birks & Birks, 1974).
- 55/4. G. stricta, on E.-facing basalt rocks, Lamachan Hill range, Galloway (73), Birks.
- 55/5A. G. borealis, on damp sloping basic rock, Creag na Caillich, Killin (88), Corley.
- 55/7. G. alpicola α var. alpicola, rocks by R. Aire just W. of Gargrave (63), Blockeel; β var. rivularis, boulders in river bed, Falls of Shin (107), Long & Chamberlain, 1974.
- 55/18. G. atrata, rocks in stream above Ponterwyd (46), Hill.
- 55/22. G. funalis, basalt rocks on steep hillside, Dunsyre Hill (77), Long.
- 55/25. G. subsquarrosa, exposed basalt rocks, Dunsyre Hill (77), Long.
- 55/27. G. muehlenbeckii, basic outcrop between Rogart and Mound (107), Kenneth, 1973.
- 55/30. G. decipiens, limestone ridge E. of L. Lossit, Islay (102), Kenneth & Stirling, 1972: β var. robusta, on schistose rocks, ca 2600ft. alt., S. side of Ben Vrackie (89), Birks; limestone, Dun Nosebridge, nr Mullindry, Islay (102), Kenneth, 1972.
- 58/2A. Funaria pulchella, soil on limestone, Llanymynech Hill, (47), Paton (B.B.S. exc.).
- 58/3. F. attenuata, bank nr R. Bann, Camolin (H. 12), Paton (B.B.S. exc.).
- 58/4. F. fascicularis, stubble field nr High Clachan, Kirkcolm, Stranraer (74), Long & Shepherd; bank of ditch in field, Pennycomequick Bridge, N.E. of Arklow (H. 20), Paton (B.B.S. exc.).
- 58/5. F. obtusa, bank by stream, The Black Banks, Mt. Leinster (H. 13), Paton (B.B.S. exc.).
- 62/2. Ephemerum sessile, margin of Clatworthy Reservoir, N.W. of Wiveliscombe (5), Paton.
- 62/6. E. serratum α var. serratum, margin of Clatworthy Reservoir, N.W. of Wiveliscombe (5), Paton; stubble field, Alloway, S. of Ayr (75), Crundwell.
- 64/2. Tayloria longicolla, place 104 in [] (Birks & Birks, 1974).
- 65/2. Tetraplodon mnioides, dung on bog, Redcleuch Flow, Shaws, Ettrick (79), Corner.
- 67/1. Splachnum sphaericum, on sheep dung in bog beside Llyn Cerrigllwydion Uchaf, nr Claerwen (43), Woods, 1973.

- 67/2. S. ampullaceum, blanket bog, Dubh Lochs of Shielton, nr Watten (109), Lucking, 1974.
- 68/1. Schistostega pennata, on shaded overhanging earth bank, Glaspwll, Llyfnant valley (46), Woods.
- 69/2. Tetraphis browniana, rock face in gorge nr Faidre Fach, above Llawryglyn, Llanidloes (47), Long (B.B.S. exc.).
- 72/1. Leptobryum pyriforme, peaty soil by ditch on raised beach, coast below North Cairn, N.W. of Kirkcolm (74), Long.
- 73/3. Pohlia elongata, steep mossy bank of sunken trackway S.W. of Treworra, Davidstow (2), Paton.
- 73/10. P. bulbifera, damp hollow on dunes nr mouth of Sandmill Burn, Luce Bay (74), Long; streamside nr L. Slochy, S.W. of L. Doon (75), Hill; streamside by Daer Reservoir (77), Hill.
- 73/11. P. annotina, ledge of quarry nr Spink (H. 14), Side.
- 73/13A. P. pulchella, wet woodland ride, Mereworth Woods (16), Side; on bank in field, Woolford's Farm, Elstead (17), Crundwell; clay bank above stream on E. side of Llyn Trawsfynydd (48), Benoit.
- 73/13B. P. lutescens, on vertical sides of badger hole, Monk's Wood, Woodside Green (19), Whitehouse; loamy bank by stream, Wind Fell, Eskdalemuir (72), Hill; bare soil in woodland clearing, Corsewall Estate, Kirkcolm (74), Long.
- 73/15. P. delicatula, ditch bank on edge of fen S.W. of Yellowford Cross Roads, S. of Baltinglass (H. 13), Paton (B.B.S. exc.).
- 74/1. Epityrgium tozeri, bank of stream nr Pembury (16), Side; by R. Severn between Abermule and Newtown (47), Hill (B.B.S. exc.); bank of stream S. of Clonough Bridge, E. of Inch (H. 12), Paton (B.B.S. exc.); bank of ditch in field, Pennycomequick Bridge, N.E. of Arklow (H. 20), Paton (B.B.S. exc.).
- 76/2. Anomobryum concinnum, in damp crevices of basic slate rocks, Dugwm Rock, Pentre, S.W. of Newtown (47), Corley (B.B.S. exc.).
- 77/1. Bryum maritimum, mud-covered boulder in stream in open ravine by sea, Dowlaw Dean, nr Fast Castle Head (81), Long, 1974.
- 77/4. B. pendulum, dunes nr mouth of Sandmill Burn, Luce Bay (74), Long.
- 77/13. B. pallens, gravelly track, Croghan, Croghan Mt. (H. 12), Paton (B.B.S. exc.).
- 77/20. B. creberrimum, damp log over R. Went E. of Wentbridge, nr Pontefract (63), Blockeel.
- 77/21. B. pallidum, on damp basic rocks at edge of shingle beach, Yellow Craig, nr Coldingham Beach (81), Long; rock in stream cutting, Tichuig, Cannich Road (96), Birse & Robertson, 1967.

- 77/25. B. argenteum β var. lanatum, Ackergill Links (109), Appleyard, 1974; on stone bridge, Avonbeg River (H. 20), Kirby (B.B.S. exc.).
- 77/27. B. radiculosum, bridge over tributary of R. Teme, Felindre (43), Hill; sea-wall, Scarborough (62), R. Stern, 1974; mortar of wall by railway nr Cenonley, S. of Skipton (63), Blockeel; bridge, Mindork, S. of Kirkcowan (74), Hill; shaded stonework of railway bridge, Darnick, nr Melrose (80), Long; crevices in sandstone wall of farm building, East Craigs, Corstorphine (83), Long.
- 77/27A. B. tenuisetum, mud by Thriepmuir Reservoir at Redford Bridge, Balerno (83), Long & Chamberlain, 1973.
- 77/28. B. micro-erythrocarpum, soil beside river path, Arklow (H. 20) Paton (B.B.S. exc.).
- 77/28A. B. bornholmense, bare peaty soil at 1200ft, ridge of N. side of Afon Pwmryd, Llanymawddwy (48), Long (B.B.S. exc.); bank at foot of cliffs, N. end of Ardwell Bay, S. of Portpatrick (74), Long.
- 77/29A. B. ruderale, wayside, Parkgate, nr Dumfries (72), Hill.
- 77/30. B. klinggraeffii, barley field nr Lampeter (46), Whitehouse; roadside bank, Hengwrt Uchaf, nr Dolgellau (48), Benoit; damp forest ride nr Sorbie (74), Hill; bank at edge of fen S.W. of Yellowford Cross Roads, S. of Baltinglass (H. 13), Paton (B.B.S. exc.).
- 77/30A. B. violaceum, under bushes on N. bank of R. Wye, $\frac{1}{2}$ mile E. of Llowes (43), Whitehouse; barley field nr Lampeter (46), Whitehouse; in garden, Newtown (47), Whitehouse (B.B.S. exc.).
- 77/31. B. sauteri, S.E. bank of R. Wye 2 miles S.W. of Hay (42), Whitehouse; under trees on shady roadside bank above Leswalt, Stranraer (74), Long.
- 77/35A. B. riparium, muddy flushed vertical bank by track by Nant Iechyd, Cwm Dimbath (41), Perry, 1974.
- 77/37C. B. flaccidum, on fallen hawthorn trunk between canal and R. Chelmer at Ulting Lock, nr Maldon (19), Corley; on elder under beech on chalk downs, Therfield Heath, nr Royston (20), Gardiner & Milnes-Smith; on Sambucus by roadside nr Bull Banks, Miserden (33), Townsend; on ash stump by pond at Clanna, nr Chepstow (34), Milnes-Smith & Gardiner; on elder, Ashe's Hollow, Long Mynd (40), Corley (B.B.S. exc.); on old elder, Water-Break-Its-Neck, Radnor Forest (43), Corley; on elder, Bailey Bank Wood, Chaigley (60), Blockeel, 1974; on tree root, wood by R. Went, Brockadale, between Wentbridge and Kirk Smeaton (63), Blockeel; on willow beside R. Wharfe, Cocken End (64), Dalby; damp sandy ground by sea, Killantraigan Bay, nr Portpatrick (74), Long & Shepherd; on elder in thicket, slope by Roxburgh Castle, opposite Springwood, Kelso (80), Long; shady bank in old lime quarry above Galabraes, Bathgate Hills (84), Long; on Fagus in grounds of Castle Grant, nr Grantown-on-Spey (95), Townsend.
- 77/37E. B. torquescens, chalk quarry, Hatcliffe (54), G.M. Allison, 1930.

- 78/1. Rhodobryum roseum, old railway track E. of Thorncylee (79), Corner.
- 79/4. Mnium marginatum α var. marginatum, nr Beaumaris (52), J.E. Griffith, h.d. (NMW).
- 79/11. M. rugicum, wet floor of alder carr, Anglesea Coppice, S.W. of Uttoxeter (39), Perry, 1973 (B.B.S. exc.); margin of Castle Loch, S.W. of Kirkcowan (74), Hill; edge of fen above Hummelknows, 1½ miles S. of Hawick (80), Long.
- 79/12. M. seligeri, streamside flush below Nethershield, E. of Sorn (75), Crundwell & Long; flush on valley floor, W. bank of Medwin Water, opposite Medwinhead, Pentlands (77), Long.
- 79/15. M. pseudopunctatum, fen S.W. of Yellowford Cross Roads, S. of Baltinglass (H. 13), Paton (B.B.S. exc.).
- 80/1. Cinclidium stygium, in calcareous fen, S.E. end of L. Tallant, Islay (102), Birks.
- 81/3. Aulacomnium androgynum, elder bole on hillside, Craig y Cilau, Mynydd Llangattock (42), Perry.
- 86/1. Plagiopus oederi, Roundton Hill, Old Church Stoke (47), Paton (B.B.S. exc.).
- 87/4. Bartramia stricta, on dry S.-facing igneous rock outcrop N. of Glen Lyon (88), Birks & Huntley - new to Scotland.
- 90/3. Philonotis caespitosa, muddy ditch, Pluscarden (95), Richter.
- 90/3A. P. marchica, delete 69 and substitute 65.
- 90/6. P. calcarea, spring, source of R. Teme (43), Hill; shaded calcareous rocks beside stream, Dugwm Rock, nr Newtown (47), Woods (B.B.S. exc.).
- 97/1. Zygodon viridissimus β var. stirtonii, basic rock nr beach, Lossiemouth (95), Richter, 1974: γ var. vulgaris, delete 51, the specimen is Z. conoideus; dry basalt rock face, Dunsyre Hill (77), Long; delete 95, the specimen is var. stirtonii.
- 97/2. Z. conoideus, on old elder, Water-Break-Its-Neck (43), Corley; on elder by stream above Ffynnongroew (51), Hill, 1971.
- 98/1. Orthotrichum rupestre β var. sturmii, place 104 in [] (Birks & Birks, 1974).
- 98/2. O. anomalum, limestone wall on E, bank of canal nr East Marton, Skipton (63), Blockeel.
- 98/3. O. cupulatum, roadside wall, Pool Quay, nr Welshpool (47), Hill (B.B.S. exc.); asbestos roof, New Galloway (73), Hill: β var. nudum, stone wall, bank of R. Aire, Carleton Bridge, nr Skipton (63), Blockeel; boulder by moorland stream, E. bank of Medwin Water, Pentlands (78), Long.
- 98/9. O. rivulare, on boulder by river, above Lower Hodder Bridge, Great Mitton (64), Blockeel.

- 98/10. O. sprucei, on roots and trunk of sycamore by R. Ribble, Little Mitton, Nr. Whalley (59), Blockeel; on alder by R. Ribble above Mitton Bridge, Great Mitton (64), Blockeel; alder trunks nr R. Bann, Camolin (H. 12), Paton (B.B.S. exc.).
- 98/14. O. tenellum, roadside elder nr Sorbie (74), Hill.
- 98/15. O. pulchellum, Salix in old quarry, Carriganeagh River, S. of Gorey (H. 12), Paton (B.B.S. exc.).
- 99/2. Ulota vittata, on branches of hazel in wooded ravine, Claggain River, nr Ardalla, Islay (102), Birks.
- 100/1. Fontinalis antipyretica β var. gigantea, stream nr Croghan, Croghan Mt. (H. 12), Paton (B.B.S. exc.): δ var. cymbifolia, margin of Blagdon Lake (6), Appleyard.
- 104/1. Leucodon sciuroides, on tree trunks at Trawscoed, nr Aberystwyth (46), Benoit & Rose, 1968; place 24, 58, 66 and H. 23 in [] (Rose, 1975).
- 105/1. Antitrichia curtipendula, rock ledge by stream, Bridge of Brown (94), Richter, 1964.
- 106/1. Pterogonium gracile, basalt rocks, Dunsyre Hill (77), Long.
- 109/2. Neckera crispa, basic rocks in ravine of Scaboleuch Burn, Ettrick (79), Corner.
- 116/1. Myrinia pulvinata, R. Mole at Box Hill (17 in ()), W. Mitten, 1846 (K).
- 117/1. Habrodon perpusillus, ash-tree, Cwm Llech, Pennant Melangell (47), Hill, (B.B.S. exc.).
- 118/1. Leskea polycarpa, alders beside stream south of Clonough Bridge, E. of Inch (H. 12), Paton (B.B.S. exc.).
- 121/1. Heterocladium heteropterum β var. flaccidum, shaded rocks beside Vartry River, Devil's Glen, Ashford (H. 20), Paton (B.B.S. exc.).
- 123/4. Thuidium delicatulum, boggy ground, Weaver's Down, Liphook (12), Wallace, 1937; Sphagnum bog, Broadmoor Bottom, Leith Hill (17), H.W. Monington, 1900 (K); grassy bank on basalt outcrop, Blackness Castle (84), Long & Chamberlain.
- 125/2. Cratoneuron commutatum β var. falcatum, marshy field, Clogh, Rathkeale (H. 8), Pitkin.
- 126/4. C. polygamum, swamp at N. end of L. Moraig, nr Blair Athol (89), Wallace; Millhuie, Glenkindie (92), Birse & Robertson, 1974.
- 126/5. C. elodes, marshy fields, Clogh, nr Rathkeale (H. 8), Pitkin.
- 128/1. Hygroamblystegium tenax, boulder by small stream, Mahaar Mill, Kirkcolm, Stranraer (74), Long.
- 128/2. H. fluviatile, Towyn Aberffraw (52), J.E. Griffith, 1881 (NMW).
- 129/1. Amblystegium serpens β var. salinum, delete 4, 9, 102, 103, 106, 111, H. 16, H. 19, H. 39, which are based on var. serpens and 46, based on A. varium (specimens in B.B.S. herb., det. A.J.E. Smith).

- 129/2. A. juratzkanum, delete 51, the specimen (NMW) is A. varium; rock on grassy embankment by sea, Carse of Kinneil, nr Bo'Ness (84), Long & Chamberlain.
- 129/3. A. kochii, rotten stumps and bare mud in old fishpond, Penmon Priory (52), Duckett.
- 129/4. A. varium, Wepse Woods (51), J.H. Wheldon, 1908 (NMW); margin of Castle Loch, S.W. of Kirkcowan (74), Hill.
- 130/2. Amblystegiella sprucei, crevice, Dugwm Rock, S.W. of Newtown (47), Hill (B.B.S. exc.).
- 131/1. Drepanocladus aduncus, peaty soil in coastal marsh nr Corsewall, Kirkcolm (74), Long.
- 131/4. D. fluitans β var. falcatus, heathy bank W. of Cloroge, Mt. Leinster (H. 12), Paton (B.B.S. exc.).
- 131/5. D. exannulatus α var. exannulatus, depression in wet heath, Mindork Moss, S. of Kirkcowan (74), Hill: β var. rotae, moorland flush above Dugwm Rock, Pentre, S.W. of Newtown (47), Corley (B.B.S. exc.); bog $1\frac{1}{2}$ miles N.E. of Avoca (H. 20), Paton (B.B.S. exc.).
- 131/6. D. revolvens α var. revolvens, edge of marsh, Diggity Bog, Ballyvogue, nr Askeaton (H. 8), Pitkin: β var. intermedius, in flush, tributary of Afon Cwm, Clegyrnant, N.E. of Llanbrynmair (47), Corley (B.B.S. exc.).
- 132/2. Hygrohypnum luridum β var. subsphaericarpon, place 104 in [] (Birks & Birks, 1974).
- 132/3. H. eugyrium, on wet rocks in wooded ravine, Claggain River, nr Ardtalla, Islay (102), Birks.
- 133/1. Scorpidium scorpioides, fen $\frac{1}{4}$ mile S. of Yellow Ford Cross Roads (H. 13), Kirby (B.B.S. exc.).
- 134/4. Acrocladium giganteum, marsh, Clogh, nr Rathkeale (H. 8), Pitkin.
- 134/5. A. sarmentosum, in flush-bog, Glen Trasdale, Jura (102), Birks & Adam.
- 138/1. Brachythecium albicans, dunes nr Pennycomequick Bridge, N.E. of Arklow (H. 20), Paton (B.B.S. exc.).
- 138/2. B. glareosum, calcareous bank by stream, wood below Bryn, W. of Berriew (47), Hill.
- 138/5. B. mildeanum, sandy ground by sea, Lady Bay, nr Kirkcolm, Stranraer (74), Long & Shepherd; hummock in fen S.W. of Yellowford Cross Roads, S. of Ballinglass (H. 13), Paton (B.B.S. exc.); roadside above Glencullin River, N.W. of Enniskerry (H. 20), Paton (B.B.S. exc.).
- 141/4. Eurhynchium praelongum β var. stokesii, woodland bank W. of Courtown (H. 12), Paton (B.B.S. exc.).
- 141/9. E. alopecuroides, stones in stream, Well of the Lecht, Tomintoul (94), Wallace.
- 141/11. E. confertum, stone in woodland, Mahaar Mill, Kirkcolm, Stranraer (74), Long.

- 142/4. Rhynchostegiella tenella, calcareous rock face by stream, Midhope Burn, nr Abercorn (84), Long & Chamberlain, 1974; β var. litorea, on elm stump in copse, Pucketty Farm, Littleworth, nr Faringdon (22), Corley.
- 143/1. Pterygynandrum filiforme, for "place 103 in []" (J. Bryol. 8, 175) substitute "place 102 in []".
- 144/1. Orthothecium rufescens, Cwm Moch, nr Harlech (48), E. Cleminshaw, 1908.
- 149/4. Plagiothecium denticulatum α var. denticulatum, stump in woodland, Sixteen Acre Plantation, nr Carcroft, N. of Doncaster (63), Blockeel; shady rocks in valley of R. Cree nr Knockstocks, Newton Stewart (74), Long & Hill.
- 149/5. P. ruthei, margin of bog, Llanfihangel-yng-Ngwynfa (47), Appleyard (B.B.S. exc.).
- 149/6. P. curvifolium, under Picea abies, Forest of Ae (72), Hill; bole of birch in valley below Nethersfield, E. of Sorn (75), Crundwell & Long.
- 149/7. P. laetum, soil in woodland, Wincle (58), Foster; rotten log in conifer plantation nr Blacklaw Moss, nr Carstairs (77), Long.
- 149/8. P. platyphyllum, flush, cliffs on S. side of L. Ouler (H. 20), Synnott (B.B.S. exc.).
- 149/9. P. roeseanum, walled bank of R. Wnion at Dolgellau (48), Benoit, 1974.
- 149/10. P. succulentum, shady rock ledge by waterfall, Aldouran Burn, above Leswalt, Stranraer (74), Long.
- 154/1. Hypnum cupressiforme δ var. mamillatum, tree trunk nr Newton Stewart (74), Hill; on log in pine wood by R. Ow nr Aghavannagh (H. 20), Foster (B.B.S. exc.).
- 156/1. Ctenidium molluscum δ var. robustum, flush among crags, Cwm Cywarch (48), Hill (B.B.S. exc.).
- 160/3. Rhytidiadelphus loreus, Verralls Fen area of Wicken Fen (29), Leslie, 1974.
- 161/1. Hylocomium brevirostre, under birch trees, Verralls Fen, Wicken Fen (29), Adam; Hartsgarth Burn, Newcastleton (80) Corner.
- 161/3. H. umbratum, Hartsgarth Burn, Newcastleton (80), Corner.

REFERENCES

- Birks, H. J. B. (1975a). Distribution map of bryophytes in Britain and Ireland - Jamesoniella autumnalis. J. Bryol. 8, 385.
- Birks, H. J. B. (1975b). Distribution maps of bryophytes in Britain and Ireland - Dicranum scottianum. J. Bryol. 8, 498.
- Birks, H. J. B. & Birks, H. H. (1974). Studies on the bryophyte flora and vegetation of the Isle of Skye. I. Flora. J. Bryol. 8, 19 - 64, 197 - 254.
- Corley, M. F. V. & Wallace, E. C. (1974). Dicranodontium subporodictyon Broth. in Scotland. J. Bryol. 8, 195 - 9.
- Jones, E. W. & Rose, F. (1975). Plagiochila atlantica F. Rose, sp. nov. - P. ambagiosa auct. J. Bryol. 8, 417 - 22.
- Paton, J. A. (1975). Scapania crassiretis Bryhn erroneously recorded in Great Britain. J. Bryol. 8, 493.
- Rose, F. (1975). Distribution maps of bryophytes in Britain and Ireland - Leucodon sciuroides. J. Bryol. 8, 502.
- Schuster, R. M. (1974). The Hepaticae and Anthocerotae of North America. vol 3. p. 477. Columbia University Press.

Contributors of records: P. Adam, Mrs. J. Appleyard, P. M. Benoit, Mrs. H. H. Birks, H. J. B. Birks, E. L. Birse, T. L. Blockeel, D. F. Chamberlain, M. F. V. Corley, R. W. M. Corner, A. C. Crundwell, Miss M. Dalby, J. G. Duckett, W. D. Foster, J. C. Gardiner, G. G. Graham, J. E. Griffith, M. O. Hill, B. Huntley, A. G. Kenneth, N. Kirby, A. C. Leslie, D. G. Long, Miss H. Lucking, M. G. MacFarlane, Mrs. M. Milnes-Smith, Mrs. J. A. Paton, A. R. Perry, P. H. Pitkin, D. A. Ratcliffe, R. Richter, J. S. Robertson, F. Rose, G. J. Shepherd, Mrs. A. G. Side, A. McG. Stirling, D. M. Synnott, C. C. Townsend, R. Vince, E. C. Wallace, H. L. K. Whitehouse, R. G. Woods.

NEW REFEREE FOR WEISSIA

=====

It should be noted that Mr Crundwell has resigned as referee for the genus Weissia, but the vacancy has been filled by Dr D. F. Chamberlain, Department of Botany, Royal Botanic Garden, Edinburgh, EH3 5LR.

```

*****
*   CONTRIBUTIONS FOR THE NEXT BULLETIN   *
*   ++++++                               *
*   SHOULD REACH THE HONORARY SECRETARY   *
*                                           *
*   BY 1 DECEMBER 1976                   *
*                                           *
*****

```

A NOTE ON SOME OF THE TAXA IN THE GENUS RACOMITRIUM
Brid. (Rhacomitrium auct.)

By A. J. E. SMITH

There has been considerable controversy about the taxonomy of the plants usually known as Racomitrium heterostichum, R. heterostichum var. gracilescens, R. heterostichum var. alopecurum and R. sudeticum. As these are usually sterile, identification is based on gametophyte characters. When I examined the taxa a few years ago I came to the conclusion that there were two varieties, var. heterostichum and var. alopecurum (the latter including var. gracilescens, var. alopecurum and R. sudeticum) but was dissatisfied with the situation.

I have now re-examined the taxa but this time on the basis of sporophyte characters, and have come to a somewhat surprising conclusion. There are two species, distinct in capsule characters and in about 85-90% cases in gametophyte characters as well. As the number of fruiting gatherings is limited I would appreciate comments from other bryologists after they have examined their herbarium material.

The main features of the species I propose are as follows:

R. heterostichum (Hedw.) Brid.

Plants with shoots of moderate size, forming loose tufts or patches; stems with usually numerous short branches. Upper lvs (2.2-) 2.5-3.6 mm long (including hair-point), hair-point (0-) 15-45% total lf length. Seta 4-8 (-12) mm; capsule narrowly ellipsoid to shortly cylindrical, 1.8-2.5 mm long without lid. Plants of lowland and montane habitats.

R. affine (Web. & Mohr) Lindb.

Syn: R. heterostichum var. gracilescens Br. Eur., R. heterostichum var. affine (Web. & Mohr) Lesq., R. heterostichum var. alopecurum (Brid.) Huben., R. sudeticum (Funck) Br. Eur.

Plants with slender shoots, forming small hemispherical cushions to tight, sometimes extensive, patches; stems usually with few or no short lateral branches. Upper lvs 1.7-2.2 (-2.6) mm long, hair-point 0-10 (-15)% total lf length. Seta 2.4 mm long; capsule ovoid, 1.0-1.2 (-1.4) mm long without lid. Plants of montane habitats.

I also propose to resurrect the taxon known as R. canescens var. ericoides.

var. canescens

Plants without short lateral
branches
Cell papillae 1-3 times as
tall as wide
Plants dull green

var. ericoides

Plants with numerous short com-
planate lateral branches
Cell papillae 0.5-1.0 times as
long as wide
Plants yellowish-green to green

Leaf shape and hair-point length are irrelevant in discriminating between the varieties. I am not certain about the relative frequencies of the two varieties in the British Isles: there is no ecological differentiation and the two may grow together. In North Wales var. ericoides is the predominant taxon and most of the specimens of var. canescens I have seen come from south-east England.

NEW MEMBERS, JUNE 1975 - JULY 1976

- ALEXANDER, R. W., Department of Applied Biology, Chelsea College,
Hortensia Road Annexe, London, S.W.10. (1976 Junior)
- BULIN, Werner, D-8399 Neuhaus/JNN, Nelkenweg 6, West Germany. (1976)
- CAMBRIDGE, The Librarian, Department of Genetics, The University,
Milton Road, Cambridge, CB4 1XH. (1976 Institutional)
- CRONK, Q. C. B., Church House Farm, Horsmonden, Tonbridge,
TN12 8EN. (1976 Junior)
- DIBBEN, Dr M. J., Botany Division, Milwaukee Public Museum, 800
West Wells Street, Milwaukee, Wisconsin 53233, U.S.A. (1976)
- ELLIS, L. T., 90 Pondfield Lane, Brentwood, Essex. (1975)
- FISK, R. J., 43 Blackfriars Avenue, Droitwich Spa, Worcs. (1976)
- GEISSLER, Dr Patricia, Botanisches Institut, Schönbeinstrasse 6,
CH-4056, Basel, Switzerland. (1975)
- GEYMAN, G. G., 48 Gascoigne Gardens, Woodford Green, Essex,
IG8 9NU. (1976)
- GLIME, Dr Janice M., Department of Biological Sciences, College of
Sciences and Arts, Michigan Technological University, Houghton,
Michigan 49931, U.S.A. (1975)
- GREEN, D. B., 43 Russley Road, Bramcote, Nottingham, NG9 3JF. (1976)
- GUSTAFSSON, Dr Lena, Edsgatan 20, S-462 00 Vänersborg, Sweden.
(1976)
- HALLET, Dr J. -N., Laboratoire de Cytologie et Morphogénèse Végétales,
Université Pierre et Marie Curie, Batiment L, 4 Place Jussieu,
75230 Paris Cedex 05, France. (1975)
- HALLINGBÄCK, T., Kobergsgatan 26, S-416 71 Göteborg, Sweden.
(1976)
- HILL, Mrs J. J., 20 Deben Crescent, Swindon, Wilts., SN2 3QB. (1976)
- HOELLWARTH, Dr M., Sudetenstr. 10, 6101 Meissel, W. Germany. (1976)
- HONG, Dr W. S., Department of Biology, College of Great Falls, 1301 -
Twentieth Street South, Great Falls, Montana 59405, U.S.A.
(1976)
- HOPKINS, J. J., 100 Ashton Road, Ryde, Cheshire. (1976 Junior)
- JANSSENS, J., Schijfstraat 34, B-2020 Antwerpen, Belgium. (1976 Junior)
- KAY, Dr Q. O. N., Department of Botany, University College, Swansea,
SA2 8PP. (1976)
- KIRBY, E. N., Algrove, Rosebank, Douglas Road, Cork, Irish Republic.
(1975 Junior)
- MANCHESTER, The Librarian, Manchester Museum, The University,
Manchester, M13 9PL. (1976 Institutional)
- MERRY, D. G., Llysdyinam Field Centre, Newbridge on Wye, Llandrindod
Wells, Powys, LD1 6NB. (1976 Junior)
- MUHAMMAD, M. A. Haji, Department of Botany, The University, Glasgow,
G12 8QQ. (1976)
- PETCH, Miss Ann, 49 Nanson Street, Wembley, West Australia 6014.
(1976)
- PRESTON, C. D., Longwood, Parklands, Scruton, Northallerton, Yorks.
(1976 Junior)
- SHAND, R. M., Biology Building, University of Sussex, Falmer, Brighton,
BN1 9QG. (1976 Junior)
- SHEPHERD, Dr G. J., Departamento de Botanica, Universidade Estadual
de Campinas, Campinas, Est. S. Paulo, Brazil. (1975)
- SMITH, A. V., The Thorns, Laneside Riad, Low Leighton, New Mills,
Nr. Stockport, Cheshire, SK12 4LU. (1976)
- SOLLMAN, F., 't Stegeslag 72, Zevenaar, Netherlands. (1976)
- STERN, R. C., 50 Fordwater Gardens, Yapton, Arundel, West Sussex,
BN18 0HU (1976)

STONE, Ilma G., Botany School, University of Melbourne, Parkville,
Victoria 3052, Australia. (1975)
SUIRE, Dr C., Université de Bordeaux I, Laboratoire de Botanique,
Avenue des Facultés, 33405 Talence Cedex, France. (1976)
WATSON, A., Ivy Cottage, Torpenhow, Carlisle, Cumbria. (1976)
YOULTEN, Mrs M.F., 19 Merrick Square, London, SE1 4JB. (1976)

REQUESTS FOR MATERIAL

(a) VARIATION IN THE PHILONOTIS SPECIES

Mr J.H. Field, 34 Wells Green Road, Solihull, West Midlands, B92 7PG,
would be willing to examine and comment on members' gatherings of
Philonotis material in order to extend his studies in the Northern Hemi-
sphere species. Postage would be refunded.

(b) POPULATION GENETICS OF PELLIA SPECIES

Mr R.M. Shand, Biology Building, University of Sussex, Falmer, Brighton,
Sussex, BN1 9QG, is looking for locations of Pellia neesiana and Pellia
endiviifolia throughout the British Isles, but particularly in North Wales
and south-west Ireland. He would be grateful for two plants from any such
locations, with a grid reference, for his work on population genetics. All
postage would be refunded.

(c) BRITISH MATERIAL OF GYMNOSTOMUM CALCAREUM

The late Dr E.F. Warburg noticed that British plants assigned to Gymno-
stomum calcareum fall into two distinct taxa, one being the true calcareum,
the other being apparently undescribed. The latter is clearly a distinct
species and its distribution in the British Isles is now being worked out.
Would members who have material for checking please send it to Mr M.O.
Hill, Institute of Terrestrial Ecology, Penrhos Road, Bangor, Gwynedd,
LL57 2LQ. It will be necessary to revise the vice-county distribution of
G. calcareum, so all material of either taxon will be examined gratefully.

CUMBRIA NATURALISTS' TRUST RESERVES

Dr Edna M. Lind, Chairman of the Reserves Committee of the Cumbria
Naturalists' Trust Ltd., sends the following request (28 February, 1976):

During the coming spring and summer we are hoping to make a thorough
survey of the flora and fauna of our reserves. It occurred to me that some
of your members may be arranging holidays in the Lake District this year
and would be interested in looking at the bryophytes on our reserves. We
have a wide selection of habitats and I would be glad to put anyone in touch
with the manager of any of our reserves. Perhaps those interested would
write to me telling me which part of the area they hope to visit.

Dr E.M. Lind, Brathay View, Clappersgate, Ambleside, LA22 9ND.

A. R. Perry, Hon. Secretary, National Museum of Wales, Cardiff, CF1 3NP