

The British
Bryological Society



REPORT FOR 1932.

VOL. III, PART 1.



Berwick-upon-Tweed :

MARTIN'S PRINTING WORKS, LTD. 64 & 66 WEST STREET

—
1933.

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for 1932.

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54, Fremantle Road, Cotham,
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LIST OF MEMBERS, 1932.

Honorary Members :—

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- Herr Leopold Loeske, Detmolderstrasse, 55/3, Berlin-Wil-
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Ordinary Members :—

- Mr. J. H. Albrecht, Monkswood, Claygate, Surrey.
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- Miss E. J. Chick, 45, Cricklade Avenue, Streatham Hill, London, S.W. 2.
- Miss H. A. Chick, 45, Cricklade Avenue, Streatham Hill, London, S.W. 2.
- Mr. R. S. Chopra, M.Sc., Botany Dept., Punjab University, Lahore, India.
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- Mr. J. W. Hartley, Mill-Head House, Carnforth.
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- Mr. D. A. Jones, M.Sc., A.L.S., 54, Fremantle Road, Cotham, Bristol (6).
- Mr. Iorwerth Jones, B.Sc., Dept. of Agriculture, University College of Wales, Aberystwyth.
- Mr. H. H. Knight, M.A. (Cantab.), The Lodge, All Saints Villas Road, Cheltenham.
- Miss Margaret Knox, 63, Talbot Road, Highgate, London, N.6.
- Dr. Mauno J. Kotilainen, D.Ph., Korkeavuoren, Katu 8, Helsinki (Helsingfors), Finland.
- Dr. Wm. Leach, M.A., Ph.D., Dept. of Botany, The University, Birmingham.
- Mr. J. R. Lee, 96, Finlay Drive, Dennistoun, Glasgow.
- Mr. Johannes Lid, Botanical Museum, Oslo, Norway.
- Rev. D. Lillie, M.A., B.D., North Manse, Watten, Caithness.
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- Miss E. M. Lobley, Nether Knowe, Windmill Hill, Hexham, Northumberland.
- Mr. Percy Long, Glenlea, Carisbrooke Road, Newport, Isle-of-Wight.
- Mr. C. V. B. Marquand, M.A. (Cantab.), F.L.S., Langdale, 46, Hook Rise, Tolworth, Surrey.
- Rev. W. G. M. Martin, B.A., 20, Huntly Road, Elm Park, Liverpool.
- Rev. W. R. Megaw, B.A., M.R.I.A., The Manse, Rosetta, Belfast.
- Mr. R. H. Meldrum, F.L.S., 3, Muirhall Bank, Perth.
- Mr. F. E. Milsom, B.Sc., Glen Lyn, Station Road, Shepley, Huddersfield.
- Dr. Hjalmar Möller, Naturhistoriska Riksmuseum, Stockholm, 50, Sweden.
- Mr. W. E. Nicholson, F.L.S., 50, St. Anne's Crescent, Lewes.
- Miss E. F. Noel, F.L.S., 37, Burnham Court, London, W.2.
- Mr. J. L. N. O'Loughlin, B.A. (Oxon), 21, Corsehll Street, Streatham, London, S.W.16.
- Miss D. Powell, M.Sc., F.L.S., Aldersyde, Reigate, Surrey.
- Prof. J. H. Priestley, D.S.O., B.Sc., F.L.S., The University, Leeds.
- Mr. T. Kenneth Rees, M.Sc., F.L.S., Biological Dept., University College, Swansea.
- Rev. Dr. P. G. M. Rhodes, D.D., M.A. (Cantab.), F.L.S., St. Mary's, Evesham, Worcs.
- Mr. P. W. M. Richards, Trinity College, Cambridge.
- Mr. F. Rilstone, School House, Polperro, S.O., Cornwall.**

- Miss Ida M. Roper, F.L.S., 4, Woodfield Road, Redland,
Bristol.
- Dr. S. P. Rowlands, M.B., B.S. (Lond.), 42a Beckett Road,
Doncaster.
- Mrs. Saunders, St. Ann's, Reigate, Surrey.
- Miss A. Muriel Saunders, St. Ann's, Reigate, Surrey.
- Mr. G. B. Savery, Silverton, Exeter.
- Miss L. I. Scott, M.Sc., Lyddon Hall, Leeds.
- Herr Albert Schumacher, Waldbröl, Rheinland, Germany.
- Mr. W. R. Sherrin, A.L.S., South London Botanical Institute,
323, Norwood Road, London, S.E. 24.
- Dr. A. I. Simey, M.D., Ivy Cottage, Old Tiverton Road,
Exeter.
- Mr. J. R. Simpson, Long View, Eildon Street, Galashiels,
Selkirkshire.
- Miss K. E. Smith, The Quarry, Lutterworth Road, Nuneaton.
- Mr. F. A. Sowter, Ashstead, North Avenue, Leicester.
- Capt. Carl Stenholm, Södra Vägen, 24, Göteborg, Sweden.
- Mr. E. H. Stevens, B.A., Haw House, Rothbury, Morpeth,
Northumberland.
- Miss E. H. Stevenson, B.Sc., Training College, The Close,
Salisbury.
- Miss B. M. Sutton, 7, Woodland Terrace, Chapel Allerton,
Leeds.
- Mr. A. Thompson, 15, Bannercross Drive, Sheffield.
- Mr. Francis W. Thorrington, Sunnymead, Little Baddow,
Chelmsford.
- Mr. W. G. Travis, 9, Barton Road, Liverpool.
- Dr. L. B. C. Trotter, M.D. (Cantab.), Rossway, Ledbury,
Herefordshire.
- Mrs. Trotter, Rossway, Ledbury, Herefordshire.
- Mr. Harry Tully, Newton Hall, Stocksfield-on-Tyne.
- Mr. Arthur Turner, 140, Pine Street, Nelson, Lancashire.
- Colonel A. R. Ugglä, F.L.S., 18, Sturegatan, Stockholm,
Sweden.
- Mr. Fr. Verdoorn, P.O. Box 82, Utrecht, Holland.
- Mr. E. C. Wallace, Springfield, 2, Strathearn Road, Sutton,
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- Herr Johannes Warnstorf, Hohenzollern Strasse, 7/2, Witten-
berge, Potsdam, Brandenburg, Germany.
- Dr. Walter Watson, D. Sc. (Lond.), A.L.S., Taunton School,
Somerset.
- Mr. W. C. R. Watson, Rosedale, 245, Southlands Road,
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Miss M. Weightman, M.Sc., 13, Alexandra Road, Waterloo,
Liverpool.

Mrs. A. White, 140, Station Road, Hendon, N.W.4.

Miss G. Wigglesworth, M.Sc., The Manchester Museum,
Victoria University, Manchester.

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Conway, North Wales.

Miss E. M. Wray, B.Sc., 9, Park View, Beeston Hill, Leeds.

Miss A. Wyndham, Orchard Wyndham, Williton, Somerset.

Mr. William Young, J.P., F.B.S.Ed., Fairview, Kirkcaldy,
Fifeshire.

**MOSSSES AND HEPATICS SENT FOR
DISTRIBUTION, 1932—1933.**

| | | | | <i>True</i> | <i>Hep-</i> | | |
|-------------------------------|------|------|------|----------------|---------------|--------------|--------------|
| | | | | <i>Sphagna</i> | <i>Mosses</i> | <i>atics</i> | <i>Total</i> |
| Mr. J. H. Albrecht | .... | .... | .... | 23 | .... | 23 | |
| Mr. G. H. Allison | .... | .... | 20 | 25 | 9 | 54 | |
| Miss E. Armitage | .... | .... | 18 | 40 | 68 | 126 | |
| Mr. W. Bellerby | .... | .... | 74 | 81 | .... | 155 | |
| Rev. C. H. Binstead | .... | .... | .... | 162 | .... | 162 | |
| Herr A. Boros | .... | .... | .... | .... | 243 | 243 | |
| Monsieur J. Charrier (France) | .... | .... | 48 | 113 | 32 | 193 | |
| Mr. R. S. Chopra | .... | .... | .... | .... | 323 | 323 | |
| Miss C. A. Cooper | .... | .... | .... | 19 | .... | 19 | |
| Mr. H. N. Dixon | .... | .... | .... | 465 | .... | 465 | |
| Mr. J. B. Duncan | .... | .... | .... | 123 | .... | 123 | |
| Mr. G. F. Horsley | .... | .... | 359 | .... | .... | 359 | |
| Mr. D. A. Jones | .... | .... | .... | 119 | 53 | 172 | |
| Mr. H. H. Knight | .... | .... | .... | 22 | 24 | 46 | |
| Mr. J. Lid (Norway) | .... | .... | .... | 207 | 30 | 237 | |
| Miss E. M. Lobley | .... | .... | 62 | 69 | 86 | 217 | |
| Herr L. Loeske (Germany) | .... | .... | .... | 76 | .... | 76 | |
| Mr. W. R. Megaw | .... | .... | .... | 21 | .... | 21 | |
| Mr. F. E. Milsom | .... | .... | .... | 57 | .... | 57 | |
| Dr. Hj. Möller (Sweden) | .... | .... | .... | 159 | .... | 159 | |
| Mr. W. E. Nicholson | .... | .... | .... | 119 | 108 | 227 | |
| Dr. P. G. M. Rhodes | .... | .... | .... | 98 | .... | 98 | |
| Miss A. M. Saunders | .... | .... | .... | 14 | .... | 14 | |
| Herr A. Schumacher (Germany) | .... | .... | 44 | 97 | 167 | 308 | |
| Captain C. Stenholm (Sweden) | .... | .... | .... | 82 | 71 | 153 | |
| Mr. E. H. Stevens | .... | .... | .... | 50 | .... | 50 | |
| Mr. W. G. Travis | .... | .... | 20 | 48 | 13 | 81 | |
| Mr. A. Turner | .... | .... | .... | 34 | .... | 34 | |
| Mr. E. C. Wallace | .... | .... | 10 | 123 | 155 | 288 | |
| Mrs. A. White | .... | .... | .... | 97 | .... | 97 | |
| Mr. A. Wilson | .... | .... | .... | 12 | 12 | 24 | |
| Mr. W. Young | .... | .... | .... | 204 | 117 | 321 | |
| | | | | 655 | 2759 | 1511 | 4925 |

REFEREES.**Mosses :—**

| | | | |
|---|------|------|------------------|
| Sphagnaceae and Harpidia. North American Mosses | .... | .... | Mr. SHERRIN. |
| Andreaeaceae to Grimmiaceae | .... |  | Mr. SAVERY. |
| Tortulaceae to Timmiaceae, except Orthotrichum | .... | .... | Rev. Dr. RHODES. |
| Orthotrichum and Bartramiaceae to Leskeaceae | .... | .... | Mr. JONES. |
| Hypnaceae, except Harpidia | .... |  | Mr. DUNCAN. |
| European Mosses | .... | .... | Mr. NICHOLSON. |
| Non-European (except North American Mosses) and Referee- in-Chief | .... | .... | Mr. DIXON. |

Hepatics :—

| | | | |
|---------------------------------------|------|------|----------------|
| British and European | .... | .... | Mr. KNIGHT. |
| Non-European and Referee-in- Chief | .... | .... | Mr. NICHOLSON. |

REPORT OF SECRETARY.

The Eleventh Annual Report, comprising the first part of Volume III., shows a membership of 118, a slight decrease compared with last year, the highest record.

We regret to announce the loss by death of our valued members, Mr. John Henry Payne and Mr. J. Groves, F.L.S. Obituary notices follow.

A successful and enjoyable annual Meeting and Excursion was held at Minehead, Somerset, last Easter, an account of which is included in the Report. It is to be hoped there will be a good muster at Portinscale, Keswick, during the week ending September 5th. Some members are arranging to meet a week earlier, extending their visit to a fortnight.

Mr. C. V. B. Marquand is to be congratulated on the success of the Norway expedition. A large and interesting collection of bryophytes was gathered by the party as specified in the Report appended.

Much enthusiasm has been shown by members in the interesting Mosses and Hepatics contributed to the Distribution this year. The Society is much indebted to the Distributors, Bibliographer and Referees for their services.

Some items of information may again be repeated this year :—(1) Mr. W. R. Sherrin will be glad of any gifts of bryological books or specimens of Mosses and Hepatics. (2) Dr. L. B. C. Trotter will welcome copies of new papers for the Bibliography. (3) All new Vice-County Records should be sent direct, with specimens for verification during the year, to Mr. J. B. Duncan (Mosses), Mr. A. Wilson (Hepatics), and Mr. W. R. Sherrin (Sphagna and Harpidia).

D. A. JONES.

54, Fremantle Road,

Cotham, Bristol (6). April, 1933.

STATEMENT OF

RECEIPTS.

| | | | | | | |
|---|------|------|------|-----|---|-----------|
| Balance from last Account | .... | .... | .... | £86 | 6 | 8 |
| Subscriptions—1932 | .... | .... | £44 | 10 | 2 | |
| „ Arrears | .... | .... | 1 | 10 | 0 | |
| „ 1933 (paid before due) | .... | .... | 5 | 0 | 0 | |
| Special Donation | .... | .... | 16 | 6 | | |
| | | | | | | 51 16 8 |
| Surplus from Excursion (per Dr. Watson) | .... | .... | 1 | 5 | 0 | |
| Publications sold | .... | .... |  | 5 | 0 | |
| | | | | | | £139 13 4 |

MOSS CENSUS

| | | | | | | |
|-----------------------------------|------|------|----|----|----|----------|
| Sales, 1932—per Mr. W. R. Sherrin | .... | .... | £1 | 2 | 2 | |
| Balance due 31st December, 1932 | .... | .... | 7 | 11 | 3½ | |
| | | | | | | £8 13 5½ |

HEPATIC CENSUS

| | | | | | | |
|-----------------------------------|------|------|----|---|----|-----------|
| Sales, 1932—per Mr. W. R. Sherrin | .... | .... | 10 | 6 | | |
| Balance due 31st December, 1932 | .... | .... | 13 | 7 | 8½ | |
| | | | | | | £13 18 2½ |

BALANCE SHEET

LIABILITIES.

| | | | | | | |
|---|------|------|----|----|----|----------|
| Subscriptions, 1933—paid before due | .... | .... | £5 | 0 | 0 | |
| Distribution costs, 1932-33 (estimated) | .... | .... | 5 | 10 | 0 | |
| Printing Report, 1932 (estimated) | .... | .... | 25 | 10 | 0 | |
| Deficit on Moss Census Catalogue Account | .... | .... | 7 | 11 | 3½ | |
| Deficit on Hepatic Census Catalogue Account | .... | .... | 13 | 7 | 8½ | |
| Balance (excess of Assets over Liabilities) | .... | .... | 41 | 0 | 9 | |
| | | | | | | £97 19 9 |

Examined and found correct—J. Y. ELDER,

Barclays Bank, Berwick-on-Tweed.

13th January, 1933.

and we should be mindful of our gratitude to him and the other referees for their arduous work on behalf of the Society.

From the referees, Mr. Jones and Dr. Rhodes, comes the gratifying news that the plants contributed to their sections are in good condition, have been carefully prepared, and are, apart from a few pardonable errors, correctly named. The Hypnaceae, however, leave a great deal to be desired: several packets had to be destroyed; and in a few instances the poorness of the material necessitated reducing the number of packets by putting the contents of two into one; in other instances the gatherings were so mixed that some of the packets were found to consist wholly of a different plant. There is still a great diversity too in the type and size of packets sent in, and these are often badly folded. We and the referees would recommend the type of packet in which the lateral edges are folded upwards and inwards, instead of downwards and backwards; this method would prevent the contents of the packet gradually filtering through at the ends, which generally happens with the packet at present in vogue.

The distributors are glad to state that more ecological details have been given this year; these data are, of course, highly important for a proper study of our bryophytes.

We also wish to express our thanks to the members who complied with our request to send a detailed list with their contribution; this has greatly enlightened the task of writing the Report Summary, and enables us to give more time to the actual distribution.

J. H. ALBRECHT.

A. M. SAUNDERS.

11th March, 1933.

A large parcel of mosses, containing 108 specimens gathered in New Zealand and 132 gathered in Finland, has just been received from Dr. Kotilainen. We regret that these have arrived too late for distribution this year, as most of the parcels have already been dispatched.

J. H. A.

A. M. S.

April 16th, 1933.

REPORT OF DISTRIBUTORS (Mosses).

The number of *Sphagna* contributed this year is the largest since 1926; but the number of true mosses received has fallen considerably below the level of recent years, and is principally due to the fact that we have received no plants from North America and New Zealand, and partly owing to our members having fewer acceptable plants to offer this time. Our older members are maintaining their contributions with unfailing regularity, and it is to them that our special thanks are due.

We have again received a number of new vice-county records, of which a specimen of each has been deposited in the B.B.S. herbarium. There is still much useful work to be done in this direction, particularly in the confirmation of doubtful and old records.

Among the European mosses there are three interesting *Polytricha*: *P. Jensenii* and *P. hyperboreum* sent in by Dr. Hj. Möller, and a packet of the rare *P. decipiens* received from Herr L. Loeske, which has been placed in the B.B.S. herbarium.

Mr. Dixon has been extremely generous this year, and has sent in many interesting specimens, especially in the genera *Polytrichum*, *Fissidens*, and the critical *Bryum* and *Mnium*. Learning that Mr. Sherrin particularly wanted North American species, Mr. Dixon, who is often pleased to supply the Society with our members' special wants, has contributed a large number of useful specimens for this purpose. He has also sent several uncommon continental species.

Of the Extra-European gatherings the greater part consists of material from the herbarium of the late Dr. Kiaer, collected in South Africa and Madagascar between 1870 and 1880, by the Rev. Martin Borgen, a Swedish Missionary; these were communicated by Mr. J. Lid. Mr. Dixon remarks that this is a very valuable contribution, as many of the specimens are original gatherings. A considerable number of plants from South America have been received from Dr. Hj. Möller.

Naturally the increase in the number of *Sphagna* contributed has entailed additional labour on the part of Mr. Sherrin,

and we should be mindful of our gratitude to him and the other referees for their arduous work on behalf of the Society.

From the referees, Mr. Jones and Dr. Rhodes, comes the gratifying news that the plants contributed to their sections are in good condition, have been carefully prepared, and are, apart from a few pardonable errors, correctly named. The Hypnaceae, however, leave a great deal to be desired : several packets had to be destroyed ; and in a few instances the poorness of the material necessitated reducing the number of packets by putting the contents of two into one ; in other instances the gatherings were so mixed that some of the packets were found to consist wholly of a different plant. There is still a great diversity too in the type and size of packets sent in, and these are often badly folded. We and the referees would recommend the type of packet in which the lateral edges are folded upwards and inwards, instead of downwards and backwards ; this method would prevent the contents of the packet gradually filtering through at the ends, which generally happens with the packet at present in vogue.

The distributors are glad to state that more ecological details have been given this year ; these data are, of course, highly important for a proper study of our bryophytes.

We also wish to express our thanks to the members who complied with our request to send a detailed list with their contribution ; this has greatly enlightened the task of writing the Report Summary, and enables us to give more time to the actual distribution.

J. H. ALBRECHT.

A. M. SAUNDERS.

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J. H. A.

A. M. S.

April 16th, 1933.

REPORT OF DISTRIBUTOR (Hepatics).

The total number of packets sent in for distribution still continues gratifyingly high. 1511 packets have been sent in by 15 members, of which number 836 are from foreign contributors.

There is again a good number of new vice-comital records, among which must be mentioned *Leptoscyphus cuneifolius* from Mull, although even more important is the filling up of gaps in the distribution of commoner species.

Mr. Knight for European species and Mr. Nicholson for the foreign species have once again given their services unsparingly, and the best thanks of the Society are due to them. They report the material sent to them as very generally satisfactory. In addition, Mr. Nicholson reports as follows on the parcel of Indian hepatics sent by Mr. Chopra :—" The collection of exotic hepatics sent by Mr. Chopra from the Himalayas contains a number of very interesting species, including several new genera and species recently described by Prof. S. R. Kashyap. I have not in all cases been able to compare the specimens with authentic material from other sources, but the plants appear to agree with the diagnoses given by Prof. Kashyap or Stephani."

In conclusion a special appeal is made to all contributors to send *full descriptive lists* with their parcels, as mentioned in last year's report of the moss distributors.

F. E. MILSOM.

Shepley,
Huddersfield,
April, 1933.

REPORT OF THE ANNUAL MEETING, 1932.

(Extracted from *The Journal of Botany*, October, 1932.)

THE BRITISH BRYOLOGICAL SOCIETY.

This Society held its Annual Meeting and Excursion at Minehead, Somerset, from March 30th to April 6th, 1932, under the Presidency of Dr. W. Watson—nearly thirty members and friends attending. Considering the early date and the lateness of the season, the weather was favourable, though Monday's drive over Exmoor found the moorland vegetation hidden under snow.

On March 31st a long coach drive served as a Regional Survey of the Exmoor, Blackdown, and Quantock Hills, Wellington, and Taunton, where the President and Mrs. Watson entertained the members to tea. Heavy rain prevented a visit to the *Sphagnetum* at Treborough, but some *Sphagna* were collected on the Blackdowns; the return was made by Broomfield and Bishops' Lydeard. Amongst other plants of interest the Cave Moss (*Schistostega*) was noted and antheridial and archegonial plants of *Tunularia*.

Next day the Quantocks were visited; the oak wood in Hodders Combe contained many mosses fruiting which rarely do so. The return journey was made by Halswey Combe, Crowcombe, and Stogumber, where *Leptodontium gemmascens* was collected on old thatch.

On Saturday, Dunkery Beacon, 1700 ft., was visited, and the rocky vale of the Horner, full of interesting plants. The next day there was a short ramble on the Warren at Minehead to study the Sandhill flora. On Monday a long coach drive led first to Porlock and up the wooded hillside to the moorland, where the county boundary was crossed into Devon. The steep descent of Countisbury Hill ended in Lynmouth. Thence up the narrow valley of the West Lyn, through steep woodland to Watersmeet, where a rich flora of mosses and hepatics was found among the rocks and tumbling waters. The last drive, on April 5th, was by Porlock and Oare to Badgworthy Water, including a walk up the stream (here dividing v.c.'s 4, N. Devon, and 5, S. Somerset) to the Doone Valley.

As nearly all the plants now to be mentioned were collected in v.c. 5, they will not be arranged in localities; some of those from v.c. 4 will be specified; the few new records for the

latter are starred. Among the Sphagna seen were *S. fimbriatum*, *S. rubellum*, *S. quinquefarium* var. *roseum*, *S. teres*, and *S. laricinum* :—

True Mosses : *Tetraphis pellucida*, c. fr. ; *Polytrichum nanum*, *Diphyscium foliosum*, *Cynodontium Bruntoni* (Badgworthy Valley, 4*), *Dicranum majus*, plentifully, with fruit, *D. fuscescens*, *D. Scottianum* (Badgworthy, 4) ; *Fissidens pusillus* ; *Grimmia Doniana*, *G. subsquarrosa* (Watersmeet, 4) ; *Rhacomitrium sudeticum* ; *Tortula Vahlia* (Staplegrove), *Barbula convoluta* var. *Sardoa* ; *Trichostomum tenuirostre*, *flavovirens*, and *nitidum* ; *Cinclidotus fontinaloides* (c. fr. Badgworthy, 4 & 5) ; *Zygodon viridissimus* c. fr. and var. *occidentalis* ; *Ulota crispa* var. *intermedia*, *U. Bruchii*, and *U. phyllantha* ; *Funaria Templetoni* (4) ; *Aulacomnium androgynum* ; *Bryum roseum* (Malmsmead, 4) ; a curious form of *B. pseudotriquetrum* was found on the sand on the Devon side of Badgworthy Water resembling *B. Mildeanum* ; *Fontinalis squamosa* (4 & 5), *Cryphaea heteromalla* ; *Neckera pumila* var. *Phillippeana* ; *Pterygophyllum lucens* c. fr. ; *Hypnum ochraceum* (4 & 5), *H. eugyrium*, and var. *Mackaii* (Watersmeet, 4).

Hepatics : *Aneura sinuata* ; *Fossombronia pusilla* and *Wondraczeki* ; *Lophozia bicrenata*, *incisa*, and *Floerkii* ; *Chiloscyphus polyanthus* var. *fragilis* (4 & 5) ; *Saccogyna viticulosa*, *Cephalozia media*, common on the Somerset side of Exmoor, 4* ; *Odontoschisma Sphagni* ; *Calypogeia fissa* and *arguta* ; *Bazzania trilobata* ; *Ptilidium ciliare* ; *Trichocolea tomentella* (4 & 5) ; *Blepharostoma trichophyllum* (4) ; *Scapania compacta* and *gracilis* ; *Lejeunea cavifolia* and var. *planiuscula* ; *Microlejeunea ulicina* ; *Marchesinia Mackaii* (Lynton, 4) ; *Frullania Tamarisci* var. *robusta* (4 & 5) ; *Anthoceros Husnoti* (5) ; *A. laevis* (4).

The Annual Meeting was held on April 2nd. The President, Dr. Watson, gave a very interesting address on "The Evolutionary Aspects of some Xerophytic Adaptations in the Bryophytes." The usual official business was transacted, and it was proposed to hold the next Meeting in August, 1933, at the English Lakes ; the headquarters will be at Portinscale.

The Society has sustained a heavy loss in the death last year of Mr. A. Sutton, who has for several years carried out the Distribution of the Mosses and the Editing of the Report with conspicuous zeal and efficiency.

ELEONORA ARMITAGE.

REPORT OF THE SUMMER EXCURSION, 1932, NORWAY.

As announced in the last Report of the B.B.S., an excursion to Norway was arranged for July and August, 1932. It was the bi-centenary of Linnaeus' famous Lapland journey, and most of the party travelling overland through Upsala, his University, traversed part of his route. While the "Lapland Express" from Stockholm to Narvik on the Ofotenfjord, waited at Kiruna in Swedish Lapland from 2.0-7.0 a.m., we took the opportunity of exploring a neighbouring hill. The Birch woods were carpeted with *Linnaea borealis* and after passing through hundreds of miles of coniferous forests it was pleasant to roam the moorland on the summit where *Menziesia coerulea* was plentiful with many other plants which we were to see again and again in the North, but in working the bogs below, the dense clouds of mosquitoes were found rather trying. From Narvik a wonderful journey through the Norwegian mountains by road and fjord brought us to Lyngseidet, a small village on the Lyngenfjord, more than 200 miles north of the Arctic Circle. Here a stay of ten days was made, and the northern part of this remarkably wild peninsula was worked intensively. Numerous unmapped glaciers were traversed, and among the mountains ascended were the Goalsevarra (4,232 ft.), Jaegevarra (6,286 ft.), Gjaeventind (4,785 ft.), Stortind (5,620 ft.), and Tramma (4,294 ft.), the latter by hiring a motor boat to Gamvik, an uninhabited cove in the far north of the peninsula. The sun just dipped below the horizon at midnight here at this time of the year but it was never dark. The temperature occasionally rose very high, and a most striking phenomenon was the heat radiated from the rocks, experienced in crossing alternate bands of snow and scree after the sun had left the slopes. Birch woods (*Betula odorata*) ascend the mountain sides for several hundred feet above sea level but rarely exceed a height of 12 feet, and except for a few small willows in the valleys, no other tree occurs on the peninsula. Glacier streams descend rapidly on all sides and one large waterfall was bryologized by the whole party. There was *Cynodontium Jenneri*, *Oreas Mielichhoferi* var. *elongata* and *Lophozia Binsteadii*. The snouts of many of the glaciers are within 1000 feet of sea level and in some places patches of snow were lying in August right down to the

waters of the fjord, under the magnificent precipices of the Lyngen mountains, truly the finest piece of coast in the whole of Europe. On the higher ridges from 3,000-5,000 feet alt., where there is a great deal of loose material, *Gymnomitrium concinnatum* is dominant, but *G. coralloides* occurs abundantly with many of our Arctic-Alpine species of *Marsupella*, *Andreaea* and *Grimmia*; lower down *Chandonanthus setiformis* and its var. *alpinus* occur in great quantities and we were delighted to see the abundance of *Paludella squarrosa* in the bogs. In one large bog near sea level an interesting form of *Splachnum vasculosum* was fruiting abundantly with *Aulacomnium turgidum*.

Herds of reindeer were constantly met with both in Lapland and further south. The "Red snow" (*Sphaerella nivalis*) was seen in many places on the névé in the centre of the Lyngen Peninsula.

A few hours spent on Ulø (an island in Lat. 70° N. Long. 21° E.) enabled us to ascend the Uløtind (4,000 ft. alt.), and to extend the known range of the genus *Riccia* by the discovery of *R. Beyrichiana* at its base, (see note in *Journ. Bot.* in the press).

After a day on the Troldtind on Sjaervø, we embarked on a steamer coming from Vadsø and the North Cape, and went through the Lofoten Islands and Torgätta to Trondhjem, and thence by rail to Kongsvold in the Dovrefjeld. Here we found the rocks in the Driva Valley quite rich in Mosses, but it was the very varied Phanerogamic flora which was the most striking. It was delightful to see plants which are so rare in Britain, such as *Saxifraga cernua*, abundant everywhere. *Saetania caesia* was found in several places, and in the bogs on the mountain sides, *Meesia trichoides* var. *alpina* was fruiting abundantly, with *Paludella squarrosa*, *Catascopium nigritum*, *Splachnum vasculosum* and *Hypnum sarmentosum* fruiting abundantly, while *Conostomum boreale* and *Dicranum molle*, *Hypnum hamulosum* and *H. callichroum* were also seen here. The route to Snehätte (7,500 ft. alt.) where *Andreaea Blyttii* and *Gymnomitrium revolutum* were found, was over several miles of typical reindeer pasture where luxuriant species of *Cladonia* are dominant above the zone of *Betula nana*. From Kongsvold we reached Otta by rail and driving up to Elvesaeter, spent the next two long days walking through the Jotunheim and working the moraines of the glaciers en route, and descending to Fortun at the head of the Sognefjord. A delightful journey by road next day took us to Sogndal and after a further five hours on the fjord we landed at Flåm.

From here there is no motor road up to the railway and the long ascent of some 4,000 feet to Myrdal was made in the dark in a continuous downpour, but we managed to catch the night train to Finse, where a very profitable four days was spent bryologizing the mountains, traversing the glaciers and ascending to the summit of the ice dome of the Hardanger Jokelen (6,500 ft. alt.), with its magnificent view, before returning to England from Bergen on August 26th. *Scapania uliginosa* formed large cushions in a small stream near the railway at Finse and *Dichodontium pellucidum* var. *fagi-montanum* was nearby. Many hundreds of gatherings were made and much still remains to be worked out.

The pleasure of travelling in Norway and Sweden was much augmented by the personal charm of the people with whom we came into contact everywhere.

C. V. B. MARQUAND, M.A., F.L.S.

REPORT ON PLANTS SENT IN BY MEMBERS.

An Asterisk (*) denotes a new Vice-Comital Record.

SPHAGNA.

Sphagnum fimbriatum Wils., var. *validius* Card., Kisdon Force (65), Sept., 1932, G.F.H.; Ellerbeck (62), Sept., 1932, W.B. "This is var. *robustum*," W.R.S.; var. *flavescens* Warnst., Scotton (54), 1932, G.H.A.

S. Girgensohnii Russ., Feldon Burn (66), July, 1932, E.M.L. "This is *S. Russowii* var. *girgensohnioides*. Notice the smaller pores in the stem. In *S. Russowii* they measure only 24 μ ., while in *S. Girgensohnii* they measure about 37 μ ." W.R.S.; near var. *robustum* Warnst., High Force (65), Aug., 1932, G.F.H.; var. *robustum* Warnst., Westburnhope (67*), Aug., 1932, E.M.L.

S. Russowii Warnst., var. *girgensohnioides* Russ., Thimbleby Bank (62), Sept., 1932, G.F.H.; var. *purpurascens* Warnst., Warren Moor, Kildale (62), May, 1932, G.F.H.

S. fuscum v. *Klinggr.*, f. *pallescens-heterocladum* Warnst., Kattenbrunn, Schwarzwald, Aug., 1932, A.Sch.; var. *medium* Warnst., "annähernd, Stengelblätter kräftiger," Kaltenbrunn, Schwarzwald, Aug., 1932, A.Sch.

S. Warnstorffii Russ., var. *purpurascens* Russ., Downholme Moor (65), Aug., 1932, G.F.H.

S. rubellum Wils., var. *viride* Warnst., Pike Hill Moss, (62), Sept., 1932, G.F.H.; var. *flavum* Jensen, Ellerbeck (62), May, 1932, G.F.H.; var. *violascens* Warnst., Boltby Moor (62), Sept., 1932, G.F.H.; var. *purpurascens* Warnst., High Force (65), Aug., 1932, G.F.H.; var. *versicolor* Warnst., Kisdon (65), July, 1932, G.F.H.; var. *sordidum* Warnst., Snilesworth (62), April, 1932, G.F.H.

S. acutifolium Ehrh., var. *viride* Warnst., High Force (65), Aug., 1932, G.F.H.; var. *rubrum* Brid., Kisdon (65), July, 1932, G.F.H.

S. plumulosum Röhl., South Barrule (71), Sept., 1923, J. A. Wheldon, com., W.G.T.; Sandburn Woods (62), June, 1932, W.B.; var. *versicolor* Warnst., Charente Inf., France, June, 1931, J.Ch.; var. *flavo-fuscescens* Warnst., High Force (65),

Aug., 1932, G.F.H. ; var. *ochraceum* Warnst., High Force (65), Aug., 1932, G.F.H.

S. tenerum (Aust.) Warnst., Kildale (62), May, 1932, G.F.H. "I think this plant is better placed under *Sph. acutifolium*, as, although the stem leaves are rather long, the fibrils scarcely reach more than half-way down the leaf, as in the stem leaves of *Sph. tenerum*," W.R.S.

S. molle Sulliv., Wahner Heide, Rheinland, Sept., 1929, A.Sch. "This plant is *S. acutifolium* var. *viride* f. *Schimperi*. *S. molle* has the branch leaves with the reabsorption furrow as in *S. cymbifolium*. The character is best seen in transverse section of the branch leaf. For illustration see "Illustrated Handbook of British Sphagna, page 13." W.R.S.

S. compactum D.C., var. *squarrosus* Russ., Kepwick (62), Aug., 1932, G.F.H. ; var. *subsquarrosus* Warnst., Charente Inf., France, June, 1931, J.Ch. ; Westburnhope (67), Sept., 1932, E.M.L. "Some of the leaves are distinctly squarrose. The plant seems intermediate between the var. *squarrosus* and the var. *subsquarrosus*." W.R.S. ; var. *imbricatum* Warnst., Charente Inf., France, June, 1931, J.Ch.

S. squarrosus Pers., var. *subsquarrosus* Russ., Edmundbyers (66*), July, 1932, E.M.L. ; Burwarton Pools, Salop (40), May, 1932, E.A.

S. riparium Ångst., var. *coryphaeum* near f. *spectabile* Warnst., Cold Crag Reservoir (67), Oct., 1932, G.F.H. and E.M.L., com. G.F.H. and E.M.L. "The variety and form are not at all well-marked," W.R.S.

S. obtusum Warnst., var. *recurviforme* Warnst., "annähernd, teilweise etwas stärker," Dreifelder Weiher, Westerwald, Rheinland, June, 1932, A.Sch.

S. amblyphyllum Russ., var. *macrophyllum* Warnst., Hutton Moor (62), Oct., 1932, G.F.H. ; Sandburn Woods (62), June, 1932, W.B. "This is *S. recurvum* var. *majus*," W.R.S. ; var. *mesophyllum* Warnst., Westburnhope (67*), Sept., 1932, E.M.L.

S. pulchrum Warnst., Manton (54), 1932, G.H.A. ; var. *virescens* Warnst., Hutton Moor (62), Oct., 1932, G.F.H.

S. recurvum Pal. de Beauv., var. *robustum* Breidler, Tarn Hole, Bilsdale (62), July, 1932, G.F.H. ; Kisdon (65), July, 1932, G.F.H.

S. serratum Schlieph., var. *serrulatum* Schlieph., Sandburn Woods (62), June, 1932, W.B.

S. fallax v. Klinggr., near var. *robustum* Warnst., Boltby (62), Sept., 1932, G.F.H.

S. cuspidatum Ehrh., var. *serrulatum* Schlieph., Kisdon (65), July, 1932, G.F.H. ; var. *falcatum* Russ., Kisdon (65), July, 1932, G.F.H. ; Wisley Common (17), Oct., 1931, E.C.W. ; South Barrule (71), Sept., 1923, leg. J. A. Wheldon, W.G.T. "Yes, a very small form. It looks like f. *rigidum*, subf. *pungens*, Warnst.," W.R.S. ; var. *submersum* Schp., Kisdon (65), July, 1932, G.F.H. ; Westburnhope (67*), Sept., 1932, E.M.L.

S. obesum, near var. *teretiramosum* Warnst., Gray's Wood (17), Sept., 1932, E.A.

S. inundatum Russ., Charente Inf., France, June, 1931, J.Ch. ; var. *eurycladum* Sherrin, Edmundbyers (66*), July, 1932, E.M.L. ; var. *ovalifolium* Warnst., Ellerbeck (62), May, 1932, G.F.H. ; var. *diversifolium* Warnst., Warren Moor (62), May, 1932, G.F.H.

S. auriculatum Schp., Charente Inf., France, June, 1931, J.Ch. ; var. *ovatum* Warnst., Ellerbeck (62), May, 1932, G.F.H. ; var. *laxifolium* Warnst., Ellerbeck (62), May, 1932, G.F.H. ; var. *canovirescens* Warnst., Wrawby (54), G.H.A. ; Henley Wood (13), Sept., 1932, E.A.

S. aquatile Warnst., Edmundbyers (66*), July, 1932, E.M.L. ; var. *pallidum* Warnst., High Force (65), Aug., 1932, G.F.H. ; var. *mastigocladum* Warnst., Ellerbeck (62), May, 1932, G.F.H. ; Strensall Common (62), June, 1932, W.B. ; var. *intortum* Warnst., Ellerbeck (62), May, 1932, G.F.H. ; Edmundbyers (66*), July, 1932, E.M.L. ; Eshells Moor (67*), Sept., 1932, E.M.L. "Not at all well-marked," W.R.S. ; var. *sanguinale* Warnst., Snilesworth (62), April, 1932, G.F.H. ; var. *remotum* Warnst., Boltby (62), Sept., 1932, G.F.H.

S. crassicladum Warnst., Charente Inf., France, June, 1931, J.Ch. ; var. *intermedium* Warnst., Westburnhope (67*), June, 1932, E.M.L.

S. bavaricum Warnst., Scotton (54), 1932, G.H.A. "This is *S. amblyphyllum*," W.R.S.

S. imbricatum (Hornsch.) Russ., var. *cristatum* Warnst., Kaltenbrunn, Schwarzwald, Aug., 1932, A.Sch.

S. papillosum var. *normale* Warnst., Kisdon (65), July, 1932, G.F.H. ; Thursley Common (17), July, 1932, E.C.W. ; Scotton (54), 1932, G.H.A. "Both *S. cymbifolium* and *S. papillosum* present, so that the plants are not worth distributing," W.R.S.

S. cymbifolium Ehrh., "with male catkins," Hutton Moor (62), Oct., 1932, G.F.H. ; var. *pallescens* Warnst., Badgworthy Combe (4), April, 1932, E.A., "Two gatherings. One fairly typical ; the other not the var. *pallescens*," W.R.S.

S. medium Limpr., var. *versicolor* Warnst., Kisdon (65), July, 1932, G.F.H.

TRUE MOSSES.

EUROPEAN (British and Continental).

Andreaea alpina Smith, Ben More, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.; Corrie Ceantmor (92), July, 1917, W.Y.; Ben More, Mull (103), July, 1932, J.B.D.

A. nivalis, Hook., Ben Nevis (97), Aug., 1909, S. J. Owen and J. C. Wilson, com. D.A.J.

Tetraphis pellucida Hedw., c. fr., wood near Salen, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.; c. fr., Eridge (14), Oct., 1931, E.C.W.; Lyndhurst (12), Nov., 1931, A.Wh.; Horner's Wood (5), April, 1932, A.Wh.

Catharinea (Atrichum) undulata Web. & Mohr., var. *minor*, c. fr., Virginia Water (17), Feb., 1899, leg. E. F. Shepherd, com. H.N.D.; var. *Haussknechtii*, c. fr., Scale Force, Buttermere (70), Aug., 1895, H.N.D.; var. *tenelliformis*, c. fr., Stren-sall Common (64), Oct., 1888, leg. J. A. Wheldon, com. H.N.D.

C. angustata Brid., var. *rhystophylla* (G.M.) Dixon, Turners Hill (14), Nov., 1908, leg. W.E.N., com. H.N.D.

C. crispa James, Pass of Aberglaslyn (49), Aug., 1931, J.B.D.

Oligotrichum hercynicum Lam., appr. var. *laxum* Braithw., Pass of Aberglaslyn (49), July, 1888, H.N.D.

Polytrichum (Pogonatum) aloides Hedw., near Killin (88), July, 1927, W.Y., "Specimens very poor and hardly worth distributing. I am not sure that they are *P. aloides*." G.B.S.; near var. *minus* c. fr., Kirkfell, Ennerdale (70), July, 1891, H.N.D.

P. urnigerum L., form, "leaves much squarrose-recurved," Aber (49), Jan., 1899, H.N.D.

Polytrichum sexangulare Floerke, Ben Lawers (88), July, 1893, H.N.D.

P. hyperboreum R. Br., reg. alp. in rupibus, 1000 m., Arjep-luog Peljekaisse (Pite lappmark), Sweden, July, 1918, H.M.

P. juniperinum Willd., c. fr., Kingsthorpe Quarries (32), July, 1886, H.N.D.

P. strictum Banks, Lawers (88), June, 1932, E.C.W.; c. fr., Esher Common (17), July, 1932, J.H.A. "I should call this plant *P. juniperinum*. The stems are quite short and robust,

and the leaves are spreading when moist," G.B.S. "I should think on the whole it should be referred to *P. strictum*, though the capsule is rather long, and the white tomentum takes a good deal of looking for," H.N.D.

P. gracile Dicks., c.fr., Hochmoor in Herfeld, Wahner Heide, (Rheinland), Oct., 1929, A. Schr.; c.fr., Holme Fen (31), May, 1887, The Dowager Marchioness of Huntly and H.N.D. com. H.N.D.; Rothersthorpe (32), Jan., 1898, H.N.D.; Naseby (32), April, 1894, H.N.D.—"Catharinea Dixoni," H.N.D.; Northampton (32), April, 1884, H.N.D. "The plant first named *Catharinea Dixoni* by Braithwaite, v. British Moss Flora, Vol. I., Suppl. xc." H.N.D.

P. formosum Hedw., c.fr., Ness (58), July, 1932, W.G.T.

P. decipiens Limpr., schattiger Felsen bei Ginzling, 1000 m., Zillertaler Alpen, Austria, July, 1908, L.L. "A very useful species to have in a representative herbarium," W.E.N.

P. commune L., var. *minus* Weis, c.fr., Esher Common (17), Feb., 1932, J.H.A.; c.fr., Builth (43), July, 1903, H.N.D.; var. *uliginosum* Huebn., Harleston Firs (32), Sept., 1888, H.N.D.; form or var. Hazelbeech (32), Oct., 1888, H.N.D.

P. Jensenii Hagen, in uliginosis, Kvarnberget, Falun (Dalarna), Sweden, Sept., 1913, Hj. M.

Buxbaumia alopecura Brid., Meran (Tirol), April, 1904, Th. Suse, com. Hj. M.

Diphyscium foliosum Mohr., var. *acutifolium* Lindb., c.fr., Lingmell Gill, Wastdale (70), July, 1891, H.N.D.

Archidium alternifolium Schp., Rothbury (68), Aug., 1930, E.H.S.

Pleuridium axillare Lindb., near Salen, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.

P. subulatum Rabenh., Goddesden Row (20), April, 1930, A.Wh.; St. Germain (Vendée) France, March, 1930, J.Ch.

Ditrichum tenuifolium Lindb., St. John's Common, Crowborough (14), Aug., 1918, W.E.N.

D. homomallum Hampe, Crowborough (14), Aug., 1917, W.E.N.

D. zonatum Limpr., Ben More, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.; Ben More, Mull (103*), July, 1932, J.B.D.; var. *scabrifolium* Dixon, Ben More, Mull (103*), July, 1932, J.B.D.; Cwm Dyli (49), Aug., 1931, J.B.D. "I think this plant would be better placed under the type, as the

leaves are practically smooth. Perhaps it should be examined by an expert," G.B.S. "The limits of the variety are very difficult to define; and there is often a good deal of variation in the same tuft. I have seen some leaves here which might well come under the variety, but on the whole I think the plant is better placed under the type," H.N.D.

D. vaginans Hampe, Colin Head (I. 39), 1929, C.A.C.

Swartzia inclinata Ehrh., Morlais Castle Hill (41), June, 1932, A.E. Wade and H.H.K., com. H.H.K.

Seligeria pusilla B. & S., Bellingham (67*), Feb., 1932, H.T. and E.M.L., com. E.M.L.

S. calcarea B. & S., limestone rocks, Belfast Mt. (I. 39), May, 1932, W.R.M.

S. recurvata B. & S., Schönenberg, Bröltal (Rheinland), May, 1932, A.Sch.; Upper Cwm Idwal (49), June, 1910, J. C. Wilson and D.A.J., com. D.A.J.

Rhabdoweisia fugax B. & S., c.fr., Grasmere (69), June, 1932, C.H.B.; Ben nan Lus, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.

Cynodontium polycarpum Schp., Argentières (H. Savoie), July, 1932, W.E.N. "In one packet the fruit is distinctly strumose, showing an approach to *C. strumiferum*," G.B.S.

C. strumiferum De Not., Glenmore Forest (96), July, 1920, H.H.K. and W.E.N., com. W.E.N.

C. Jenneri Stirt., Glen Lochay (88), July, 1923, W.E.N.; Ben Lawers (88), July, 1930, C.H.B.

C. fallax Limpr., rocks in wood, Saas Fée (Valais), July, 1913, H.N.D.

Dichodontium pellucidum Schp., Malyan Spout, Goathland (62), Sept., 1932, W.B.; Barden Mill (67), Oct., 1932, E.M.L.; var. *farimontanum* Brid., Carperby, Wensleydale (65), May, 1931, F.E.M.

D. flavescens Lindb., Warenford (68), Feb., 1931, J.B.D.

Dicranella heteromalla Schp., var., above cascade, Superbagnères, Suchon (Pyrenees), Aug., 1902, W.E.N. and H.N.D., com. H.N.D.

D. cerviculata Schp., c.fr., Esher Common (17), July, 1932, J.H.A.

D. crispa Schp., Sandy Bank, Wartling Hill (14), March, 1899, W.E.N.

D. rufescens Schp., c.fr., Shepley (63), Nov., 1932, F.E.M.; Hexham (67), Sept., 1932, E.M.L.

D. Schreberi Schp., var. *elata* Schp., Edmundbyers (66*), July, 1932, E.M.L.

Campylopus Schimperi Milde, Zaythal, Sulden (Tirol), Aug., 1904, W.E.N. and H.N.D., com. H.N.D.

C. adustus De Not., Val Maggia (Ticino), Aug., 1908, C. Trautmann, com. Hj.M.

C. Schwarzii Schp., Glen Nevis (97), July, 1923, H.H.K. and W.E.N., com. W.E.N.; Twll Du (49), Aug., 1931, E.C.W.; Ben More, Mull (103), July, 1932, J.B.D. "This seems to be correct, but the hyaline leaf point is sometimes quite long. It is such a remarkable form that I think it ought to be examined by an expert," G.B.S. "A very remarkable plant; I thought at first that it must be a form of *C. atrovirens*, although in every respect but the hair-points it is *C. Schwarzii*; the nerve-section however is clearly not that of *C. atrovirens*; there are no true stereids. It must therefore be a form of *C. Schwarzii*, and is fully worthy of a varietal name," H.N.D.

C. flexuosus Brid., c.fr., Rydal (69), June, 1932, C.H.B.; var. *paradoxus* Husn., Warthill, York (61), Oct., 1932, W.B. "This shows some approach to var. *paradoxus*, but it is not well marked and should be placed under the type," G.B.S.; var. *zonatus* Limpr., Borrowdale (70), June, 1932, C.H.B.; Tyn-y-groes (48), J. C. Wilson and D.A.J., com. D.A.J.

C. setifolius Wils., Ben More, Mull (103), July, 1932, J.B.D. and W.Y.

C. Mildei Limpr., Val Maggia (Ticino), July, 1908, C. Trautmann, com Hj. M.; supra Cuasso al Piano, apud Lacum Luganensem (Switzerland), Dec., 1898, C. Trautmann, com. Hj. M.

C. polytrichoides De Not., lande, Bussac (Charente Inférieure) France, June, 1931, J.Ch. "These three plants are all *C. brevipilus* B. & S. The single plant from La Vendée, April, 1931, is correctly named," W.E.N. "Is certainly *C. brevipilus*," H.N.D.

C. brevipilus B. & S., lande, Bussac (Charente) France, June, 1931, J.Ch.

Dicranodontium longirostre B. & S., Tyn-y-groes (48), March, 1910, J. C. Wilson and D.A.J., com. D.A.J.; I. of Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.

D. fulvellum Smith, Ben More, Mull (103), July, 1932, J.B.D. ; idem. W.Y.

D. schisti Lindb., Partille, Göteborg, Sweden, July, 1932, C. St.

D. Starkei W. & M., Ben More, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.

D. Bergeri Bland., Dogden Moss (81), Oct., 1928, J.B.D. ; Ford Moss, Berwick-on-Tweed (68), July, 1929, J.B.D., H.H.K. and D.A.J., com. D.A.J.

D. Bonjeani De Not., var. *rugifolium* Bosw., Askham Bog (62), Sept., 1932, Miss N. Day, com. W.B. ; Bunkle Wood (81), Dec., 1930, J.B.D.

D. scoparium Hedw., var. *spadiceum* Boul., Salen, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y. ; var. *recurvatum* Schimp., Vulpicke, Genkeltal, Aggergebiet (Rheinland), Oct., 1929, A. Sch.

D. Mühlenbeckii B. & S., Val d' Anniviers (Valais), June, 1914, P.G.M.R.

D. fuscescens Turn., Rylstone Fell (64), July, 1932, A.T.

D. elongatum Schleich., Lyngseidet, Tromsø Amt. (Norway), July, 1932 and Aug., 1932. J.B.D. ; Arlberg, Austria, July, 1907, L.L. : rocks on Pointe Tounot, ca. 10,000 ft., Val d'Anniviers (Valais), June, 1914, P.G.M.R.

D. strictum Schleich., châlet roof, Zinal (Valais), July, 1926, P.G.M.R. ; Rothbury (68), Jan., 1929, E.H.S. ; Roslin Glen (83), Nov., 1905, J. M. McAndrew, com. W.Y.

D. viride Lindb., firs, Ischl, Salzkammergut, Austria, Aug., 1908, W.E.N. and H.N.D., com. H.N.D.

D. flagellare Hedw., oak stumps, Park Wood, Ruislip (21), April, 1912, W.E.N.

D. montanum Hedw., rotten stumps, Joux d'Allières, Hauteville (Freiburg), Switzerland, June, 1920, P.G.M.R.

D. asperulum Mitt., wood by Loch Assynt, Inchnadamph (108), July, 1921, H.H.K. and W.E.N., com. W.E.N.

D. Sauteri Schp., on old beech trees, Oytal, 1100 m., Obersdorf, Bavaria, July, 1921, L.L.

D. albicans B. & S., Sulden (Tirol), Aug., 1904, H.N.D. and W.E.N., com. H.N.D. ; Ponte Tounot, Val d'Anniviers (Valais), June, 1914, P.G.M.R.

Leucobryum glaucum Schp., c.fr., Ceunant Llenyrch (48), March, 1910, J. C. Wilson and D.A.J., com. D.A.J.

Fissidens exilis Hedw., Staward-le-peel (67*), Nov., 1932, E.M.L. ; Bedford Purlieus (32), March, 1908, A. B. Jackson and H.N.D., com. H.N.D.

F. viridulus Wahl., Naseby (32), Feb., 1886, H.N.D. ; *f. inconstans*, Silverton (3), Jan., 1908, G.B.S., com. H.N.D. ; near var. *Lylei*, Filching Glen, Eastbourne (14), Jan., 1888, H.N.D.

F. pusillus Wils., Gordale Scar, Malham (64), July, 1896, H.N.D. ; Weldon Quarries (32), April, 1898, H.N.D.

F. bryoides Hedw., *f. inconstans*, Symonds Yat (34), July, 1903, H.N.D. ; Torquay (3), Jan., 1911, C. E. Larter, com. H.N.D. ; Bayworth (23), Jan., to March, 1876, W. Holliday, com. H.N.D. "Probably the original locality ; Bayworth is close to Sunnywell, in the same parish I believe," H.N.D. ; Lenaderg (I. 38), May, 1904, J. H. Davies, com. H.N.D.

F. Curnowii Mitt., Llyfnant Valley (47), July, 1901, H.N.D. ; Morvah (1), Aug., 1886, H.N.D.

F. rivularis Spruce, Fairlight Glen (14), Jan, 1888, H.N.D.

F. rufulus B. & S., rocks on R. Wharfe, Bolton Woods (64), Sept., 1932, F.E.M. ; Bolton (64), July, 1896, H.N.D. ; Lenaderg (I. 38), July, 1903, J. H. Davies, com. H.N.D.

F. osmundoides Hedw., c.fr., Usway Burn (68), Aug., 1932, E.H.S.

F. serrulatus Brid., c.fr., Bussaco, Portugal, May, 1911, H.N.D. and W.E.N., com. W.E.N. ; Penzance (1), Aug., 1886, W. Curnow and H.N.D., com. H.N.D.

F. decipiens De Not., Bellingham (67*), Feb., 1932, H.T. and E.M.L., com. E.M.L. ; Great Doward (36), April, 1932, E.A. ; Near Salen, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y. ; Abington (32), March, 1884, H.N.D.

F. taxifolius, form, Lenaderg (I. 38), May and July, 1904, J. H. Davies, com. H.N.D.

Pachyfissidens grandifrons Brid., in the Rhein, near Ossenheim (Baden), C. W. Baur, com. L.L. ; Superbaguires de Suchon, Pyrenees, July, 1902, H.N.D. and W.E.N., com. H.N.D.

Octodiceras Julianum Brid., gully of canal, Marple (58), Dec., 1912, J. C. Wilson, com. D.A.J. ; Bewdley (37), Sept., 1901, J.B.D., com. H.N.D.

Grimmia apocarpa Hedw., form "leaves without hyaline points," on a wall at Ifall, Saltash (1), Jan., 1933, C. P. Hurst, com. J.B.D. ; var. *alpicola* Hook. & Tayl., River Tweed, Cornhill (68), May, 1932, J.B.D. ; var. *rivularis* W. & M., c.fr., Grasmere (69), June, 1932, C.H.B. ; Mervent (Vendée) France, May, 1931, J.Ch.

G. anodon B. & S., Vineyard walls, La Géronde, Sierre (Valais), July, 1926, P.G.M.R.

G. incurva Schwaeg., Clee Hill (40), May, 1932, H.H.K. and D.A.J., com. D.A.J. ; idem, com. H.H.K. ; boulders 8500 ft., Zaythal, Sulden, Tirol, Aug., 1904, W.E.N. and H.N.D., com. H.N.D.

G. torquata Hornsch., near Killin (88), July, 1927, W.Y.

G. trichophylla Grev., Ben nan Lus, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.

G. Stirtoni Schp., Grasmere (69), June, 1932, C.H.B.

G. decipiens Lindb., Grasmere (69), June, 1932, C.H.B. ; Hir Ynys (48), Aug., 1931, E.C.W.

G. Hartmani Schp., Staward-le-peel (67*), May, 1932, E.M.L.

G. retracta Stirton, Easedale (69), June, 1932, C.H.B. ; Island in Grasmere Lake (69), June, 1932, C.H.B. ; Lochay Falls (88), June, 1932, E.C.W. "I think that this is *G. Hartmani*. The leaves are patent, and, towards the apex of the stems, somewhat secund, never squarrose as in *retracta*. Also, the bright yellowish green colour points to *G. Hartmani*." G.B.S.

G. patens B. & S., Borrowdale (70), June, 1932, C.H.B. ; c.fr., Ben Lawers (88), June, 1932, E.C.W.

G. leucophaea Grev., rocks, Caldas de Monchique, Algarve, Portugal, May, 1911, H.N.D. ; Mervent (Vendée) France, April, 1931, J.Ch.

G. elongata Kaulf., rocks, Cwm Dyli (49), Sept., 1924, H.N.D. ; Cwm Dyli (49), Aug., 1931, W.Y.

G. anomala Hampe, boulders near Glocknerhaus, 9000 ft., Gross Glockner, Austria, Aug., 1904, W.E.N. and H.N.D., com. H.N.D.

G. mollis B. & S., glacial streams, 9500 ft., Madritsch Joch, Sulden, Tirol, Aug., 1904, W.E.N., and H.N.D., com. H.N.D.

Racomitrium ellipticum B. & S., Salen, Isle of Mull (103), July, 1932, J.B.D. ; Ben nan Lus, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.

Rh. aciculare Braun, stones in river bed, Wycollar Colns (59), Sept., 1932, S. Lane, com. A.T.

Rh. protensum Braun, Slieve Doward (I. 38), Aug., 1928, W.Y. ; Loch Brandy, Clova (90), June, 1930, W.Y.

Rh. sudeticum B. & S., Ben More, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y. ; Corrie Clann-mor (92), July, 1917, W.Y.

Rh. ramulosum Lindb., Ben Lawers (88), June, 1932, E.C.W.

Rh. canescens Brid., var. *ericoides* B. & S., Ingleborough (64), Sept., 1931, C.A.C. and F.E.M., com. F.E.M.

Hedwigia ciliata Ehrh., Sölvesborg, Blekinge, Sweden, July, 1931, C.St.

Phascum cuspidatum Schreb., Oldbury (20), April, 1931, A.Wh.

Pottia truncatula Lindb., c.fr., Scratch Wood (20), March, 1930, A.Wh.

P. crinita Wils., c.fr., Penzance (1), Feb., 1931, C.H.B.

P. Bandii Kennedy, an Salzboden, near Belgard (Pomerania), Oct., 1931, coll Hintze, com L.L. "Described in *Rhodora*, Vol. I., p. 78 (1899). Reduced by Holzinger to *Desmatodon cernuus* in "Bryologist," XXVIII (1925), p. 6. This reduction has been generally, but perhaps not universally accepted," H.N.D.

Tortula (Aloina) rigida Kindb., auf Kalk, Lüntenbeck, Elberfeld (Rheinland), Oct., 1928, A.Sch.

T. atrovirens Lindb., Monchamps (Vendée), France, April, 1932, J.Ch.

T. muralis Hedw., var. *rupestris* Schultz, Great Doward (36), April, 1932, E.A.

T. intermedia Berk., Aros Castle, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.

T. ruraliformis Dixon, c.fr., Hayle (1), Feb., 1931, C.H.B. ; Harlech Sandhills (48), J. C. Wilson and D.A.J., com. D.A.J.

Barbula (Didymodon) rubra Jur., rocks by ascent from Kandersteg to Gemmi (Berner Oberland), July, 1923, P.G.M.R. "Poor specimens, remains of a large gathering. Hardly worth distributing, unless specimens specially wanted," P.G.M.R.

D. glaucus Ryan, Mortaraf walls, Baveno, Lago di Maggiore, April, 1932, H.N.D. "Original of *Eucladium verbanum* Nichols. & Dix.," H.N.D.

D. verbanus (Dix. & Nichols.) Culm, on walls above Pianazzo 400-600 m., Bellizona, Aug., 1931, Dr. Fauggli, com. L.L.

B. recurvifolia Schp., var. *robusta* Braithw., Gleniffe, Ben Bulben (I. 28), Sept., 1923, B.B.S., com. D.A.J.

B. Hornschuchiana Schultz, Sandwich (15), Oct., 1929, E.H.S. "Some packets correct, in others chiefly *B. fallax*," P.G.M.R.; c.fr., Menton, S. France, April, 1930, C.H.B.

B. convoluta Hedw., on moist sandy ground, near Spandau, Berlin, June, 1922, L.L.; var. *sardoa* B. & S., Cassiobury (20), April, 1929, A.Wh.

B. paludosa Schleich, St. Wolfgang, Salzkammergut, Austria, Aug., 1908, W.E.N. and H.N.D., com. H.N.D.

B. rufa Jur., summit of the Gaisstein, 2360 m., Mittersill, Austria, Sept., 1927, L.L.

Weisia microstoma C.M., Harlech Sandhills (48), Apr., 1910, J. C. Wilson, and D.A.J., com. D.A.J.

W. tortilis C.M., "poor, sterile," on dry bank, Fownhope Common (36*), Feb., 1932, C.H.B., com. E.A.

W. viridula Hedw., c.fr., Charmouth (9), Mar., 1931, A.Wh.

W. tenuis C.M., Rothbury (67), Sept., 1932, E.H.S.; c.fr., Menton (S. France), April, 1930, C.H.B.

W. rupestris C.M., near Salen, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.

W. curvirostris C.M., Bellingham (67*), Feb., 1932, H.T. and E.M.L., com. E.M.L.; var. *insignis* Dixon, Dalmally (98), June, 1931, C.H.B.; Ben Bulben (I. 28), Sept., 1928, B.B.S., com. D.A.J.; Finlarig Burn, Killin (88), June, 1932, E.C.W. "I suppose correct; but cells slightly papillose. Not so well marked as some specimens," P.G.M.R.; var. *cataractarum* Schpr., Rheinfall bei Schaffhausen, C. M. Lande, com. L.L.

W. verticillata Brid., streamside, Arnside Knot (69), A.T.; St. Michel-au Cheren (Vendée), France, July, 1932, J.Ch.

Trichostomum crispulum Bruch, Bellingham (67*), June, 1932, E.M.L.; Gleniffe (I. 28), Sept., 1928, W.Y.

T. mutabile Bruch, rochers près Gourdin, Mervent (Vendée), France, May, 1931, J.Ch.; near Salen, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.

T. litorale Mitt., on walls above Pianazzo, Bellizona, 500 m., Aug., 1931, Dr. Jäggli, com. L.L. "Loeske has referred to this plant in Boll. Soc. Ticinese Sci. Nat. 1931 (Bryologische Beobachtungen in Tessin). It is doubtfully our "Atlantic"

plant, the leaves are longer and narrower; the basal margin very slightly toothed, sometimes not at all. It is, however, perhaps nearer to that than to *T. mutabile* type.

Loeske credits Limpricht (1904) with pointing out the toothedness of the basal margin as a good character of this plant. It may be noted, however, that this character was emphasized in our English works long before that time," H.N.D.

T. tenuirostre Lindb., Bellingham (67*), Feb., 1932, H.T. and E.M.L., com. E.M.L.; Tyn-y-groes (48), Aug., 1931, C.H.B.; c.fr., boulder in wood, Cauterets, Hautes Pyrénées, Aug., 1902, com. H.N.D.; near Salen, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y. "One packet right; the others are *Diphyscium foliosum* var. *acutifolium*," P.G.M.R.

T. flavovirens Bruch, shore rocks, Portland (9), July, 1929, A.Wh. "As one would expect from the habitat, this is *T. nitidum*," P.G.M.R.

T. (Tortella) inclinatum Dixon, auf Kalkfelsen, Schönenberg, Bröltal (Rheinland), April, 1929, A.Sch.

T. nitidum Schp., Lynton (4), April, 1932, E.C.W.

Dialytrichia mucronata Lindb., Mervent (Vendée), France, May, 1931, J.Ch.

Cinclidotus Brebissoni Husn., bed of mill stream, Prato, Genoa, May, 1924, C. Sbarbaro, com. H.N.D.

C. fontinaloides P. Beauv., Doone Valley (4), April, 1932, A.Wh.

C. riparius Arnott, by running water, Gosau Schmied, Upper Austria, July, 1908, W.E.N. and H.N.D., com. H.N.D.; an Holzstund Steinen, bei der Schwimmschule zu Biebrich a. Rh., June, 1910, Hj. M.

C. aquaticus B. & S., cascade of highly calcareous water, Jaun (Freiburg), Switzerland, June, 1923, P.G.M.R.

Encalypta streptocarpa Hedw., c.fr., limestone, Gorge of R. Felizon, Cortina Valley, N. Italy, July, 1932, H.N.D.; boulders, Mondsee, Salzburg, Austria, July, 1908, H.N.D.

Molendoa Hornschuchiana Lindb., Höfatsgufel, 2000 m., Bavaria, Aug., 1906, L.L.

Zygodon lapponicus B. & S., c.fr., Ben Hard (90), July, 1924, D. R. Robertson, com., W.G.T.

Z. viridissimus R. Brown, Aldenham Reservoir (20), Feb., 1932, A.Wh. "One packet of *Z. conoideus*, two of *Ceratodon purpureus*," P.G.M.R.

Ulota Drummondii Brid., Langton Burn (81), Jan., 1932, J.B.D. ; Harbottle Moors (67), May, 1931, J.B.D. and E.H.S.

U. Bruchii Hornsch., Killin (88), Aug., 1930, A.Wh.

U. Hutchinsiae Hamm., Tyn-y-groes, (48), Aug., 1931, E.C.W.

U. curvifolia Brid., boulders, Möbodol, Hardanger Fjord (Norway), July, 1900, W.E.N. and H.N.D., com. H.N.D.

Orthotrichum rupestre Schleich, rocks by Tyddyn-y-Felin Farmhouse, above Harlech (48), Aug., 1911, J. C. Wilson and D.A.J., com. D.A.J.

O. speciosum Nees., Dals-Ed, Dalsland, Sweden, Aug., 1932, C.St.

O. Lyellii H. & T., Loch Tay side (88), July, 1927, W.Y.

O. affine Schrad., var. *rivale* Wils., ash tree by R. Coquet, Rothbury (67), Oct., 1931, E.H.S. "Probably it belongs to the variety, which is a poor form due to habitat," D.A.J.

O. rivulare Turn., c.fr., Monnington (36), July, 1931, C.H.B.

O. gymnostomum Bruch., Lindome, Halland (Sweden), Aug., 1932, C.St.

O. Sturmii H. & H., rochers, Mervent (Vendée), France, May, 1931, J.Ch. "I should prefer to call this plant *O. rupestre* var. *Sturmii* Jur., as is done in the Handbook," W.E.N.

Schistostega osmundacea Mohr., Colne (59), Oct., 1932, A.T.

Splachnum sphaericum Linn. fil., c.fr., Ben Lawers (88), July, 1930, C.H.B.

Funaria (Entosthodon) fascicularis Schp., St. Germain (Vendée), France, March, 1930, J.Ch.

F. ericetorum Schp., St. Gronant (Vendée), France, April, 1932, J.Ch.

F. hygrometrica Sibth., Harefield (21), April, 1929, A.Wh.

Amblyodon dealbatus P. Beauv., Corrie Ceanwmor (92), July, 1917, W.Y.

Meesia trichodes Spruce, c.fr., Ben Lawers (88), July, 1930, C.H.B. ; Lawers Burn (88), June, 1932, E.C.W. ; Knock Ore Gill, 2400 ft. (69), July, 1932, A.W.

Paludella squarrosa Brid., Lyngseidet, Tromsø Amt, Norway, Aug., 1932, J.B.D. ; bog, Abisko, Tornean Lapland, Aug., 1907, W.E.N. and H.N.D., com. H.N.D.

Aulacomnium palustre Schwaeg., var. *laxifolium* Kindb., Flitwick Marsh (30), Aug., 1887, H.N.D.

A. androgynum Schwaeg., Burwarton (40), May, 1932, E.A.; boggy heath, Sandburn Woods (62), April, 1932, W.B.

Timmia austriaca Hedw., Ben Lawers (88), July, 1899, E.G.S. and W.E.N., com. H.N.D.

T. norvegica Zett., 1200 m., on rocks near the road from Göschenen to Andermatt, Switzerland, Aug., 1929, L.L.

Bartramia Oederi Swartz, Morlais Castle Hill (41*), June, 1932, D.A.J. and H.H.K.

B. Halleriana Hedw., Silverhow (69), June 1932, C.H.B.

Philonotis fontana Brid., var. *adpressa* (Ferg.) L. & M., spring head near summit of Tindle Hill, 1700 ft. (59*), A.T.; Ben More, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.

P. marchica Willd., on moist sandy ground near Buch, Berlin, June, 1905, L.L.

Mielichhoferia nitida Hornsch., var. *elongata* B. & S., rocks above Loch Kander, Glen Callater (92), July, 1930, D.A.J.

Orthodontium gracile Schwaeg., Nant-y-Ffrith (51), Aug., 1913, J. C. Wilson and D.A.J., com. D.A.J.; rocks near Oakdale Farm, Harrowgate (64), April, 1931, E.H.S. "The inflorescence is heteroicous, and the capsule gibbous and irregular as in the var. *heterocarpum* Watson," D.A.J.; Edale (57), July, 1932, A.M.S.

Webera elongata Schwaeg., Ben More, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.

W. annotina Schwaeg., shore of Loch Tay, Killin (88), June, 1932, E.C.W.; var. *erecta* Correns, bank of Glaslyn R., near Minffordd (48), June, 1916, J. C. Wilson and D.A.J., com. D.A.J.

W. gracilis De Not., glacial mud by R. Navigence, Zinal (Valais), July, 1926, P.G.M.R.

W. albicans Schp., Easedale (69), June, 1930, C.H.B.

W. Tozeri Schp., Ecclesbourne (14), Jan., 1888, H.N.D.

Pohlia sphagnicola Lindb., among sphagna, Moor in Grunewald, Berlin, June, 1910, L.L.

Plagiobryum demissum Lindb., c.fr., Craig Chailleach (88), July, 1898, H.N.D.

Bryum (*Anomobryum*) *filiforme* Dicks., Salen, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.; forma, Callander (88), July, 1897, H.N.D.; Menton, S. France, April, 1930, C.H.B. "This is a shorter plant than the type, with narrower leaves. The areolation at the apex of the leaves seems to be narrower and more incrassate, characteristic of the var. *juliforme*," D.A.J. "I should quite agree that this is the var. *juliforme*; the more so, as according to Husnot, the type grows (in France) only in the mountains, while the variety is found on the southern coast," H.N.D.; var. *juliforme* Dixon, Carbis Bay (1), July, 1897, Sir W. R. Gowers, com. H.N.D.; St. Pronant (Vendée) France, April, 1932, J. Ch.; Carbis Bay, (1), May, 1930, W.E.N.

B. pendulum Schp., c.fr., moist hollows in sandhills, Ainsdale (59), May, 1932, W.G.T.; c.fr., Bristol (6), May, 1884, leg. G.H.K. Thwaites, com. Rev. M. J. Berkeley, com. H.N.D.; var. *compactum* c.fr., Widdy Bank (66), June, 1897, W. Ingham, com. H.N.D.

B. Warneum Bland., Cleethorpes (54), Oct., 1932, G.H.A.; Barry (90), Sept., 1886, W. Smith, com. H.N.D.; Haddington (82), July, 1897, H.N.D.

B. Marratii Wils., Southport (59), June, 1874, J. Whitehead, com. H.N.D.

B. lacustre Brid., sandy seashore, Humberston (54), Nov., 1932, G.H.A.

B. mamillatum Lindb., c.fr., (det. Hagen), Hunstanton Links (28), July, 1902, Rev. W. E. Thompson, com. H.N.D.

B. pallens Sw., var. *speciosum* Schp., Ben Lawers (88), June, 1932, J.B.D. and E.C.W., com. E.C.W.; idem com. J.B.D.

B. Duvalii Voit, Ben More, Mull (103), J.B.D. and W.Y., com. W.Y.; in stream, Helvellyn (69), June, 1932, W.R.M.

B. turbinatum Schwaeg., var. *latifolium* B. & S., Stirling (86), July, 1880, leg. G. A. Holt, com. J. Whitehead, com. H.N.D.

B. neodamense Itzigs., c.fr., sandhills, Ainsdale (59), June, 1927, W.G.T.

B. pseudo-triquetrum Schwaeg., appr. var. *compactum* B. & S., Roade (32), Sept., 1897, H.N.D.

B. affine Lindb., var. *cirratum* Braithw., c.fr., Craig Chail-leach (88), July, 1898, C.H.B. and H.N.D., com. H.N.D.

B. intermedium Brid., c.fr., sandhills Ainsdale (59), Sept., 1932, W.G.T.; Haddon Hall (57), Sept., 1909, W.E.N., com. H.N.D.

B. caespiticium L., var. *badium* Brid., c.fr., Arncliffe Wood (64), May, 1897, W. Ingham, com. H.N.D.

B. provinciale Philib., Wells (6), April, 1887, C.H.B., com. H.N.D. ; Gt. Doward (36), July, 1903, H.N.D.

B. capillare L., Great Doward (36) April, 1932, E.A. = No. 1 ; var. *elegans* Braithw., Great Doward (36), Oct., 1932 E.A. = No. 2. "I send two distinct forms of *Bryum capillare* ; one is, I think, a well-marked form of the variety *elegans*, and is new to Herefordshire ; both come from Great Doward Hill. No. 1 is a striking plant in large tumid tufts of vivid green, with brilliantly crimson translucent stems. The dry leaves are scarcely twisted, the border is very narrow, the nerve is excurrent in a short abrupt point. It grows on mossy walls on the East side of Doward. No. 2 is a short, densely tufted form, with brown opaque stems ; the dry leaves in a tight spiral ; a comal tuft ; the leaves strongly bordered, with a longly excurrent nerve. It grows on the ground on the North side of Doward," E.A.

"No. 1 is a form of the type with soft narrower leaves, but is not the var. *flaccidum*. No. 2. I hardly think this small barren plant belongs to the var. *elegans*. It does not agree in the arrangement of the leaves, which in this plant are twisted. It may approach it in the form of some of the leaves ; but these are very variable in the type," D.A.J.

"Two forms. Of the packets I received, No. 1 is a soft form of *B. capillare*, which I should agree with Mr. Jones is not var. *flaccidum*, but which is near it. No. 2 is a form approaching the var. *elegans* quite distinctly, but which could not be placed under the variety," H.N.D.

B. erythrocarpum Schwaeg., Cwm Bychan (48), June, 1916, J. C. Wilson and D.A.J., com. D.A.J. ; var. c.fr., Crowborough (14), June, 1900, W.E.N., com. H.N.D. "*Bryum appendiculatum* Hagen M.S. (though not appendiculate as in that)" Hagen in litt.

B. atropurpureum W. & M., forma, Ben Lawers (88), July, 1893, H.N.D. "B. bicolor" Braithw. in litt. 1893. "Near *B. origanum* Bosw.," H.N.D.

B. alpinum Huds., Canisp (108), July, 1899, H.N.D. ; var. *viride* Husn., Honister Pass (70), Aug., 1895, H.G.J. and H.N.D., com. H.N.D. ; var. *meridionale* Schp., Land's End (1), July, 1886, H.N.D.

B. gemmiparum De Not., rocks by Lake of Geneva, St. Saphorin (Vaud), Dec., 1921, P.G.M.R.

B. Mühlhenbeckii B. & S., Ben More, Mull (103*), July, 1932, J.B.D. and W.Y., com. W.Y.; idem, J.B.D.

B. argenteum L., var. *lanatum* B. & S., Hexham (67*), June, 1931, E.M.L.

B. septemvasale Roth, on basalt, 250 m., am Ramsberg, bei Laubach (Hessen) Germany, April, 1906 (and other dates), Hj. M. "Mönkemeyer considers this a xerophite form of *B. capillare*; probably on account of the spirally twisted leaves. I cannot accept this view, on the following grounds: the leaves are strongly decurrent; the apex is always more or less acuminate; the nerve is rather wider than narrower in the upper part of the leaf, not thin as in *B. capillare*. It would also be very slender for that species.

The leaf form and structure is much more like that of *B. pseudo-triquetrum*. I have nothing in my herbarium exactly corresponding to it, but I have several forms of *B. pseudo-triquetrum* with the leaves decidedly torquescent; No. 223, M. Acrocarpi Bor.-Amer., Holzinger, *B. pseudo-triquetrum compactum* Sch., comes somewhat near it.

I should call it *B. pseudo-triquetrum* var. *septemvasale* (Roth.) comb. nov.," H.N.D.

B. (Rhodobryum) roseum Schreb., Watersmeet (4), April, 1932, E.C.W.

Mnium affine Bland, Foxhall (32), Aug., 1892, H.N.D.; var. *elatum* B. & S., Rydal (69), June, 1932, C.H.B.; Grinds Brook, Edale (57), July, 1932, A.M.S.; var. *rugicum* B. & S., Grasmere (69), June, 1932, W.R.M. "The leaves are larger and more spinose than in the var. *rugicum*. It agrees better with the var. *elatum*." D.A.J.; Ben Odhar (88), July, 1897, C.H.B. and H.N.D., com. H.N.D.

Mn. cuspidatum Hedw., c.fr., Nantymor near Beddgelert (49), April, 1916, J. C. Wilson, com. D.A.J.; Blackdown (9*), May, 1931, E.C.W.

Mn. rostratum Schrad., Harlech (48), May, 1917, J. C. Wilson and D.A.J., com. D.A.J.; Callander (88), July, 1897, H.N.D.

Mn. undulatum L., c.fr., Culbone (5), April, 1932, E.C.W.

Mn. hornum L., paludal form, Ben Voirlich (88), July, 1897, H.N.D.; f. *fol. homomallis*, Ben Hope (108), July, 1897, H.N.D.

Mn. serratum Schrad., forma, Ben Ledi (88), July, 1897, H.N.D.; Lord's Wood (36), July, 1903, H.N.D. "Series from a fairly good type, fruiting to a form = *Mn. riparium* in leaf characters and habit," H.N.D.

Mn. lycopodioides Schwaeg., Ben Lawers (88), July, 1893, (teste Philibert), H.N.D.

Mn. riparium Mitt., Cuckfield (13), April, 1899, W.E.N., com. H.N.D.; Eardisley (36), May, 1897, C.H.B., com. H.N.D.

Mn. spinosum Schwaeg., Ben Lawers (88), June, 1932, E.C.W.

Mn. stellare Reich, Hurstwood (59), April, 1932, A.T.

Mn. cinclidioides Huebn., Grasmere (69), June, 1932, C.H.B.

Mn. punctatum L., Rydal (69), June, 1932, C.H.B.; forma, Grwyne Fawr (42), Aug., 1903, C.H.B. and H.N.D., com. H.N.D.; var. *elatum* Schp., Ben More (108), July, 1899, W.E.N. and H.N.D., com. H.N.D. "Hardly distinguishable in leaves from *Mn. subglobosum*; but W.E.N. found the inflorescence to be dioicous," H.N.D.; Ben More, Mull (103), July, 1932, W.Y. "It is mixed with *Bryum pseudo-triquetrum*," D.A.J.; Ben More, Mull (103*), July, 1932, J.B.D.

Mn. subglobosum B. & S., Hexham (67*), June, 1931, E.M.L.; Edlingham (68), Aug., 1930, E.H.S.; wet boulder clay, Thursden, near Burnley (59), May, 1932, A.T.

Fontinalis antipyretica L., var. *cymbifolia* Nicholson, Lathkill Dale (57), June, 1932, F.E.M. "A very fine and well developed form of the variety," D.A.J.

F. squamosa L., Hebden Bridge (63), Sept., 1932, A.T.; Simonsbath (5), April, 1932, A.Wh.; Cader Idris (49), July, 1901, H.N.D. "Very flaccid when moist; leaves markedly seriate, especially when moist," H.N.D.

F. dalecarlica B. & S., Lindome, Halland, Sweden, July, 1932, C.St. "The fruiting characters on which this species is founded are chiefly (a) perichaetial leaves more or less acute, over-topping the lid; (b) outer teeth remotely barred as compared with *F. squamosa*; (c) inner peristome anastomosing only near the apex.

In this plant the only perichaetium in good condition shows the leaves obtuse, and shorter than the peristome. The outer teeth are closely barred. The inner anastomes at the apex and so far as I have seen very little below. But this might possibly be due to wear and tear. I think it is certainly *F. squamosa*," H.N.D.

Neckera crispa Hedw., c.fr., deep gorge near Loch na Keal, Mull (103), July, 1932, J.B.D. and W.Y. com. W.Y.; var. *falcata* Boul., Killhope Law (66*), Aug., 1932, E.M.L.

N. pumila Hedw., Moreton (9), May, 1931, E.C.W.; Holford near Minehead (6), 1932, C.A.C.

N. complanata Huebn., Rydal (69), June, 1932, C.H.B.; c.fr., Totnes (3), June, 1907, J. C. Wilson, com. D.A.J.

Homalia trichomanoides B. & S., Ruinenberg Windeck, Siegtal, (Rheinland), Dec., 1928, A.Sch.

Hookeria laete-virens Hook. & Tayl., Mousehole Cave (1), June, 1930, W.E.N.

Pterygophyllum lucens Brid., Hodders Combe, 1932, c.fr., A.Wh.

Distichophyllum carinatum Dix. & Nich., Moist rocks creeping among other mosses, Zinkenthal, near the lake of St. Wolfgang, Salzkammergut, Austria, alt. 700 m., Aug., 1908, H.N.D. and W.E.N., com. H.N.D.

Leucodon sciuroides Schwaeg., var. *morensis* B. & S., Craig Chailleach, Killin (88), Aug., 1904, J. C. Wilson and D.A.J., com. D.A.J.

Pterogonium gracile Swartz. (*Pt. ornithopodioides* Lindb.), rochers près Gourdin, Mervent (Vendée), May, 1931, J.Ch.

Antitrichia curtispindula Brid., Grasmere (69), June, 1932, C.H.B.; Ben Lawers (88), 1927, C.A.C.

Porotrichum alopecurum Mitt., f. *aquaticum*, Ceunant Llenyrch (48), July, 1901, D.A.J. and H.N.D., com. H.N.D.

Pterigynandrum filiforme Hedw., Cam Craig, Tyndrum (88), July, 1900, W.Y.

Heterocladium heteropterum B. & S., Carnbo (85), July, 1905, W.Y.; var. *fallax* Milde, Horner Wood (5), April, 1932, A.Wh.; near Porlock (5), April, 1932, E.C.W.

H. dimorphum B. & S., road to Ayer, Val d'Anniviers, (Valais), July, 1912, P.G.M.R.

Pseudoleskea atrovirens B. & S., Ben Lawers (88), July, 1930, C.H.B.

Ps. striata Dixon, (*Lescuraea striata* B. & S.), root of shrubs, at 1680 m., near Gruyères (Freiburg), Switzerland, June, 1922, P.G.M.R.

Platygyrium repens Brid., an liegenden Eichenstämmen, Büchel, Bröltal (Rheinland), May, 1931, A.Sch.

Thuidium abietinum B. & S., Whittington (33), Dec., 1913, D.A.J., com. E.C.W.

Th. hystricosum Mitt., Boxhill (17), 1931, A.Wh. ; chalk downs near Reigate (17), April, 1908, W.E.N.

Th. recognitum Lindb., c.fr., Vernet les Bains, France, April, 1931, C.H.B.

Th. Philiberti Limpr., Boxhill (17), April, 1931, E.C.W. ; var. *pseudo-tamariscinum*, Craig Chailleach (88), July, 1893, H.N.D.

Climacium dendroides Web. & Mohr., South Medwin (77), Aug., 1932, A.Wh.

Myurium Hebridarum Schp., rocks near Arisaig Pier (97), Aug., 1929, D.P. and A.M.S., com. A.M.S.

Orthothecium intricatum B. & S., Killhope Law (66), Aug., 1932, E.M.L.

Camptothecium lutescens B. & S., c.fr., Fownhope (36), Feb., 1932, C.H.B. ; c.fr., Amberley (13), March, 1932, E.C.W.

C. nitens Schp., Lyngseidet, Tromsö Amt, Norway, Aug., 1932, J.B.D.

C. laetum Brid., Habelstein, Rhöngebirge, April, 1869, G. A. Schede, com. Hj. M. ; Berchtesgaden, Bavaria, Sept., 1895, Th. Suse, com. Hj. M., five specimens. "The largest specimen consists almost wholly of *Leucodon sciuroides* (L.) Schwgr. The other four are a slender form of *Brachythecium laetum* B. & S.," W.E.N.

Brachythecium plicatum B. & S., rocks at 1230 m., Pont de Nant (Vaud), May, 1920, P.G.M.R.

B. rivulare B. & S., Ben More, Mull (103), J.B.D. and W.Y., com. W.Y.

B. glaciale B. & S., Ben Lawers (88), July, 1893, H.N.D. " *B. glaciale* probably," H.N.D. "I have seen this plant several times on Ben Lawers, and have always called it *B. Starkei*. Years ago I submitted a specimen to Mr. Dixon, and he considered it a straggling form, which he thought should be referred to this species. It may be that it is one of these forms which is difficult, if not impossible, to refer to *B. glaciale*, rather than to *B. Starkei*," J.B.D. "The *Brachythecium* is, as Mr. Duncan suggests, one of the difficult Ben Lawers forms. It is, however, certainly *B. glaciale* rather than *B. Starkei*, and I think it may fairly certainly be referred to var. *laxum* Moenk. Moenkemeyer's remarks (Laubm. Europas, p. 818)

on these forms are of value, although I cannot substantiate his reliance on a strongly recurved basal margin in *B. glaciale* as a marked distinction from *B. Starkei*," H.N.D.

B. plumosum B. & S., damp stones, Simonsbath (5), April, 1932, A.Wh.

B. caespitosum Dixon, Reigate Hill (17), May, 1932, E.C.W. "The leaves are too obtuse for *B. caespitosum*, which also has more slender branches. Fruits are present. I should call it *Eurhynchium murale*, var. *julaceum* B. & S.," J.B.D.

Hycomium flagellare B. & S., Tyndrum (88), Aug., 1929, W.Y.; Edmundbyers (66), July, 1932, E.M.L.

Cirriphyllum Vaucheri (B. & S.) Loeske & Fleisch., calcareous rocks, Sefinen-Lütschine, Berner Oberland, July, 1913, P.G.M.R.

Eurhynchium cirrosum Jur., rocks in wood at 2520 m., Stillwasserwald, Jaun (Freiburg) Switzerland), June, 1923, P.G.M.R.

E. crassinervium B. & S., c.fr., Fownhope (36), Feb., 1932, C.H.B.

E. praelongum Hobk., dune form, moist hollows in sand dunes, Formby (59), May, 1908, J. A. Wheldon, com., W.G.T.; var. *Stokesii* Brid., Watersmeet (4), April, 1932, E.C.W.; near Salen, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.

E. Swartzii Hobk., Isle of Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.; Horton Station (32), April, 1898, H.N.D. "Form with the leaves close, concave, more or less plicate when dry; the U.S. *hians* form," H.N.D.; Gt. Billing (32), March, 1897, H.N.D.; unter Gebüsch, Rüdersdorfer Kalkberge, Berlin, May, 1926, L.L.; var. *rigidum* Boul., rocks by Lee Burn, Pauperhaugh (67), May, 1931, E.H.S.

E. Teesdalei Schp., Hexham (67*), Feb., 1932, E.M.L.

E. myosuroides Schp., Horner Wood (5), April, 1932, A.Wh.

E. (Isothecium) myurum Dixon, Rochers près Gourdin, Mervent (Vendée), France, May, 1931, J.Ch.; Tyn-y-groes (48), Aug., 1910, J. C. Wilson and D.A.J., com. D.A.J. "Large form; see Handbook," D.A.J.

E. striatum B. & S., near Salen, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.

E. rusciforme Milde, var. *cataractarum* Amm., under spray of Malyon Spout, Goathland (62), Sept., 1932, W.B. "I have no specimen or description of this variety. Possibly it would go as well under var. *inundatum* B. Eur.," J.B.D.

E. murale Milde, West Allendale (67), July, 1932, com. E.M.L. ; Epping Forest (18), Nov., 1931, A.Wh.

E. confertum Milde, near Salen, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.

E. megapolitanum Milde, Chesil Beach (9), May, 1931, E.C.W.

Sematophyllum micans Braithw., Borrowdale (70), June, 1932, C.H.B.

Plagiothecium elegans Sull., c.fr., Eridge Rocks (14), March, 1927, H.H.K. and W.E.N., com. W.E.N.

P. pulchellum B. & S., c.fr., Borrowdale (70), June, 1932, C.H.B.

P. silvaticum B. & S., Mervent (Vendée), May, 1931, J. Ch.

P. Roseanum (Hampe) Br. Eur., f. *flagellaceum* Warnst., Stora torf, Örgryte, Göteborg, Sweden, May, 1931, C.St. "Is var. *gracile* Breidl.," W.E.N. "Very different from the typical form, but the concave leaves, rapidly cuspidate, with the short nerve, are in favour of *P. Roseanum*. Is var. *gracile* Breidl. (see Limpricht)," H.N.D.

Amblystegium serpens B. & S., var. *salinum* Carr., sandhills, Minehead Warren, (5), April, 1932, E.A.

A. Juratzkanum Schp., c.fr., Pontrilas (36), July, 1932, C.H.B. "Cannot, I think, be *A. Juratzkanum*. The nerve is strong and continued well into the acumen ; cells firm and short ; margin entire. I would rather call it *A. varium* Lindb.," J.B.D.

A. irriguum B. & S., on stones in spring, Sudeley (33), May, 1932, H.H.K.

A. fluviatile B. & S., Angered, Göteborg, Sweden, Aug., 1932, C.St. ; Rydal (69), June, 1932, C.H.B.

A. filicinum De Not., Pitts Deep (11), May, 1931, A.Wh. ; c.fr., Mordiford (36), May, 1932, C.H.B. ; var. *Whiteheadii* Wheld., sandhills, Birkdale (59), Sept., 1932, W.G.T.

Hypnum polygamum Schp., Theddlethorpe (54), Spring, 1932, G.H.A.

H. stellatum Schreb., var. *protensum* Roehl., limestone Quarry, Huddleston (64), Feb., 1932, W.B. ; wet limestone rocks, Horton in Ribblesdale (64), Sept., 1932, A.T.

H. aduncum Hedw., group typicum, Ainsdale (59), July, 1924, J. A. Wheldon, com. W.G.T. ; Aug., 1929, A.Wh. ; var. *polycarpon* Bland, Theddlethorpe (54), 1932, G.H.A. ; var. *gracilescens* Schp., and not var. *falcatum* (fide H.N.D.), Portmadoc (49), June, 1916, D.A.J.

H. fluitans L., var. *gracile* Boul., Strensall (62), June, 1931, W.B. ; var. *Robertsiae* Ren., Manton (54), 1932, G.H.A.

H. vernicosum Lindb., Doubs, France, July, 1930, V. Madiot, com. J.Ch. ; Grasmere (69), June, 1932, C.H.B.

H. revolvens Swartz, Bisley (17), July, 1932, E.C.W. ; near form *Cossoni* Ren., Lizard Down (1), May, 1930, W.E.N. "Yes, this plant was so named by W. Moenkemeyer and reported on in the B.B.S. Report Vol. II., part 4, p. 270." W.R.S. ; var. *intermedium* Lindb., Widniksberg, Skåne, Sweden, July, 1931, C.St. ; Sallbachhügel, Wahner Heide (Rheinland), Oct., 1931, A.Sch. "This is *Drepanocladus revolvens* formâ *Cossoni*," W.R.S.

H. falcatum Brid., var. *gracilescens* Schp., Birkdale (59), Aug., 1924, J. A. Wheldon, com. W.G.T.

H. fastigiatum Hartm., rocks near Chandolin (Valais), July, 1914, P.G.M.R.

H. cupressiforme L., var. *filiforme* Brid., near Salen, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y. ; East Dean (13), Aug., 1932, E.C.W. ; var. *ericetorum* B. & S., near Salen, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y. ; var. *tectorum* Brid., Leet, Mold (51), Aug., 1914, J. C. Wilson and D.A.J., com. D.A.J. ; Great Doward (36), April, 1932, E.A. ; near Salen, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y. ; on stone gate pier, Thorp, R. Hood's Bay (62), Sept., 1932, W.B. "Not at all a good example of this variety, but perhaps as near to it as to any other described form," J.B.D. ; var. *elatum* B. & S., Eglwyseg Rocks, Llangollen (50), Aug., 1924, H.H.K. and D.A.J., com. D.A.J. ; Minehead Warren (5), April, 1932, E.A. "Not var *elatum*. I would rather call it var. *tectorum*," J.B.D. ; var. "resembling *H. imponens* ; leaves distinctly denticulate," Gray's Wood (17), Sept., 1932, E.A. "Stem and branches flattened and subcomplanate. It may be called var. *ericetorum*," J.B.D.

H. imponens Hedw., Östad, Västergötland, Sweden, July, 1932, C.St. ; bog, Berwick-on-Tweed (68), July, 1929, J.B.D., H.H.K. and D.A.J., com. D.A.J.

H. pratense Koch, Birkenwälder, Teufelsmoor, Berlin, May, 1926, L.L.

H. revolutum Lindb., summit of Pointe Tounot, ca. 10,000 ft., Val d'Anniviers (Valais), June, 1914, P.G.M.R.; Riffel Alp, Zermatt (Valais), July, 1901, W.E.N.; Ben Lawers (88), June, 1932, E.C.W. (See note).

H. hamulosum B. & S., Craig Chailleach (88), July, 1898, W.Y.; Meall na Saone (88), July, 1906, W.Y.

H. callichroum Brid., mountainous rocks, Briel, Moy (96), Aug., 1932, A.Wh.

H. molluscum Hedw., c.fr., Fownhope, Feb., 1932, C.H.B.; var. *condensatum* Schp., Llanbedr (48), March, 1910, J. C. Wilson and D.A.J., com. D.A.J.; Borrowdale (70), June, 1932, C.H.B., "A rather robust form of the var. *condensatum* I should say," H.N.D.; var. *robustum* Boul., ledges, Cwm Idwal (49), June, 1910, D.A.J. New to Wales.

H. crista-castrensis De Not., Dals-Ed, Dalsland, Sweden, July, 1932, C.St.

H. palustre Huds., near Salen, Mull (103), July, 1932, J.B.D. and W.Y., com. W.Y.

H. arcticum Sommerf., Am Binnein (88), July, 1903, W.Y.; Carie, Lawers (88), June, 1932, E.C.W.

H. eugyrium Schp., near Loch na Keal, Mull (103), July, 1932, W.Y.; Watersmeet (4), April, 1932, A.Wh. "I have found just a trace of *H. eugyrium*; the fruiting plant is *Brachythecium plumosum* B. & S.," J.B.D.

H. ochraceum Turn., Lindome, Halland, Sweden, Aug., 1932, C.St.; var. *flaccidum* Milde, Woodhead (57), March, 1907, J. C. Wilson, com. D.A.J.

H. scorpioides L., Ivetofta, Skåne, Sweden, July, 1931, C.St.; New Forest (11), May, 1931, A.Wh.; Grasmere (69), June, 1932, C.H.B.; Wiesenmoor, Kalkar, Eifel (Rheinland), June, 1932, A.Sch.

H. trifarium W. & M., Chailleach Range, Killin (88), Aug., 1909, J. C. Wilson and D.A.J., com. D.A.J.; Coire Fionn Lairige (88), June, 1932, E.C.W.

H. turgescens Schp., Ben Lawers (88), Aug., 1909, J. C. Wilson, H.H.K., J.B.D. and D.A.J., com. D.A.J.

H. cordifolium Hedw., Strensall Common (62), Aug., 1931, W.B.

H. sarmentosum Wahl., Grasmere (69), June, 1932, C.H.B.

H. Schreberi Willd., Råda, Göteborg, Sweden, May, 1932, C.St.

Hylocomium brevirostre B. & S., Bellingham (67*), Feb., 1932, H.T. and E.M.L., com. E.M.L.

H. loreum B. & S., Hodders Combe (5), April, 1932, A.Wh.

H. squarrosum B. & S., var. *calvescens* Hobkirk, Llanbedr (48), June, 1909, J. C. Wilson and D.A.J., com. D.A.J.

NOTES.

HYPNUM REVOLUTUM VAR. *DOLOMITICUM*
MOENK., ON BEN LAWERS.

When collecting with me on Ben Lawers in June, 1932, a Hypnum was gathered by Mr. E. C. Wallace which, on examination, was found to resemble *H. revolutum*, but was softer and more slender than the typical form of that species. On submitting a specimen to Mr. Dixon, he reports :—" Though the habit is not that of *H. revolutum* nor are the leaves plicate, I think there is no doubt that this is the plant which was described as *H. dolomiticum* Milde, and which Moenkemeyer treats as a var. of *H. revolutum*. I have several continental specimens of this, and one or two of them match the Lawers plant exactly. They vary somewhat in habit. I think it is safe to refer this plant to *H. revolutum* var. *dolomiticum* (Milde) Moenk. Moenkemeyer is so far as I know the only one to treat it as a var. and I do not know how far the view is accepted. I believe he is right. It is a very interesting find."

H. revolutum from Ben Lawers, coll. Jameson, 1890, Mr. Dixon says is certainly the type, while that coll. Monington, 1899 is less robust and has non-plicate leaves, is near the var. and perhaps nearer to it than type.

Moenkemeyer characterises the var. as follows :—" Somewhat weaker than the normal form. Leaves gradually lanceolate longly and finely pointed, channelled out in the acumen, slightly plicate."

J. B. D.

SPLACHNACEÆ AND BUXBAUMIACEÆ.

The following appeal has been received. Perhaps someone of our members may be able to assist.

Dr. P. Arens, Sophialaar 25, Hilversum, Holland, would be very pleased to receive fresh plants or living spores from Splachnaceae and Buxbaumiaceae.—Especially desired are species of *Tayloria*.—They are used for really important research in pure culture.

D. A. J.

NON-EUROPEAN (Including specimens of European species from Countries outside Europe).

Arranged according to Brotherus, in Engler und Prantl.
("Pflanzenfamilien, Ed. 2.").

Fissidens ferrugineus C. Müll., Antanararivo, Madagascar, March, 1877, Martin Borgen, com. J.L.

F. Borgenii Hampe, det. Author, Umpumulo, Natal, 1867, Martin Borgen, com. J.L.

Conomitrium Dillenii (La Pyl.) Mont., Chile aust., April, 1897, P. Dusen, com. Hj.M. "This is a synonym of *Fissidens julianus*. Cf. my note in Trans. Roy. Soc. S. Afr., VIII., pp. 188, 189," H.N.D.

Dicranella Borgeniana (Hampe) Jaeg., Umpumulo, Natal, March, 1867, Martin Borgen, com., J.L.

Campylopus fibrobasis Dus., in rupibus litoreis, Patagonia occ., April, 1897, P. Dusen, com. Hj.M.

C. introflexus (Hedw.) Mitt., in terrâ, Chile, Aug., 1896, P. Dusen, com. Hj. M. "There are two S. American gatherings. The Porto Alegre plant is one of the usual forms; but the plant from Prov. Colchaque (Chile) is not at all typical, a very low form with short, not divaricate arista," H.N.D.

C. brachyphyllulus (C. Müll.) Mitt., in saxis, Paraná, P. Dusen, com. Hj. M.

D. concolor Brid., Serra do Hatiaia, P. Dusén, com. Hj.M. "This cannot be *C. concolor*, which has, inter alia, large reddish auricles, while here there are none. I do not venture to name it," H.N.D.

Dicranum scopareolum C. Müll., det. Author, Ankaratra, 1880, and Alamazantra, July, 1882, both in Madagascar, Martin Borgen, com. J.L. "I have expressed the opinion (Journ. of Bot., 1916, p. 35) that this cannot be separated from *D. Billardieri* (Schwaegr.) Par. Thériot shares this view, but retains it as a variety (var. *scopareolum* (C.M.) Thér.)," H.N.D.

Leucoloma Rutenbergii C. Müll., Alamazantra, Madagascar, July, 1882, Martin Borgen, com. J.L.

Leucobryum madagassum Besch., det. F. Kiaer, Ankaratra, Madagascar, 1879, Martin Borgen, com. J.L.

Barbula flagellaris Schimp., in terrâ, Patagonia, Feb., 1897, P. Dusén, com. Hj. M. "Thériot in Bull. Soc. bot. Genève, XVII (1925), p. 252, has shown that (a) this is a *Tortula* rather than a *Barbula*, and (b) it is identical with the widely distributed *T. pilifera* Hook.," H.N.D.

Brachymenium Borgenianum Hampe, Madagascar, 1870, Martin Borgen, com. J.L.

B. rugosum (C.M.) Jaeg., Hattiaia, Brazil, May, 1902, P. Dusén, com. Hj.M. "The correct name is *B. suberimitum* Par.; *B. rugosum* is a name already in use for a Nilghiri species," H.N.D.

B. Philanstule (Hampe), Mt. Elgon, Kamasa, Brit. E. Africa, Aug., 1920, G. Lindblom, det. Brotherus, com. Hj. M.

B. bimum Schreb., det. Brotherus, S. Patagonia, Jan., 1905, P. Dusén, com. Hj.M.

B. densifolium Brid., in terrâ, Paraná, Feb., 1909, P. Dusén, com. Hj.M.

B. Lechleri C. Müll., Chile, May, 1897, P. Dusén, com. Hj.M. "I believe this to be identical with *B. leptothecium* Tayl.," H.N.D.

B. leucophyllum D.M., 3000 m., in cacumine Pangeranzi, Java, det. Brotherus, leg. Hj.M.

B. (Pseudobryum) macrosporum Broth. nov-sp., S. Patagonia, March, 1905, P. Dusén, com. Hj.M.

B. Philonotula Hampe, det. C. Müller, Antananarivo, Madagascar, March, 1897, Martin Borgen, com. J.L. "Brachymenium Philonotula (Hampe) Broth., is the accepted name," H.N.D.

B. subargenteum Hampe, Madagascar, 1875, Martin Borgen, com. J.L. "Brotherus and Cardot reduce this to *B. argenteum*," H.N.D.

B. turbinatum (Hedw.) Schwaeg., det. Brotherus, ad rivulum, S. Patagonia, Dec., 1904, and Jan., 1905, P. Dusén, com. Hj.M.

Braithwaitea sulcata (Hook.) Lindb., Queensland, Australia, Bailey No. 114, com. J. Lid.

Philonotis sparsifolia (Hampe), Besch., Madagascar, 1875, Martin Borgen, com. J.L.

Breutelia arundinifolia (Dub.), Pangeranzo, 3000 m., Java, July, 1897, det. Brotherus, leg. Hj.M.

Schlotheimia Grevilleana Mitt., on bark, from Knysna, Cape Colony, com. W.G.T.

Forsstroemia Borgenii (C. Müll.) Par., Ankaratra, Madagascar, 1897, Martin Borgen, com. J.L. "The correct name for this is *Trachyphyllum Borgenii* (C.M.), Broth." H.N.D.

Trachypodopsis serrulata (Palis.) Fleischer, Ankaratra, May, 1877, Martin Borgen, com. J.L. "This should be considered the correct name; *Trachypus serrulatus* the synonym," H.N.D.

Porotrichum madagassum Kiaer, det. Author, Ankaratra, Madagascar, 1880, Martin Borgen, com. J.L. "Reduced by Cardot to *P. pennae-frondeum* C.M.," H.N.D.

Pseudoleskea subfilimentosa Kiaer, det. Author, Ankaratra, Madagascar, 1879, Martin Borgen, com. J.L. "Now placed in *Rauia*, as *R. subfilamentosa* (Kiaer) Broth.," H.N.D.

Brachythecium atrotheca (Duby) Besch., Alamazantra, Madagascar, July, 1882, Martin Borgen, com. J.L. "Considered by Cardot to be the same as *B. Borgenii* (Hampe) Jaeg.," H.N.D.

Entodon Rutenbergii C. Müll., det. Author, Ankaratra, Madagascar, May, 1877, Martin Borgen, com. J.L. "On this cf. Cardot, *Mousses de Madagascar*, p. 389," H.N.D.

Acanthocladium Rutenbergii (C. Müll.) Broth., Ankaratra, Madagascar, 1877, Martin Borgen, com. J.L.

Ectropothecium nano-crista-castrensis (C. Müll.) Kindb., Madagascar, 1875, Martin Borgen, com. J.L. "An unpublished name. Cardot reduced it to *E. regulare* (Brid.) Jaeg.," H.N.D.

Cupressina afro-cupressiformis C. Müll., Madagascar, 1876, Martin Borgen, com. J.L. "An unpublished name. It is reduced to *Hypnum cupressiforme* by Cardot and others," H.N.D.

To this summary must be added 150 North American species, which were specially contributed by Mr. H. N. Dixon for Mr. W. R. Sherrin.

HEPATICS.

EUROPEAN (British and Continental).

Tesselina pyramidata (Raddi.) Dum., Farnos, Hungary, May, 1932, A.B.

Riccia Frostii Aust., Budapest, Hungary, Aug., 1931, A.B.

R. fluitans L., Bramley (17), Aug., 1932, E.C.W.; Burgh Heath (17), Aug., 1932, E.C.W.

Reboulia hemisphaerica (L.) Raddi., Szilice, Hungary, Sept., 1929, A.B.; Vendée, France, May, 1931, J.C.

Conocephalum conicum (L.) Dum., Parad, Hungary, July, 1931, A.B.

Lunularia cruciata (L.) Dum., Durham Cathedral (66*), Sept., 1932, E.M.L.

Marchantia polymorpha L., forma *alpestris* Nees, Cam Chreag (88), June, 1932, E.C.W.

Grimaldia fragrans (Balb.) Corda., Pilisszanto, Hungary, June, 1932, A.B.

Aneura pinguis (L.) Dum., Bisley Common (17), July, 1932, E.C.W.

A. sinuata (Dicks.) Dum., Mull (103*), July, 1932, J.B.D. and W.Y.

A. palmata (Hedw.) Dum., Salen, Mull (103*), July, 1932, J.B.D. and W.Y.

Metzgeria furcata (L.) Dum., Portland (9), May, 1931, E.C.W.; Parad, Hungary, July, 1930, A.B.

M. conjugata Lindb., Cwm Glas Mawr (49), Aug., 1931, E.C.W.; Szadelo, Hungary, Oct., 1929, A.B.; Manfa, Hungary, Sept., 1929, A.B.; Mull, (103) July, 1932, J.B.D. and W.Y.

M. hamata Lindb., Ceunant Llenyrch (48), June, 1917, J.C.W. and D.A.J., com. D.A.J.

M. pubescens (Schrank.) Raddi., Nant-y-Ffrith (50), Aug., 1913, J.C.W. and D.A.J., com. D.A.J.; West Allendale (67), July, 1932, E.M.L.; Szilvasvarad, Hungary, May, 1931, A.B.; Parad, Hungary, June, 1931, A.B.

Moerckia Flotowiana (Nees) Schiffn., sandhills, Ainsdale (59), Sept., 1932, W.G.T.

Pellia Fabbronica Raddi., Edmundbyers (66*), July, 1932, E.M.L. ; Ide Hill (16), Jan., 1931, E.C.W. ; Dunaharaszti, Hungary, Aug., 1932, A.B.

Fossombronia Crozalsii Corb., Lizard (1), Apr., 1931, W.E.N. ; also, May, 1931, W.E.N., H.H.K., D.A.J., com. D.A.J.

Gymnomitrium concinnatum (Lightf.) Corda., Ben More, Mull (103), July, 1932, J.B.D. and W.Y.

G. obtusum (Lightf.) Pears., Cwm Dyli (49), Aug., 1931, E.C.W.

G. crenulatum Gottsche, Ben-nan-Lus, Mull (103), July, 1932, J.B.D. and W.Y.

Marsupella condensata (Ångst.) Kaal., Ben Lawers (88), July, 1932, E.C.W.

M. Funckii (W. et M.) Dum., Salen, Mull (103), July, 1932, J.B.D. and W.Y.

M. emarginata (Ehrh.) Dum., Ben More, Mull (103), July, 1932, J.B.D. and W.Y.

M. Pearsoni Schiffn., Upper Cwm Idwal (49), June, 1911, W.H.P., J.C.W., D.A.J., com. D.A.J.

M. aquatica (Lindb.) Schiffn., Ben More, Mull (103), July, 1932, J.B.D. and W.Y.

Alicularia compressa (Hook.) Nees, Vastergotland, Sweden, Lerun, 1932, C.S. ; Allendale Common (67), June, 1932, E.M.L. ; Mull (103*), July, 1932, J.B.D. and W.Y.

Aplozia sphaerocarpa (Hook.) Dum., Edmundbyers (66*), July, 1932, E.M.L.

A. cordifolia (Hook.) Dum., Allendale Common (67*), June, 1932, E.M.L.

A. lanceolata (Schrad.) Dum., Ardingly Rocks (14), June, 1913, W.E.N. ; Dalsland, Sweden, Ed., 1932, C.S. ; Isztimer, Hungary, May, 1932, A.B. "This is *Jamesoniella autumnalis*," H.H.K.

Jamesoniella autumnalis (D.C.) Steph., Göteborg, Sweden, Rådn, 1931, C.S.

J. Carringtoni (Balf.) Schiffn., Ben Nevis (97), Aug., 1909, S.J.O. and J.C.W., com. D.A.J.

Gymnocolea inflata (Huds.) Dum., Mull (103), July, 1932, J.B.D. and W.Y. "This is *Sphenolobus minutus* growing with the lichen *Racodium rupestre*. One would not expect this lichen to be associated with the *Gymnocolea*," H.H.K.

Lophozia badensis (Gottsche) Schiffn., Great Doward (36), April, 1932, E.A. ; Birkdale (59), Sept., 1932, W.G.T.

L. Mülleri (Nees) Dum., Bellingham (67*), Aug., 1932, E.M.L.

L. heterocolpa (Thed.) Howe, rocks by Finlarig Burn, Killin (88), July, 1923, H.H.K. and W.E.N.

L. quinquedentata (Huds.) Cogn., Minehead (5), April., 1932, E.C.W. ; Parad, Hungary, June, 1931, A.B. ; Mull (103), July, 1932, J.B.D. and W.Y.

L. lycopodioides (Wallr.) Cogn., Ben Lawers (88), June, 1932, E.C.W.

L. Floerkii (Web. et Mohr.) Schiffn., Dunkery Beacon (5), April., 1932, E.C.W. ; Ben More, Mull (103), July, 1932, J.B.D. and W.Y. ; Nyslter in Fliring, Norway, Sept., 1931, J.L.

L. attenuata (Mort.) Dum., Edmundbyers (66*), July, 1932, E.M.L.

L. barbata (Schmid.) Dum., Carie, nr. Lawers (88), June, 1932, E.C.W. ; Lillafüred, Hungary, June, 1932, A.B.

L. quadriloba (Lindb.) Evans, Creag-an-Lochain (88), June, 1932, E.C.W.

L. decolorans (Limpr.) St., glacier moraine, Argentières, Hte. Savoie, France, July, 1932, H.H.K. and W.E.N.

Sphenobolus saxicolus (Schrad.) Steph., Västergötland, Sweden, Angered, 1932, C.S.

Plagiochila asplenoides (L.) Dum., Omassa, Hungary, June, 1932, A.B. ; var. *major* Nees, forma *subintegerrima* Schiffn., Watersmeet (4), April, 1932, E.A. ; var. *minor* Lindenb., Crag Lough (67*), July, 1931, E.M.L. ; var. *minor* Lindenb., forma *laxa* Matouschek, Bloreng Mountain (35*), May, 1932, E.A.

P. spinulosa (Dicks.) Dum., Bellingham (67), Feb., 1932, E.M.L. ; var. *inermis* Carr., Lynmouth (4), April, 1932, E.A. "This seems to be a very untypical plant ; small, dull in colour, and less spinous. Would it go under the var. *inermis* ?" E.A. "This I should call a depauperate form, and not the var. *inermis*. In the Handbook, p. 227, Macvicar remarks that these depauperate forms 'have frequently deformed leaves sometimes bilobed or with the margin entire,' " H.H.K.

P. punctata Tayl., Mull (103), July, 1932, J.B.D. and W.Y.

Leptoscyphus Taylori (Hook.) Mitt., Cwm Bychan (48), Aug., 1914, J.C.W. and D.A.J., com. D.A.J.; Llyn Cwm Bychan (48), Aug., 1931, E.C.W.

L. cuneifolius (Hook.) Mitt., Mull (103*), July, 1932, J.B.D. and W.Y.

Lophocolea cuspidata (Nees) Limpr., Köszeg, Hungary, Sept., 1930, A.B.

L. heterophylla (Schrad.) Dum., Parad, Hungary, June, 1931, A.B.

L. fragrans Moris. et de Not., hedge bank, Lyme Regis (9), Nov., 1925, W.E.N.

L. minor Nees. Diosjeno, Hungary, May, 1931, A.B.; Kiralyhuza, Hungary, May, 1931, A.B.; Manfa, Hungary, Sept., 1929, A.B.; Verleskorma, Hungary, April, 1932, A.B. "This is *Lophozia Mülleri*," H.H.K.

Chiloscyphus polyanthus (L.) Corda, Parad, Hungary, July, 1930, A.B.; var. *fragilis* Roth, Mull (103*), July, 1932, J.B.D. and W.Y.; almost submerged by stream, Badgworthy Water (4), April, 1932, E.A. "The cells of these specimens seem to be small for the var. *fragilis*, more approaching those of var. *rivularis*," E.A. "This is *C. polyanthus* type, and not one of the varieties. The habitat and size of the leaf cells are right for the type. The var. *fragilis* grows in springs and wet grassy ground," H.H.K.

Saccogyna viticulosa (Sm.) Dum., Lynmouth (4), April, 1932, E.A.

Cephalozia media Lindb., Mull (103), July, 1932, J.B.D. and W.Y.

C. macrostachya Kaal., Dalsland, Sweden, Ed., 1932, C.S. "These specimens have a very different appearance from those sent in by Herr Schumacher from the Rheinland last year. They are undoubtedly *Cephalozia macrostachya* on account of the long androecium which as Mr. Nicholson says, is one of the chief characters of the species. In the Rheinland specimens, these androecia were quite absent. Mr. Nicholson remarks that the plant when growing on drier ground as is the case of these Swedish specimens is apt to approach *C. catenulata* if it does not merge into it," H.H.K.

Nowellia curvifolia (Dicks.) Mitt., Mull (103), July, 1932, J.B.D. and W.Y.

Cephaloziella Hampeana (Nees) Schiffn., Vendée, France, May, 1931, J.C. "This is *C. Starkei*," H.H.K.

C. myriantha (Lindb.) Schiffn., growing with *Campylopus pyriformis* in heather field, near Moreton-in-the-Marsh (33), Sept., 1932, H.H.K.

C. Massalongi (Spr.) K. Mull., Carbis Bay (1), Nov., 1919, W.E.N.

Pleuroclada albescens (Hook.) Spruce, Ben Nevis (97), Aug., 1909, S.J.O. and J.C.W., com. D.A.J.

Odontoschisma Sphagni (Dicks.) Dum., Salen, Mull (103), July, 1932, J.B.D. and W.Y.; Manton (54), 1932, G.H.A. "Four of these specimens are correct. In the other I can only find *Diplophyllum albicans* and *Lophozia attenuata* (54*) The latter is not recorded for either division of the county of Lincoln," H.H.K.

Adelanthus dugortiensis Douin et Lett, Slievemore, Achill Island (I. 27), July, 1925, W.E.N.

Calypogeia Trichomanis (L.) Corda, Hatzendorf, Hungary, June, 1929, A.B.

Bazzania trilobata (L.) Gray, Bellingham (67), Feb., 1932, E.M.L.; Västergötland, Sweden, Lerum, 1931; Köszeg, Hungary, May, 1924, A.B.

B. tricrenata (Wahl.) Pears., near Pont-y-Pant, Lledr Valley (49), Nov., 1932, A.W.; Meall-nan-Tarmachan (88), June, 1932, E.C.W.

B. triangularis (Lindb.) Pears., Mull (103), July, 1932, J.B.D. and W.Y.

Lepidozia pinnata (Hook.) Dum., Slievemore, Achill Island (I. 27), July, 1925, W.E.N.; Slievemore (I. 27), Aug., 1911, J.C.W., S.J.O., J.B.D., D.A.J., com. D.A.J.; var. *minor* Macv., Wark-on-Tyne (67), April, 1932, E.M.L.

L. reptans (L.) Dum., c.fr., Mary Knowl Valley (36), May, 1932, E.A.; Hatzendorf, Hungary, June, 1929, A.B.; var. *julacea* Nees, Mary Knowl Valley (36), May, 1932, E.A.; Hartwood near Hindhead (17*), Sept., 1932, E.A.

L. Pearsoni Spruce, Mull (103), July, 1932, J.B.D. and W.Y.

L. setacea (Web.) Mitt., Mull (103), July, 1932, J.B.D. and W.Y.

Anthelia julacea (L.) Dum., Ben-nan-Lus, Mull (103), July, 1932, J.B.D. and W.Y.

A. Juratzkana (Limpr.) Trevis, Ben More, Mull (103), July, 1932, J.B.D. and W.Y. "This may be correct, but I saw no perianths or inflorescence," H.H.K.

Herberta adunca (Dicks.) Gray, Glen Nevis (97), July, 1925, H.H.K. and W.E.N.; Creag-na-Cailleach (88), June, 1932, E.C.W.; "slender form" Ben Lawers (88), June, 1932, E.C.W.

H. Hutchinsiae (Gottsche) Evans, Twll Du (49), Aug., 1931, E.C.W.; Mull (103), July, 1932, J.B.D. and W.Y.

Mastigophora Woodsii (Hook.) Nees, Mangerton Mt. (I.1), July, 1925, W.E.N.

Ptilidium ciliare (L.) Hampe, near summit of Ben Nevis (97), Aug., 1908, S.J.O. and J.C.W., com. D.A.J.

Trichocolea tomentella (Ehrh.) Dum., Watersmeet (4), April, 1932, E.A.; Henley Wood (13), Sept., 1932, E.A.; Gleichenberg, Hungary, Sept., 1923, A.B.

Diplophyllum obtusifolium (Hook.) Dum., Västergötland, Sweden, Björkatorp, 1932, C.S.

Scapania compacta (Roth) Dum., Göteborg, Sweden, Partille, 1931, C.S.; Vendée, France, May, 1932, J.C.

S. subalpina (Nees) Dum., Staward-le-peel (67), May, 1932, E.M.L.

S. cuspiduligera (Nees) K. Mull., Bloreng Mt. (35), April, 1932, H.H.K. and E.A.

S. gracilis (Lindb.) Kaal., Lynton (4), April, 1932, E.C.W.

S. aspera Bernet, Porham (13), March, 1932, E.C.W.; Csobanka, Hungary, May, 1929, A.B.

S. nemorosa (L.) Dum., Hatzendorf, Hungary, July, 1929, A.B.; Loch-na-Keal, Mull (103), July, 1932, J.B.D. and W.Y.

S. nimbosa Tayl., Glen Nevis (97), June, 1909, W.E.N.

S. ornithopodioides (With.) Pears., Clogwyn (49), Aug., 1912, J.C.W. and D.A.J., com. D.A.J.

S. dentata Dum., Västergötland, Sweden, Angered, 1932, C.S.; var. *speciosa* Nees, Cwm Dyli, Snowdon (49), Aug., 1931, E.C.W.

S. intermedia (Husnt.) Pears., Staward-le-peel (67*), Nov., 1932, E.M.L. "Not a very satisfactory species. I found some stems quite characteristic, while others were more like *S. dentata* or *S. undulata*," H.H.K.

S. undulata (L.) Dum., Manton (54), 1932, G.H.A.; Ben More, Mull (103), July, 1932, J.B.D. and W.Y.

S. paludosa K. Mull., var. *aquatica* Schiffn., var. nov., submerged in old slate quarry, Moelwyn Bach, Croesor (48), June, 1912, D.A.J. "See Report. Previously distributed as *S. obliqua* (with smaller cells), teste Schiffner." D.A.J.

S. irrigua (Nees) Dum., Hexhamshire (67), Sept., 1932, E.M.L.

Radula aquilegia Tayl., Salen, Mull (103), July, 1932, J.B.D. and W.Y.

R. voluta Tayl., Lodore Falls (70), July, 1919, W.E.N.

Pleurozia purpurea (Lightf.) Lindb., Slievemore, Achill Island (I. 27), Aug., 1909, J.C.W. and D.A.J., com. D.A.J.; Salen, Mull (103), July, 1932, J.B.D. and W.Y.

Madotheca laevigata (Schrad.) Dum., Staward-le-peel (67*), May, 1932, E.M.L.; Lochan-na-Lairige (88), June, 1932, E.C.W.; Parad, Hungary, June, 1931, A.B.; var. *obscura* Nees, rocks, Bonithon Plantation (1), May, 1932, W.E.N.; var. *Thuja* Nees, Boxhill (17), Feb., 1928, E.C.W.

M. Thuja (Dicks.) Dum., Lizard (1), Nov., 1924, W.E.N.

M. platyphylla (L.) Dum., Korseg, Hungary, Sept., 1930, A.B.

M. Cordeana (Hüben.) Dum., on wall, Dendle's Wood, near Cornwood (3*), May, 1932, H.H.K.; Nant-y-Ffrith (50), Jan., 1925, D.A.J.; West Allendale (67), July, 1932, E.M.L.

M. Porella (Dicks.) Nees, Artro Valley (48), Aug., 1909, J.C.W. and D.A.J., com. D.A.J.

Cololejeunea calcarea (Lib.) Schiffn., Morlais Castle Hill (41*), June, 1932, D.A.J. and H.H.K.

Lejeunea cavifolia (Ehrh.) Lindb., Hexham (67*), Feb., 1932, E.M.L.; Simonsbath (5), April, 1932, E.C.W.; Parad, Hungary, June, 1931, A.B.

L. patens Lindb., Salen, Mull (103), July, 1932, J.B.D. and W.Y. "Mr. Nicholson agrees with me that this is *L. cavifolia*, though the underleaves are rather smaller than usual," H.H.K.

L. Macvicari Pears., Bonithon Plantation (1), May, 1931, W.E.N.

Microlejeunea ulicina (Tayl.) Evans, Henley Wood (13), Sept., 1932, E.A.

Marchesinia Mackaii (Hook.) Gray., Mull (103), July, 1932, J.B.D. and W.Y.

Jubula Hutchinsiae (Hook.) Dum., Torc Waterfall (I. 2), June, 1925, W.E.N.

Frullania germana Tayl., Salen, Mull (103), July, 1932, J.B.D. and W.Y. "This is *F. Tamarisci* with the usual line of enlarged cells in the leaves," H.H.K.

F. Tamarisci (L.) Dum., Parad, Hungary, June, 1931, A.B.; Vendée, France, May, 1931, J.C.; var. *robusta* Lindb. rocks, Ystradffin (49), June, 1929, H.H.K., J.B.D., D.A.J., com. D.A.J.

F. fragilifolia Tayl., Staward-le-peel (67*), May, 1932, E.M.L.

F. dilatata (L.) Dum., Boxhill (17), May, 1929, E.C.W.

Anthoceros laevis L., Vendée, France, May, 1931, J.C.

DESCRIPTION.

788. *Scapania paludosa* K. Müll. Var. Nov. *aquatica* Schiffn. England: Merioneth, N. Wales, submerged in an old slate quarry, Moelwyn Bach, Croesor ca. 600 m., June, 1912, legit. D. A. Jones.

A very noteworthy aquatic form. Forms large pale green rather intricate tufts which are obviously free floating. The stems are weak, only brown underneath, very elongate (10-20 c.m.), and often with elongate adventive shoots, the more robust up to 7 mm. wide.

Leaves very soft with entire margin and weakly folded commissure, which is sometimes *slightly winged, not dense*, on the more slender shoots, smaller, distant and with little or no folded commissure (keel). *Cells*, thin-walled and remarkably small (usually only half so large as in *S. undulata* and *S. uliginosa*). Of perianths I found only fragments (do they belong to it?); they are long in the mouth, very weakly toothed and their keel very weakly folded. Through the very small cells this aquatic form is especially remarkable.

From var. *natans* (No. 787) its habit is very distinct through the very elongate, weak (not rigid) stem, lower leaves blackish-red, the very lax leafage and the very small cells. Perhaps a species!

Hep. Eur. Exs. (Schiffner).

**NON-EUROPEAN (Including specimens of European
species from Countries outside Europe.)**

Riccia robusta Kash., Lahore, India, 700 ft., March, 1930, R.S.C. "These plants agree well enough with the description of *Riccia robusta* given by Prof. Kashyap in his "Liverworts of the Western Himalayas and the Punjab Plain," but neither in his description nor in the plants themselves can I see anything to distinguish them from *Riccia crystallina* L. The spores agree well with those of British specimens of *R. crystallina* with which I have compared them, and *R. crystallina* is known to have a wide distribution in Asia," W.E.N.

Sewardiella tubifera Kash., Mussoorie, India, Sept., 1930, R.S.C.

Targionia hypophylla L., Sahasardhara, Mussoorie, India, 3000 ft., Aug., 1930, R.S.C.

Reboulia hemisphaerica (L.) Raddi., Mussoorie, India, 6/7000 ft., Sept., 1930, R.S.C.

Dumortiera hirsuta R. Bl. et Nees, Mussoorie, India, 6/7000 ft., Sept., 1930, R.S.C.

Marchantia palmata Nees, Lahore, India, 700 ft., March, 1931, R.S.C.

M. nepalensis L. et L., Mussoorie, India, 6/7000 ft., Sept., 1930, R.S.C.

Plagiochasma articulatum Kash., Sahasardhara, Mussoorie, India, 3000 ft., Aug., 1930, R.S.C.

P. appendiculatum L. et L., Mussoorie, India, 6/7000 ft., Sept., 1930, R.S.C.

Fimbriaria pathankalensis Kash., Jawalamukhi, India, 4/5000 ft., March, 1931, leg. D. Dyal, com. R.S.C.

F. mussuriensis Kash., Mussoorie, India, 6/7000 ft., Sept., 1930, R.S.C.

F. Blumeana Nees, Mussoorie, India, 6/7000 ft., Sept., 1930, R.S.C.

Grimaldia dichotoma Raddi (= *G. indica* Steph.), Lahore, India, 700 ft., March, 1930, R.S.C.

Metzgeria pubescens Raddi, Dalhousie—Chamba road, India, 6/7000 ft., July, 1928, R.S.C.

Pellia Fabbroniana Raddi (= *P. calycina* (Tayl.) Nees), Mussoorie, India, 6/7000 ft., Sept., 1930, R.S.C.

Stephensiella brevipedunculata Kash., Mussoorie, India, 6/7000 ft., Sept., 1930, R.S.C.

Cyathodium tuberosum Kash., Mussoorie, India, 6/7000 ft., Sept., 1930, R.S.C.

Plagiochila dendroides (Nees) Lindb., Iras Valley, Pahang, Malay Peninsula, 3800 ft., March, 1921, leg. R. E. Holttum, com. W.E.N.

Mastigophora dichados (Brid.) Nees, G. Blumut, Perak, Malay Peninsula, 3000 ft., May, 1923, leg. R. E. Holttum, com. W.E.N.

Pleurozia gigantea (Web.) Lindb., G. Blumut, Perak, Malay Peninsula, 3000 ft., May, 1923, leg. R. E. Holttum, com. W.E.N.

Madotheca plumosa Mitt., Mussoorie, India, 6/7000 ft., Sept., 1930, R.S.C.

M. campylophylla L. et L., Mussoorie, India, 6/7000 ft., Sept., 1930, R.S.C. "This plant agrees substantially with Stephani's description, with the exception that the leaves are not markedly decurved. It is extremely variable as pointed out by Stephani, and on some stems it might be difficult to find two leaves exactly alike. Stephani describes only sterile material, but many of the present specimens have perianths which are shortly and widely campanulate, and coarsely dentate at the wide mouth," W.E.N.

Anthoceros himalayensis Kash., Mussoorie, India, 6/7000 ft., Sept., 1930, R.S.C.

RECENT BRYOLOGICAL PUBLICATIONS.

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(An asterisk * denotes that a copy has been presented to the Library.)

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Once more I would thank all those who have so generously presented reprints to the B.B.S. Library. The works marked with an asterisk in the above list indicate only a fraction of the gifts, as many have been listed in previous years, or are classics. I cannot emphasize too strongly the importance of early attention being drawn to new works in order that the annual lists may be kept as up-to-date as possible; even a post-card giving the full title and complete details of the publication is a great help. The Card Index can be amplified later on when further details of such works appear in the reviews.

LESLIE B. C. TROTTER.

March 23rd, 1933.

OBITUARY.

SYMERS MACDONALD MACVICAR (1857-1932).

The Society has suffered a great loss in the death on the 27th February, 1932 of one of its past presidents, Dr. Symers Macdonald Macvicar, who had done so much for the students of British hepatics.

He was born at Moffat on the 27th December, 1857, his father being the Rev. John Gibson Macvicar, D.D., LL.D., and his mother Mrs. Jessie Robertson Macdonald Macvicar, the grand-daughter of William Robertson the historian. He inherited a taste for natural history from his father, who was at one time Professor of Natural History at the University of St. Andrews, and the author of some scientific works.

He was educated first at a private school at Moffat, then at Bedford, and afterwards at Edinburgh University, where he took the degrees of L.R.C.P. and L.R.C.S. After taking his degrees he took appointments on board various ships as doctor and saw a good part of the world.

In 1887 he married his cousin's widow, Mrs. D. Robertson-Macdonald, and they went round the world on their honeymoon. On his return they settled down at Invermoidart, which he rarely left for any length of time, and on his death he was buried in the old family grave on Eilean Finnean, the beautiful "Green Isle" in Loch Shiel.

Between 1896 and 1899 he published a number of papers on the flowering parts of his district, mostly in the "Annals of Scottish Natural History," and in August, 1899 he published in the *Journal of Botany* "Hepaticae of Moidart, West Inverness," which gives a list of 131 species as occurring in the district, and exhibits an accurate knowledge of the plants. In 1901 he published in the same journal "A Key to British Hepaticae," which was revised and published separately in 1906. In 1910 he published "The Distribution of Hepaticae in Scotland," which dealt very fully with the subject. In 1912 he brought out "The Student's Handbook of British Hepatics," a work which has done more to popularize and facilitate the study of hepatics than any other which has been published in this country. A revised edition appeared in

1926, and it is still the standard work on the subject both in this country and in the United States.

The following species were, I believe, first discovered by Dr. Macvicar in the British Isles :—

Pellia Neesiana (Gotts.) Limpr., *Marsupella condensata* (Ångstr.) Kaal., *M. Jorgensenii* Schiffn., *Alicularia Breidleri* Limpr., *Eucalyx subellipticus* (Lindb.) Breidl., *E. paroicus* (Schiffn.) Macv., *Lophozia heterocolpa* (Thed.) Howe, *L. longidens* (Lindb.) Macoun, *L. Wenzelii* (Nees) St., *L. Hatcheri* (Evans) St., *L. quadriloba* (Lindb.) Evans, *L. obtusa* (Lindb.) Evans, *Sphenolobus politus* (Nees), St., *Geocalyx graveolens* (Schrad.) Nees, *Cephalozia pleniceps* (Aust.) Lindb., *Cephalozia striatula* (Jens.) Douin, *Odontoschisma elongatum* (Lindb.) Evans, *Calypogeia suecica* (Arn. & Perss.) K.M., *Lepidozia trichoclados* K.M., *Scapania calcicola* (Arn. & Perss.) Ingham, *S. Degenii* K.M., *S. paludosa* K.M., *Lejeunea Macvicari* Pears., and *Anthoceros Husnoti* St.

W. E. NICHOLSON.

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JOHN HENRY PAYNE (1857-1931).

In the passing away of John Henry Payne one of the few survivors of the old school of naturalists has been lost. He was born at Barnsley in 1857, and was the eldest son of Henry Payne, M.D., one of the founders of the old Barnsley Natural History Society of which he was Vice-President.

The love of nature was a dominating trait in his character, botany, geology, ornithology and conchology were his favourite subjects. After a business career as an analytical chemist in Jarrow-on-Tyne and London, he returned to Yorkshire, residing at Newhill in 1904, where he remained until his death.

He became a member of the B.B.S. some years ago, and took interest in its transactions. He passed away on 30th May, 1931, and was buried at Wath-upon-Dearne. We are indebted to the *Naturalist*, August, 1931, for the above information.

