

The British
Bryological Society



REPORT FOR 1931.

VOL. II PART 5.



Berwick-upon-Tweed :
MARTIN'S PRINTING WORKS, LTD. 64 & 66 WEST STREET

1932.

EXCURSION TO NORWAY.

The Excursion of the B.B.S. to Norway has been arranged following a resolution passed at the last meeting of the Society. Starting on Saturday afternoon, July 23rd, 1932, for Lyngen near Tromso, a fortnight will be spent in a bryological exploration of the little known arctic mountains and glaciers of the Lyngen Peninsula and neighbourhood in Norwegian Lapland. On the return journey several days will be spent at Kongsvoll in the Dovrefjeld, after which the Jotenheim Mountains will be traversed to the Sognefjord, where the glaciers of the Jostedalsbreen will be worked.

Those members intending to join this expedition are requested to write for further particulars to :—

C. V. B. MARQUAND, *Excursion Secretary*,
“Langdale,”
46 Hook Rise,
Tolworth,
Surrey.

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EXECUTIVE OFFICERS
of the British Bryological Society
for 1931.

President :—

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Vice-President :—

Mr. H. H. KNIGHT, M.A.

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Mr. W. E. NICHOLSON, F.L.S.

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Mr. W. R. SHERRIN, A.L.S.

Excursion Secretary :—

Mr. D. A. JONES.

Distributors :—

Mosses.—Mr. J. H. ALBRECHT.

Miss A. M. SAUNDERS.

Hepatics.—Mr. F. E. MILSOM, B.Sc.

Additional Members :—

Miss E. ARMITAGE.

Dr. L. B. C. TROTTER, M.D.

Secretary :—

Mr. D. A. JONES, M.Sc., A.L.S.

54, Fremantle Road, Cotham,

Bristol.

LIST OF MEMBERS, 1931.

Honorary Members :—

- Rev. H. G. Jameson, M.A. (Oxon.), Gartymore, Park Rise,
Leatherhead, Surrey.
- Herr Leopold Loeske, Detmolderstrasse, 55/3, Berlin-Wil-
mersdorf, Germany.
- Dr. Symers M. Macvicar, Invermoidart, Acharacle, R.S.O.,
Argyllshire. (Deceased Feb. 1932.).

Ordinary Members :—

- Mr. J. H. Albrecht, Edwina, Claygate, Surrey.
- Mr. G. H. Allison, 65, Convamore Road, Grimsby.
- Mr. K. W. Allison, Upper Atiamuri, *via* Rotorua, N.Z.
- Herr H. Andres, Argeländerstrasse, 124/2, Bonn am Rhein,
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- Mr. A. T. Beals, 2929, Broadway, New York City, U.S.A.
- Mr. Chas. M. Bedford, B.A., Taunton School, Somerset.
- Mr. W. Bellerby, 21, Clifton Green, York.
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Tyrone, Ireland.
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Binstead, 136, Cromwell Road, London, S.W.7.
- Rev. G. Birnie, The Manse, Speymouth, Fochabers, Moray-
shire.
- Dr. Adám Boros, Aldás-u 4, Budapest, 11, Hungary.
- Miss E. J. Bowen, B.Sc., Biological Dept., University College,
Swansea.
- Mr. D. B. Bradshaw, Kirriemuir, Stillorgan Park, Co. Dublin.
- Mr. H. C. Broome, Netherthorpe, Failsworth, Manchester.
- Miss M. Buchanan, Dept. of Botany, National Museum,
Dublin.

- Mr. W. H. Burrell, F.L.S., Bracondale, 203, Hall Lane, Horsforth, Leeds.
- Mr. D. G. Catcheside, M.Sc., F.L.S., 2, Mount Ephraim Lane, Streatham, London, S.W.16., and Dept. of Botany, King's College, Strand, London, W.C.2.
- Mons. J. Charrier, La Châtaigneraie, Vendée, France.
- Captain C. D. Chase, M.C., M.A., Campbell College, Belfast.
- Mr. C. A. Cheetham, Nutting Grove, Farnley, Leeds.
- 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.
- Miss C. A. Cooper, California Lane, Bushey Heath, Herts.
- Mr. R. H. Corstorphine, B.Sc., Hillside House, Arbroath, Forfarshire.
- Mrs. R. H. Corstorphine, B.Sc., Hillside House, Arbroath, Forfarshire.
- Mr. F. Crosland, Eton House, Palmerston Street, Derby.
- Mr. H. N. Dixon, M.A. (Lond. and Cantab.), F.L.S., 17, St. Matthew's Parade, Northampton.
- Mrs. Dixon, 17, St. Matthew's Parade, Northampton.
- Mr. J. B. Duncan, 6, Summerhill Terrace, Berwick-on-Tweed.
- Rev. E. A. Elliot, Longstone Vicarage, Bakewell (Derbyshire).
- Miss E. Evitt, 103, St. Julian's Farm Road, London, S.E. 27.
- Mr. A. Gepp, M.A. (Cantab.), British Museum (Nat. Hist.), Cromwell Road, London, S.W. 7.
- Rev. F. W. Gray, D.D., Marlinton, W. Virginia, U.S.A.
- Dr. A. J. Grout, Ph.D., Newfane, Vermont, U.S.A.
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- Mr. J. W. Hartley, Mill-Head House, Carnforth.
- Rev. W. J. Hayward, St. Mary's House, Newton Heath, Manchester.
- Mr. J. Helsby, 3, Kingsfield Road, Watford, Herts.
- Miss D. Hilary, B.Sc., 15, Plevna Terrace, Bingley, Yorks.
- Miss D. Hillcoat, 52, Trinity Rise, Tulse Hill, London, S.W.2.
- Mr. G. F. Horsley, Holmdene, Eaglescliffe, Co. Durham.
- Miss E. M. Hough, M.A., The School, Brentwood, Essex.
- Mr. J. D. Houston, Northern Bank House, Kilrea, Co. Derry, Ireland.
- Mr. C. P. Hurst, F.L.S., Landulph Rectory, Saltash, Cornwall.
- Mr. H. A. Hyde, M.A., F.L.S., National Museum of Wales, Cardiff.
- Rev. R. Jackett, Crunwre Rectory, Whitland, Carmarthen-shire.

- 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.
- Mr. Wm. Leach, Newlands, Victoria Avenue, Quinton, near 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.
- Miss F. M. Loader, 5, Westbourne Mansions, Westbourne Crescent, Southampton.
- 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. R. Megaw, B.A., M.R.I.A., The Manse, Rosetta, Belfast.
- Mr. R. H. Meldrum, F.L.S., 3, Muirhall Bank, Perth.
- Mr. W. C. Millar, 8, North Terrace, Berwick-on-Tweed. (Deceased, Dec., 1931.).
- Mr. F. E. Milsom, B.Sc., Glen Lyn, Station Road, Shepley, Huddersfield.
- Dr. Hjalmar Möller, Naturhistoriska Riksmuseum, Stockholm, 50, Sweden.
- Mr. James Murray, 6, Burnside Road, Gretna, Dumfriesshire.
- 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, Corsehill Street, Streatham, London, S.W.16.
- Mr. J. H. Payne, The Rowans, 90, Newhill, Wath-on-Dearne, Rotherham.
- 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., 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.), 58, St. Mary's Road,
 Doncaster.
 Mrs. Saunders, St. Ann's, Reigate, Surrey.
 Miss A. Muriel Saunders, St. Ann's, Reigate, Surrey.
 Mr. G. B. Savery, Silvertown, 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., 5, Dix's Field, Exeter.
 Mr. J. R. Simpson, 18, Longden Avenue, Dryclough Road,
 Crosland Moor, Huddersfield.
 Miss K. E. Smith, The Quarry, Lutterworth Road, Nuneaton.
 Mr. F. A. Sowter, Ashstead, North Avenue, Leicester.
 Mr. H. Stansfield, 20, Park Grove, York.
 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.
 Mr. A. Sutton, A.R.S.M., 9, Brookfield Park, London, N.W.5.
 (Deceased, Dec., 1931).
 Miss B. M. Sutton, 7, Woodland Terrace, Chapel Allerton,
 Leeds.
 Mr. A. Thompson, 15, Bannercross Drive, Sheffield.
 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.
 Lieut.-Col. A. Uggla, F.L.S., Royal Swedish Legation, 11,
 Dorset Square, London, N.W.1.
 Mr. Fr. Verdoorn, P.O. Box 82, Utrecht, Holland.
 Mr. E. C. Wallace, Springfield, 2, Strathearn Road, Sutton,
 Surrey.
 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,
Bickley, Kent.
- 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.
- Mr. A. Wilson, F.L.S., F.R.Met.S., Tir-y-coed, Roe Wen,
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.

NEW MEMBERS, 1932.

- Miss A. J. Cottis, Technical College, Brighton.
- Mr. G. M. Duncan, 72, Rubislaw Den North, Aberdeen.
- Miss G. Freeth, B.Sc., F.R.G.S., 81, West Hill, London, S.W.15.
- Rev. W. G. M. Martin, B.A., 20, Huntly Road, Elm Park,
Liverpool.
- Mr. Francis W. Thorrington, Sunnymead, Little Baddow,
Chelmsford.

**MOSESSES AND HEPATICS SENT FOR
DISTRIBUTION, 1931—1932.**

	<i>Sphagna</i>	<i>Mosses</i>	<i>True Hep- atics</i>	<i>Total</i>
Mr. J. H. Albrecht	56	56
Mr. G. H. Allison	13	61
Mr. K. W. Allison (N.Z.)	110
Miss E. Armitage	30	51
Mr. E. B. Bartram (U.S.A.)	40
Mr. C. M. Bedford	22	11
Mr. W. Bellerby	58	32
Rev. C. H. Binstead	181
Mr. D. B. Bradshaw	25
Mr. W. H. Burrell	33
Mr. R. S. Chopra (India)	220
Mr. H. N. Dixon	149
Mr. J. B. Duncan	363
Rev. F. W. Gray (U.S.A.)	26	493
Dr. A. J. Grout	10	205
Mr. G. F. Horsley	111	3
Mr. H. A. Hyde (Nat. Museum of Wales)	33	33
Mr. D. A. Jones	97
Mr. H. H. Knight	56
Mr. J. R. Lee	9
Mr. J. Lid (Norway)	71	48
Miss E. M. Lobley	51	120
Herr L. Loeske (Germany)	28
Mr. F. E. Milsom	22
Rev. W. R. Megaw	26
Mr. W. E. Nicholson	10	106
Mr. P. W. M. Richards	53
Mr. F. Rilstone	41
Dr. S. P. Rowlands	127
Miss A. M. Saunders	23
Herr A. Schumacher (Rheinland)	179
Mr. F. A. Sowter	18
Capt. C. Stenholm (Sweden)	39
Mr. W. G. Travis	10	33
Dr. L. B. C. Trotter	37
Mr. A. Turner	35

			<i>True</i>	<i>Hep-</i>	<i>Total</i>
			<i>Sphagna</i>	<i>Mosses</i>	<i>atics</i>
Mr. Fr. Verdoorn (Holland)	....	....	279	93	372
Mr. E. C. Wallace	....	....	41	151	336
Dr. W. Watson	....	....	....	32	76
Mrs. A. White	....	....	4	9	13
Mr. A. Wilson	....	....	....	58	96
Mr. W. Young	....	....	....	152	152
			490	3514	1444
					5448

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 Leskaceae	....	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.

In presenting the Tenth Number of the Annual Report, completing Vol. II., it is gratifying to find that the interest in bryology is maintained and that much good work has been done during the year.

We deeply regret to announce the death of three valued members :—Dr. S. M. Macvicar, Mr. A. Sutton, and Mr. W. C. Millar. Several noted systematists have also passed away :—Dr. G. C. Druce, Mr. E. M. Holmes, Prof. H. G. A. Engler, and Marchese Antonio Bottini. Obituary notices are appended.

The distribution has been later this year owing to the lamented death of our esteemed distributor, Mr. A. Sutton, whose loss is keenly felt by us all. Miss Saunders and Mr. J. H. Albrecht, who have jointly taken up the duties of Distributors of Mosses have carried out the work very successfully under difficulties. The efforts of the Distributors, Referees and Bibliographer are much appreciated by the Society.

Members are very much indebted to the Rev. Dr. P. G. M. Rhodes for his generosity in presenting the Society with a most valuable herbarium of mosses, comprising over 10,000 specimens, including 35 fascicles of Bauer's Exsiccata of European Mosses, all arranged and mounted on sheets and catalogued. Unfortunately our Curator was unable to house the mosses, so it was suggested at the London meeting of the Society and confirmed at the Annual Meeting at Minehead, to offer the herbarium to the British Museum (Natural History) at South Kensington, subject to the approval of the donor and on terms favourable to members of our Society. The offer has been acceptable to both parties.

The family of the late Mr. W. C. Millar have presented his valuable collection of mosses to the Society and the gift is very acceptable. Mr. Millar was an active member and contributed some interesting mosses to the distribution. He will be missed at the Annual Meeting by many of us.

The following items of information are again repeated this year :—(1) Mr. W. R. Sherrin is Librarian and Curator to whom all gifts of bryological books and specimens of mosses and hepatics will be very acceptable ; (2) Dr. L. B. C. Trotter is proceeding with the compilation of the Bibliography of Bryological Literature and will welcome copies of new papers ; (3) all new 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,

April, 1932.

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STATEMENT OF*RECEIPTS.*

Balance from last Account	£78	3	0
Subscriptions—1931	£46	12	1	
„ Arrears	....	....	2	2	6	
„ 1932 (paid before due)	....	....	5	7	0	
Special Donation	....	....	16	6		
						54 18 1
Donations—Visitors at Annual Excursion	....			5	0	
Surplus o/a Motor Hires	Do.	....		12	8	
Publications sold	....	....	....	19	5	
Bank Interest	....	....	....	10	8	
						£135 8 10

MOSS CENSUS

Sales, 1931—per Mr. W. R. Sherrin	....	....	£1	6	8
Balance due 31st December, 1931	....	....	8	12	8
					£9 19 4

HEPATIC CENSUS

Sales, 1931—per Mr. W. R. Sherrin	....	....	£1	10	6
Balance due 31st December, 1931	....	....	13	17	7
					£15 8 1

BALANCE SHEET*LIABILITIES.*

Subscriptions, 1932—paid before due	....	....	£5	7	0
Distribution costs, 1931-32 (estimated)	....	....	5	10	0
Printing Report, 1931 (estimated)	....	....	26	10	0
Deficit on Moss Census Catalogue Account	....	....	8	12	8
Deficit on Hepatic Census Catalogue Account	....	....	13	17	7
Balance (excess of Assets over Liabilities)	....	....	27	19	5
					£87 16 8

Examined and found correct—J. Y. ELDER,

Barclays Bank, Berwick-on-Tweed.

January, 1932.

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ACCOUNT for 1931.

<i>EXPENSES.</i>							
Printing Report, 1930	£28	9	4
" Circulars, etc.	1	4	0
Stationery	1	1	1
Subscription to "Bryologist"	7	1	
Distribution Costs, 1930-31	6	1	8
Secretary's Expenses	4	7	1
Treasurer's Expenses	1	5	1
Librarian's Expenses	1	7	7
Annual Meeting (1931), Expenses	4	19	3
Balance in hand, 31st December, 1931	86	6	8
					£135 8 10		

CATALOGUE ACCOUNT.

Balance, 31st December, 1930	....	....	....	....	£9	18	1
Expenses—Postage	....	....	....	....		1	3
					£9 19 4		

CATALOGUE ACCOUNT.

Balance, 31st December, 1930	....	....	....	....	£15	5	2
Expenses—Postage	....	....	....	....		2	11
					£15 8 1		

31st DECEMBER, 1931.

<i>ASSETS.</i>							
Cash in hand (General Account)	£86	6	8
Subscriptions in arrear (£2 5s.), estimated to produce	1	10	0
767 Copies unsold, Moss Census Catalogue		
340 Copies unsold, Hepatic Census Catalogue		
					£87 16 8		

J. B. DUNCAN, *Treasurer.*

N.B.—Subscriptions, 10/- per annum, Foreign and Colonial Members, 5/-, should be paid not later than 31st March, each year.

REPORT OF DISTRIBUTORS (Mosses).

The number of true mosses received for distribution this year is not so large as in previous years, though the number of *Sphagna* is greater.

Of the 52 vice-county records sent in, 31 represent true mosses and 21 *Sphagna*. One of our newest members, Miss E. M. Lobley, has alone contributed 34 of these records, a very creditable performance.

The plants from the Continent of Europe include several rarities collected by Mr. Duncan in the Tirol, and some useful species from the South of France sent in by the Rev. C. H. Binstead, while Dr. Trotter has been active on the Society's behalf in Corsica.

Of the non-British continental plants Mr. Nicholson writes that these include some very interesting specimens, particularly some rare species gathered by Mr. P. W. M. Richards in the South of Spain ; but they do not call for much comment.

The Rev. F. W. Gray and Dr. Grout have contributed a large number of North American Mosses ; and several interesting species from the Malay Peninsula have been sent in by Mr. Verdoorn.

The Referees report that most of the material sent in was good, and generally correctly named ; but in some cases the specimens had been badly prepared and some packets were so mixed that they were useless for distribution ; again, others were so scanty that it was necessary to reduce the number of packets by putting the contents of two into one. One Referee remarked that the folding of many packets and the type of paper used left a great deal to be desired, and was rather disappointing. It would also be helpful if the packets were of uniform size—octavo or quarto size paper, folded in three—as in many cases the packets were unnecessarily large and would be inconvenient in an herbarium. The catalogue number too, should be given in the upper left-hand corner ; this would be a great help to the distributors. In some cases the number appearing in this corner was intended to be the V.C. number, thus easily leading to confusion in the filing and sorting of the packets.

Another Referee suggests that more ecological details should be given on the label, that is, the habitat at least, whether rocks or trees; and it would be a good thing, if possible, to state the species of the tree and to give some information about the rock.

The distributors would be very grateful if contributing members would send in a full list with their parcel, written on one side of the paper only, giving *all the details* needed for the report, *catalogue number, name of species, place where gathered, vice-county, date and name of the collector*. This would save a great deal of trouble, as otherwise an *index slip* has to be written out for every gathering sent in.

The Society's especial thanks are due to the Referees, on whose work the success of the distribution really depends.

J. H. ALBRECHT.

A. MURIEL SAUNDERS.

12th April, 1932.

REPORT OF DISTRIBUTOR (Hepatics).

The number of packets contributed is again a record, a total of 1,444 having been sent in by 21 members. Of this number no less than 650 packets have been sent by foreign contributors, 431 of these being of non-European species. It is evident that the hope expressed last year that the re-awakened interest in Hepatics would be maintained, has been confirmed.

Of the British species, the number of new vice-comital records is very satisfactory. The discovery of *Lophozia lycopodioides* and *L. obtusa* in England indicates that there are still plenty of gaps to be filled up. The discovery of *Leptoscyphus cuneifolius*, *Ptilidium ciliare* var. *inundatum* and *Gymnomitrium alpinum* var. *heterophyllum* in Wales, and *Lophozia heterocolpa* in North Wales is also gratifying.

Mr. Knight has once again acted as Referee, and, as on many other occasions, the Society has to record its debt of gratitude to him for his able help so willingly given. He reports the material contributed as very satisfactory in general, while the naming has been usually very accurate.

The foreign Hepatics have been very kindly refereed by Mr. Nicholson, in addition to his other onerous duties. His general report is quoted below :—

“ Three large parcels of exotic hepatics were received from Mr. Chopra of Lahore, Mr. Allison of New Zealand, and Mr. Fr. Verdoorn of Utrecht, respectively. They all consist of ample and well-prepared specimens and have specially interesting features. Mr. Chopra's parcel contains no less than six new species recently described by Prof. S. R. Kashyap of Lahore. Mr. Allison's parcel contains *Chandonanthus squarrosus* and *Mastigophora flagellifera* of special interest to British bryologists as southern representatives of genera found in Britain; while Mr. Verdoorn's parcel besides two of Dr. Schiffner's types, contains several species of *Frullania* of which genus Mr. Verdoorn is an admitted expert.”

F. E. MILSOM.

Shepley,
Huddersfield,
May, 1932.

REPORT OF THE ANNUAL MEETING, 1931.

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

BRITISH BRYOLOGICAL SOCIETY.

This Society held its Annual Meeting and Excursion at Harlech, Merionethshire, from August 15th to 22nd, 1931. The Meeting was attended by about forty-nine members and friends, and the excursions were carried out without serious weather interruption. Nearly half the members went on to Llanberis for a further week and explored Snowdonia in fine weather.

For the first excursion cars took the members to the entrance of Cwm Bychan, whence a walk led past Llyn Cwm Bychan and up through the rocky wood, then through the pass, Bwlch Tyddiad, by the famous Roman Steps towards Rhinog Fawr, a few reaching the mountain top. This district is very rich in bryophytes. Next day a drive through Barmouth led to the classical ground of Tyn-y-Groes, where many good plants were found in the wooded glen. Another drive was to Ceunant Llenyrch, whence the path to the Falls was a struggle through six feet high bracken. Later on in the day Hir Ynys was visited, the "Long Island" being a great mass of greenstone rising out of a flat marsh, where interesting mosses grow. Next day Mochras sand-hills were visited—a most interesting area for flowering plants as well as for bryophytes; *Centunculus minimus* was there in quantity. Then the Artro Valley and Nantcol Ravine were explored, a wooded rocky gorge. Coming up to Harlech some members stopped at Dolgelly and climbed Cader Idris, where two new records for Merioneth were added, viz., *Herberta adunca* and *Ptilidium ciliare* var. *inundatum*. On the return journey some members visited Llyn Cae, Cader Idris, and found *Lophozia heterocolpa*, new to the county, and *Lophozia longidens*, a second record only, on rocks and walls respectively.

Both Merioneth and Carnarvon have been worked intensively for so many years that very few new records could be expected, but in Tyn-y-Groes (48*) *Grimmia subsquarrosa*, *Leptoscyphus cuneifolius*, and *Cololejeunea microscopica* were found.

Only a very small selection of the rare plants seen can be recorded here. In Cwm Bychan *Sphagnum* **americanum*, *Austini* var. *imbricatum* and forms of *S. rubellum*, *quinquefarium*, *amblyphyllum* var. *mesophyllum*, and *aquatile* var. *intortum*. Several species of *Andreaea*, *Campylopus atrovirens* vars. *muticus* and *gracilis*, *Leptodontium recurvifolium*, *Philonotis Wilsoni*, *Fontinalis Dixoni*, *Pterogonium gracile* var. *harlacense*, *Marsupella Pearsoni*, *Gymnocolea acutiloba*, *Sphenolobus Pearsoni*, *Mylia Taylori*, c.fr.

Roadsides near Barmouth :—*Grimmia arenaria* and *Stirtoni*, *Coscinodon cribrosus*, *Tortula canescens*, *Riccia nigrella*. At Tyn-y-Groes :—*Campylopus flexuosus* var. *zonatus*, and *C. setifolius*, *Hylocomium umbratum*, *Jamesoniella subapicalis*, *Sphenolobus exsectus* and *Hellerianus*, *Harpanthus scutatus*, *Harpalejeunea ovata*. Mochras sand-hills :—*Amblyodon dealbatus*, *Bryum pendulum*, *Warneum*, *calophyllum*, *Marrattii*, *lacustris*, and *inclinatum*, *Aneura incurvata*, *Moerckia Flotowiana*, and *Petalophyllum Ralfsii*.

Ceunant Llenyrch :—*Grimmia retracta* (obtuse-leaved form) and *Hartmani*, *Eurhynchium myosuroides* var. *rivulare*, *Nowellia curvifolia*, *Adelanthus decipiens*, and *Cephalozia leucantha*.

Hir Ynys :—*Hedwigia imberbis*. Artro Valley :—*Barbula rigidula*, *Grimmia retracta*, *Ulota crispa*, *Bruchii*, and *Ludwigii*, *Thuidium delicatulum*, *Sematophyllum micans*, *Philonotis fontana* var. *ampliretis*, *Eurhynchium myosuroides* var., *Hypnum eugyrium*, *Metzgeria furcata* var. *fruticulosa*, *Fossombronia Wondraczeki*, *Harpanthus scutatus*, *Plagiochila punctata*, and *spinulosa* var. *inermis*, *Cephalozia media* var. *pallida*, *Madotheca Porella*.

Around Snowdon :—**Ditrichum tenuifolium* and *zonatum*, *Campylopus Schwarzii*, *Glyphomitrium Daviesii*, *Encalypta commutata* c.fr., *Grimmia conferta*, *elongata*, *atrata*, *Ædipodium Griffithianum*, *Webera polymorpha*, *Hypnum crista-castrensis*, *Gymnomitrium concinnatum*, *adustum*, and *alpinum* var. **heterophyllum*, *Marsupella Stableri* and *Sprucei*, *Scapania ornithopodioides* and **Frullania germana*, the latter in Cwm Clogwyn on rocks.

The Annual Meeting was held on August 18th, and after the usual business it was decided to hold the next Meeting and Excursion in Somerset for Exmoor, during the week after Easter, 1932.

ELEONORA ARMITAGE.

REPORT ON PLANTS SENT IN BY MEMBERS FOR DISTRIBUTION.

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

SPHAGNA.

Sphagnum fimbriatum Wils., Hodder's Combe (5), June, 1929, leg. W.W., com. C.M.B.; var. *robustum* Braithw., Hutton Moor (62) May, 1931, G.F.H. "This is a well marked form of the var. *robustum* Braithw." W.R.S.; var. *validius* Card., Boltby (62), June, 1931, G.F.H. "This plant approaches the var. *robustum* in the size of the branch leaves, these measuring as much as 2.3 mm. The stem leaves of this plant measure 0.8 mm.; in the var. *robustum* they are 1-1.3 mm. wide at the base," W.R.S.; New Ferry (58), July, 1924, leg. J. A. Wheldon, ex-herb. W.G.T.; Hodder's Combe (5), June, 1929, leg. W.W., com. C.M.

Sph. Girgensohnii Russ., var. *gracilescens* Grav., Kirby (62), Oct., 1930, G.F.H. "This is *Sph. fimbriatum* var. *validius*," W.R.S.

Sph. Russowii W., var. *girgensohnioides* Russ., Ben Lui (88), June, 1924, leg. D. R. Robinson, ex-herb. W.G.T.

Sph. fuscum Schp., near Barden Mill (67), Aug., 1931, H.T. and E.M.L., com. E.M.L. "This is *Sph. acutifolium*," W.R.S.

Sph. Warnstorffii Russ., Swainby (62), May, 1931, G.F.H.

Sph. rubellum Wils., Cwm Bychan (48), Aug., 1931; Ceunant Llenyrch (48), Aug., 1931, E.A.

Sph. acutifolium Ehrh., Ellerbeck (62), May, 1931, W.B. "This is a poor form of *Sph. quinquefarium*," W.R.S.; var. *viride* f. *Schimperi* W., Swainby (62), May, 1931, G.F.H.; var. *versicolor* W., Widdybank (66), April, 1931, G.F.H.

Sph. quinquefarium W., var. *versicolor* Russ., Aucterhouse Hill (90), April, 1924, leg. G. R. Robertson, ex-herb. Gent. Cambr., com. H.A.H.; type from Ceunant Llenyrch (48), Aug., 1931, E.A.; Witley Common (17), Oct., 1931, E.C.W. "I recently determined this plant as *Sph. quinquefarium*, but on seeing more material I am convinced it is *Sph. rubellum* f. *robustum* W. This is a rare form in this country which sometimes approaches *Sph. quinquefarium* in general appearance," W.R.S.

Sph. plumulosum Röhl. c.fr., W. Black Hambleton (62), Aug., 1930, G.F.H.; Allendale Common (67), Oct., 1931, E.M.L.

Sph. Molle Sulliv., Karlshangen in Hakadal (Norway), Sept., 1931, J.L.; Ellerbeck (62), Sept., 1931, W.B. "This is a young form of *Sph. plumulosum*," W.R.S.

Sph. compactum D.C., var. *subsquarrosum* W. f. *densum* (Schliep.), Widdybank (66), April, 1931, G.F.H.

Sph. strictum Sulliv., Winter Haven, Florida (U.S.A.), Jan., 1931, F.W.G.; Manatee, Co. Florida (U.S.A.), March, 1931, A.J.G.

Sph. squarrosum Pers., c.fr., W. Black Hambleton (62), Aug., 1930, G.F.H. "This is the var. *subsquarrosum* Russ.," W.R.S.

Sph. teres (Schp.) Ångstr. var. *subteres* Lindb., Swainby (62*), May, 1931, G.F.H.

Sph. Lindbergii Schimp., var. *mesophyllum* Warnst., Nysetra in Feiring (Norway), Sept., 1931, J.L.

Sph. riparium var. *fluitans* Russ., Karlshangen in Hakadal (Norway), July, 1931, J.L.; Near Barrasford (67*), June, 1931, E.M.L. "This plant is *Sph. riparium* var. *coryphaeum* f. *gracilescens* W. It matches a plant so named by C. Warnstorff. This is a very rare plant, and Miss Lobley is to be congratulated on finding it," W.R.S.; var. *speciosum* Russ., Storrnste in Hedalen (Norway), Aug., 1931, J.L.

Sph. obtusum W. var. *recurviforme* W., Bilsdale (62*), Nov., 1928, G.F.H. "This is *Sph. fallax* approaching var. *plumosum*. Last year this plant was distributed under *Sph. obtusum*. It is difficult to say how I could have so named it, as the stem leaves are so dissimilar. The labels of the plant received last year should be corrected accordingly," W.R.S.

Sph. amblyphyllum Russ., var. *mesophyllum* W., Epping Forest (18), Nov., 1931, W.R.S., com. A.W.; Ceunant Llenyrch (48), Aug., 1931, E.A.

Sph. pulchrum W., var. *sordido-fuscum* W., Cringle Moor (62*), Oct., 1930, G.F.H.

Sph. recurvum Beauv., Winter Haven, Florida (U.S.A.), Jan., 1931, F.W.G. "This is *Sph. obtusum* Warnst. Notice the very obtuse stem leaves, and also the shape of the *chlorophyllose* cells of the branch leaves, which in these specimens are triangular in section and distinctly enclosed on the inner

surface of the leaf. In this respect they resemble *S. pulchrum* Warnst.," W.R.S.; var. *robustum* Breidler, f. *fuscescens* W., Malkin Bower (62), June, 1931, G.F.H. "This is a very interesting form; but not the form *fuscescens*," W.R.S.; f. *Limprichtii* (Schlieph.), Swainby (62), May, 1931, G.F.H. "This is var. *majus* Ångstr.," W.R.S.; f. *latifolium* (Russ.), Swainby (62), May, 1931, G.F.H. "This is var. *majus*, Ångstr.; near f. *nigrescens* W., Cringle Moor (62), Oct., 1930, G.F.H.; Westburnhope (67*), Dec., 1930, E.M.L.; var. *majus* Ångstr., Swainby (62), May, 1931, G.F.H.; Witley Common (17), Oct., 1931, E.C.W.; var. *parvulum* W., Guisborough (62), May, 1931, G.F.H. "I believe there is a mixture in the packets, as Mr. Horsley's naming shows great care; the plant I examined had obtuse stem leaves and was a well marked form of *Sph. amblyphyllum* var. *parvifolium*," W.R.S.

Sph. serratum Schlieph., Ashdown Forest (14*), June, 1931, E.C.W.; var. *serrulatum* (Schlieph.), Bilsdale (62), June, 1931, G.F.H.

Sph. fallax (v. Klingr.), var. *Roellii* (Schlieph.), Swainby (62), May, 1931, G.F.H. "This is *Sph. fallax*, nearest to var. *Schultzii*, but not that form," W.R.S.

Sph. cuspidatum Ehrh., var. *falcatum* Russ., Witley Common (17), Oct., 1931, E.C.W.; f. *molle* W. subf. *eurycladum* W., Cringle Moor (62), Oct., 1930, G.F.H. "This is *Sph. recurvum* var. *robustum*, near the form *nigrescens*," W.R.S.; var. *submersum* Schpr., Cringle Moor (62), Oct., 1930, G.F.H. "This is *Sph. fallax* var. *laxifolium*," W.R.S.; var. *plumosum* Bryol. Germ., f. *densum* W., Cringle Moor (62), Oct., 1930, G.F.H. "This is *Sph. fallax* var. *robustum*," W.R.S.; var. *plumulosum* Schp., Killhope (66*), May, 1931, E.M.L.; var. *serrulatum* Sebring, Fla. (U.S.A.), Jan., 1931, F.W.G.

Sph. molluscum Bruch., near Barden Mill (67), H.T. and E.M.L., com. E.M.L.; var. *Brebissonii* Husnot, Glenridding (69*), April, 1931, G.F.H. "This is a very interesting plant, which I look upon as a parallel of Wheldon's var. *isophyllum* of *S. compactum*. They seem to me to be mere monstrosities, or else growth forms caused by unusual conditions. I think this plant fits the description of the var. *suberectum* (Grav.), Wheldon, better than the var. *Brebissonii*," W.R.S.

Sph. obesum Wils., Grastjorn, Voss (Norway), Aug., 1931, J.L. "This plant should have been floated out before being sent to the club. I so treated some of the material which

made very beautiful specimens," W.R.S.; Ellerbeck (62), May, 1931, W.B. "This is *Sph. crassycladum*," W.R.S.; var. *luxurians* W., Swainby (62*), May, 1931, G.F.H. "This is *Sph. crassycladum* var. *magnifolium* W.," W.R.S.; var. *insolitum* Card., Moira Reservoir (55*), July, 1931, leg. W.R.S., ex-herb. F.A.S.

Sph. subsecundum Nees., Ellerbeck Bog (62), Sept., 1931, W.B. "These plants are *Sph. inundatum*. The stem leaves are much too large for *Sph. subsecundum*," W.R.S.

Sph. inundatum Russ., Greenridge Fell (67*), July, 1931, E.M.L. "Yes, a form near the var. *robustum*," W.R.S.; var. *ovalifolium* W. f. *densum* W., Grisedale (69), April, 1931, G.F.H. "This is the var. *robustum* Sherrin," W.R.S.; var. *lancifolium* W., Scutton (54), 1931, G.H.A. "These plants are mixed," W.R.S.; var. *diversifolium* W., Armboth (70*), Aug., 1930, G.F.H.; var. *eurycladum* W., Low Ardley (67*), July, 1931, E.M.L.

Sph. auriculatum Schp., Llanwrthwl (42), Oct., 1931, E.A.; var. *laxifolium* W., Bilsdale (62), June, 1931, G.F.H.; Westburnhope (67*), Dec., 1930, E.M.L.; var. *canovirens* W., Wisley Common (17), Oct., 1931, E.C.W.

Sph. aquatile W. var. *intortum* W., Cringle Moor (62), Oct., 1930, G.F.H. "This is *Sph. inundatum* W.," W.R.S.; Ceunant Llenyrch (48), Aug., 1931, E.A.; var. *sanguinale* W., Cauldron Snout (69), April, 1931, G.F.H. "This is *Sph. auriculatum* Schp.," W.R.S.; var. *pauperatum* W., Scutton (54), 1931, G.H.A.

Sph. crassycladum W. var. *magnifolium* W., Swainby (62), Aug., 1930, G.F.H.

Sph. bavaricum W. var. *microphyllum* W., Ellerbeck (62), Sept., 1931, W.B.

Sph. turgidulum W., Cringle Moor (62), Oct., 1930, G.F.H. "This is *Sph. crassycladum*," W.R.S.; Greenridge Fell (67), July, 1931, E.M.L.; Ashdown Forest (14*), June, 1931, E.C.W.

Sph. papillosum Lindb., var. *normale* W., Killhope (66*), May, 1931, E.M.L.; c.fr. Thursby Common (17), July, 1931, E.C.W.; Capel Curig (49), Aug., 1931, E.A.; f. *brachycladum* (Card.), Grisedale (69), April, 1931, G.F.H.; f. *confertum* (Lindb.), Hutton Moor (62), May, 1931, G.F.H. "The papillae on the branch leaves are hardly sufficiently well marked for this plant to come under the var. *normale*. It is

best cited as *Sph. papillosum* approaching the var. *normale*," W.R.S. ; *f. majus* Grav., Widdybank (66), April, 1931, G.F.H. "Not a well-marked var. *normale*, but approaching the var. *sublaeve*." W.R.S. ; var. *sublaeve* Limpr., Ellerbeck (62), May, 1931, W.B. ; var. *laeve* W., Boltby (62*), June 1931,, G.F.H.

Sph. erythrocalyx Hps., Sandford, Florida (U.S.A.), Feb., 1931, F.W.G., det. Andrews. "I have very carefully examined these plants and find I cannot separate them from our common plant *Sph. cymbifolium*," W.R.S.

Sph. subbicolor Hampe, var. *subcarneum* W., Cringle Moor (62), Oct., 1930, G.F.H. "This is *Sphagnum cymbifolium* Ehrh.," W.R.S.

Sph. medium Limpr., near Bardon Mill (67), Aug., 1931, H.T. and E.M.L., com. E.M.L. ; Ashdown Forest (14), Nov., 1905, W.E.N.

Sph. magellanicum Brid., Hanserud in Gran (Norway), Aug., 1931, J.L. "Yes, this is the plant we have always known as *Sph. medium* Limpr. *Sph. magellanicum* Brid., being the earlier name, should now be used," W.R.S.

Sph. macrophyllum Burch., Auburndale, Florida (U.S.A.), Feb., 1931, F.W.G.

Sph. cyclophyllum Sw. L., bottom of ditch, Sandford, Florida (U.S.A.), Feb., 1931, F.W.G.

TRUE MOSSES.

EUROPEAN (British and Continental).

Andreaea alpina Smith, Havstad i Fiorde (Norway), July, 1871, leg. F. Kiaer, ex-herb. Univ. Osloensis.

A. Rothii Web. & Mohr., var. *falcata* Lindb., Westburnhope (67*), July, 1931, E.M.L. "The subula of the leaf is extremely narrow in this plant, so I think it should be called *A. crassinervia*," G.B.S. "I do not think this can be separated from *A. Rothii* var. *falcata*," H.N.D.

A. nivalis Hook, Blaakampen i Atnadalen (Norway), Aug, 1882, leg. A. Blytt, ex-herb. Univ. Osloensis; Cairngorm (96), July, 1930, J.B.D.; Summit of Ben Nevis (97), Aug., 1921, D.B.B.

A. alpestris (Thed.) Schimp., Storhö i Foldalen (Norway), Aug., 1882, Axel Blytt, com. J.L.

A. Blyttii Br. Enr., Söhetta (Norway), July, 1878, F. Kiaer, com. J.L.

A. Hartmanni Thed., Blaakampen i Atnadalen (Norway), Aug., 1882, Axel Blytt, com. J.L.

Catharinea undulata Web. & Mohr., formâ *polycarpa* Bröltal (Rheinland), Nov., 1928, A-Sch.; var. *minor* Web. & Mohr., Laughton (54), Oct., 1931, c.fr., G.H.A.

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

Oligotrichum hercynicum Lam., var. *laxum* Braithw., Clogwyn du'r Arddu (49), Aug., 1931, B.B.S., com. D.A.J.; idem D.B.B.

Polytrichum aloides Hedw., Blanehead (66*), May, 1931, J.B.D. and E.M.L., com. E.M.L.

P. alpinum L. var. *septentrionale* Lindb., Aanach Mor (97), July, 1898; Slieve League (I.31), July, 1890, H.N.D.

P. sexangulare Floerke, Ben Lawers (88), July, 1931, J.R.L.; July, 1929, W.Y.

P. juniperinum Willst., Scotton (54), 1931, G.H.A. "In this plant the margin of the leaf is strongly toothed. It cannot therefore be *P. juniperinum*. I should call it *P. formosum*," G.B.S.

- P. strictum* Banks., Esher Common (17*) Feb., 1932, J.H.A.
- P. gracile* Dicks., Wahner Heide (Rheinland), June, 1929, c.fr., A. Sch. ; Scotton (54), 1931, c.fr., G.H.A.
- P. formosum* Hedw., c.fr., Scotton (54), 1921, G.H.A. "The capsules suggest *P. commune*," G.B.S.
- Diphyscium foliosum* Mohr., var. *acutifolium* Lindb., Slate Quarries, Camelford (2), Aug., 1886, H.N.D., det. J. Husnot.
- Pleuridium subulatum* Rabenh., Tilgate Forest (14), April, 1930, E.C.W.
- Ditrichum homomallum* Hampe., Stoke Wood (24), 1931, c.fr., P.W.M.R.
- D. zonatum* Limpr., var. *scabrifolium* Dixon, Snowdon (49), Aug., 1931, J.B.D.
- D. vaginans* Hampe, Colin Mt. (I.39), Sept., 1929, W.R.M.
- Leptotrichum* (*Ditrichum*) *flexicaule* Hampe, Bröltal (Rheinland), April, 1927, A. Sch.
- Swartzia montana* Lindb., Bolton Woods (Yorks.), July, 1896, c.fr., H.N.D. ; Ben More (88), July, 1897, leg. C.H.B. and H.N.D. ; July, 1893, H.N.D. ; Cronkley Scars (65), May, 1928, c.fr., S.P.R.
- S. inclinata* Ehrh., Durness (Sutherland) July, 1899, H.N.D. ; Portrush Sandhills (I.39), Aug., 1925, W.R.M. ; Pen y Ghent (64), April-Aug., 1931, leg. C.A.C. and W.H.B., com. W.H.B. ; Holy Island (68), July, 1931, J.B.D. ; Gwynfe (44), June, 1929, H.H.K., J.B.D. and D.A.J., com. D.A.J.
- Seligeria paucifolia* Carruth., Boxhill (17), May, 1931, A.M.S.
- S. calcarea* B. & S., Utterby (54), Oct., 1931, c.fr., G.H.A.
- S. recurvata* B. & S., Gummersbach (Rheinland) April, 1931, A. Sch., ; West Dipton Dene (67), June, 1931, E.M.L.
- Saelania caesia* Lindb., c.fr., Vernet les Bains (S. France), May, 1931, C.H.B.
- Ceratodon chloropus* Brid., c.fr., Hyères (France), May, 1929, W.E.N.
- Rhabdoweisia fugax* B. & S. Glen Fiadh, Clova (90), June, 1930, W.Y.
- Rh. denticulata* B. & S., Cwm Ogwen (49), Aug., 1931, c.fr., W.Y.

Cynodontium Bruntoni B. & S., Gunnerton Crags near Barrasford (67*), June, 1931, J.B.D. and E.M.L., com. E.M.L.; Röra (Sweden), July, 1930, C.S.

C. virens Schp., Schwarzenstein (Tirol), July, 1928, J.B.D.; Krimml Falls (Tirol), July, 1928, J.B.D.; near Findelen, Zermatt, and by side of glacier stream, Arolla (Switzerland), Aug., 1931, alt. 6,500 ft., leg. F.A. Sowter, det. D.A.J.

Dichodontium flavescens Lindb., Wären Burn (61), Feb., 1931, J.B.D.; Llanbedr (48), Aug., 1931, S.P.R.

Dicranella heteromalla Schp., var. *sericea* Schp., Buckstone Wood (34), Sept., 1931, E.A.

D. secunda Lindb., Staward le pele (67*), Sept., 1931, E.M.L.

D. varia Schp., Fownhope (36), Oct., 1931, C.H.B.

D. Schreberi Schp., c.fr., Eaton Bishop (36), Oct., 1931, C.H.B.

Dicranoweisia cirrata Lindb., Felling Foss (62), Sept., 1931, W.B.

Dicranoweisia crispula Lindb., Gross Glockner (Tirol), July, 1928, J.B.D.; Schwarzenstein (Tirol), July, 1928, J.B.D.

Campylopus subulatus Schp., Loch Lomond (99), June, 1909, W.E.N.

Campylopus Schimperi, Milde, Stuben, Langen (Tirol), July, 1928, J.B.D.

C. Schwarzii Schp., Cwm Idwal, Ogwen (49), Aug., 1931, J.B.D.; ; idem H.H.K.; item et H.H.K. et D.A.J., atque W.W. "Closely interwoven with *C. atrovirens*," G.B.S.

C. flexuosus Brid. var. *zonatus* Limpr., Moel Hebog (49), Aug., 1931, S.P.R.; near Bardon Mill (67*), H.T. and E.M.L., com. E.M.L.

C. fragilis B. & S., c.fr., Bochym (1), May, 1931, W.E.N.

C. setifolius Wils., Tyn-y-groes (48), June, 1931, D.A.J. and H.H.K.

C. atrovirens de Not., Grasmere (69), July, 1931, A.J., Cwm Bychan (48), Aug., 1931, J.H.A.; var. *muticus* Milde, Moel Siabod (49), Aug., 1931, E.A.; Cwm Bychan (48), Aug., 1931, E.A. "The white hair points to the leaves are often long, so I think this plant should go under the type," G.B.S.

C. brevipilus B. & S., Mardon Heath (49), April, 1931, J.B.D. ; Matley Bog (11), April, 1930, J.B.D. ; East Burton (9), May, 1931, E.C.W.

Dicranodontrium longirostre B. & S., Tyn-y-groes (48), Aug., 1931, J.H.A., item et S.P.R., atque J.B.D. ; var. *alpinum* Milde, Whernside (65*), June, 1911, A.W.

Dicranodontium denudatum (Brid.), Hagseveden, Vastgöterland (Sweden), Sept., 1931, C.S. "It is better known to British bryologists under the name of *D. longirostre* B. & S.," W.E.N.

Dicranum fulvellum Smith, Cwm Dyli (49); Aug., 1931; H.H.K.

D. falcatum Hedw., Cairngorm (92), July, 1913, W.Y. "I think this is *D. Starkei*. The capsules are elongated and striate when dry, and the cells at the basal angles of the leaves are coloured and well-marked," G.B.S. ; Ben More (88), July, 1927, and Aug., 1929, W.Y.

D. Starkei W. & M., Ben More (88), Aug., 1929, W.Y.

D. spurium Hedw., Owermoigne Heath (9*), May, 1931, E.C.W.

D. Bergeri Bland, Graden (80), Oct., 1927, J.B.D.

D. Bonjeani de Not., Newham Bog (68), Oct., 1931, J.B.D. ; var. *rugifolium* Bosw., Bunkle Wood (81), Dec., 1930, J.B.D. ; Ashby puerorum (54), 1931, G.H.A., Eshells Moor (67), June, 1931, E.M.L.

D. scoparium Hedw. var. *paludosum* Schp., Newham Bog (68), Oct., 1931, J.B.D. ; var. *orthophyllum* Brid., Hexham (67), Feb., 1931, E.M.L. "I think this plant should be placed under the var. *spadiceum* rather than *orthophyllum*, for the whole of the leaf cannot be called narrow and the edges and back of the leaf are only obscurely toothed," G.B.S. ; var. *recurvatum* Brid., Genkeltal, Vulpicke (Rheinland), Oct., 1929, A. Sch. "There seems to be some doubt about this variety, since Schimper describes it as "gracilescens," while Moenkemeyer describes it as "kräftige Form," comparing it with *D. majus*. Schumacher's plant might I think have stood as the original of Fig. 1 of the plate 74 in the Bryol. Europ., which presumably is the typical form of the species ! The conclusion seems to be either that the specimen does not correctly represent the variety, or which is more likely, the variety is a very poorly marked one and scarcely worth maintaining. Moenkemeyer gives it the rank of form merely," H.N.D.

D. majus Turn., c.fr., Crafnant Woods (48), Aug., 1931, S.P.R. ; Lerum (Sweden), Sept., 1931, C.S.

D. fuscescens Turn., Cronkley Scars (65), May, 1928, S.P.R. ; c.fr. on rocks in wood near Zermatt (Switzerland) Aug., 1931, leg. F.A.S., det. D.A.J.

D. Scottianum Turn., c.fr., Crafnant Woods (48), Aug., 1931, J.H.A., item et S.P.R., atque E.C.W.

D. montanum Hedw., tree trunks, Zemmtal (Tirol), July, 1928, J.B.D. ; Heatly Ground, Stuben, Langen (Tirol), July, 1928, J.B.D. ; Odenspiel, Altes Tal (Rheinland), April, 1928, A. Sch.

D. uncinatum C.M., Langdale Head (69), July, 1931, C.H.B.

D. longifolium Ehrh., Chamonix Valley (H. Savoy), Aug., 1926, D.A.J. ; Siègtal (Rheinland), May, 1931, A. Sch.

Leucobryum glaucum Schp., c.fr., Bolsino, Varazze (Italy), April, 1927, leg. C.S., ex-herb. W.G.N. ; c.fr., Crafnant Woods (48), Aug., 1931, S.P.R.

Fissidens rivularis Spruce, Fairlight Glen, near Hastings (14), April, 1899, E.M. Holme, ex-herb. Gent. Camb.

F. rufulus B. & S., Wasserfall bei Schaffhausen (Switzerland), March, 1862, leg. W. Baur, ex-herb. L.L.

F. osmundoides Hedw., Cwmglas Mawr (49), Aug., 1931, E.C.W.

F. serrulatus Brid., c.fr., near Algeciras (Spain), April, 1931, P.W.M.R.

F. decipiens de Not., var. *brevifolius* Lindb., Abington (32), April, 1893, H.N.D.

F. Julianus Schp., Karlsruhe (Germany), W. Baur, com. L.L.

F. Mildeanus Schp., in the Rhein, Felsenheim, Baden (Germany), leg. G.W. Baur, com. L.L.

Octodicerus Julianum Brid., Ollionles (France), July, 1931 P.W.M.R.

Grimmia apocarpa Hedw., Siègtal (Rheinland), May, 1931, c.fr., A. Sch. ; var. *alpicola*, H. & T., c.fr., Hoardweel (81), Dec., 1930, J.B.D. ; var. *rivularis* W. & M., Hoardweel (81), Oct., 1931, J.B.D.

G. conferta Funck, var. *pruinosa* Braithw., c.fr., on crumbling rocks, Black Mountain (I.39), July, 1930, W.E.M. "I think this is right, but the hair points are rather short for the variety," G.B.S. ; "correct I think," H.N.D.

- G. maritima* Smith, Lynmouth (4), July, 1931, E.C.W.
- G. crinita* Brid., Hyères (S. France), March, 1930, C.H.D.
- G. incurva* Schwaeg., Loch Brandy, Clova (90), June, 1930, W.Y. "This is *Rhacomitrium sudeticum*," G.B.S.
- G. torquata* Hornsch., summit of Snowdon (49), Aug., 1911, F.R.
- G. orbicularis* Bruch, c.fr., Andoversford (33), March, 1931, H.H.K.
- G. trichophylla* Grev., Hunts Tor (3), Sept., 1885, E.M.H., ex-herb. Gent. Cambr.
- G. decipiens* Lindb., Vidnicksberg (Sweden), June, 1931, C.S.; Hir Ynys (48), Aug., 1931, D.A.J. and D.B.B., com. D.B.B.
- G. elatior* B. & S., c.fr., Vernet les Bains (S. France), May, 1931, C.H.B.
- G. Hartmanni* Schp., Hoardweel (81), Dec., 1931, J.B.D.; near Dalmally (98), June, 1931, C.H.B.
- G. retracta* Stirton, Ceunant Llenyrch (48), Aug., 1931, S.P.R.; J.B.D.; rocks above Artro River (48), Aug., 1915, leg. W.W., com. C.M.B.
- G. patens* B. & S., Llyn-y-Cae, Talyllyn (48), Aug., 1931, D.A.J.; summit of Snowdon (49), Aug., 1931, F.R.
- G. Doniana* Sm., Glen Doll, Clova (90), June, 1930, W.Y.; Sewingshields Farm (67*), March, 1931, E.M.L.
- G. commutata* Huebn., Hoardweel (81), Dec., 1930, J.B.D.; Whitbanme (36), Sept., 1931, C.H.B.; R. Dee, Berwyn (50), Jan., 1925, P.G.M.R. and D.A.J., com. D.A.J.
- G. montana* B. & S., Postbridge (3), May, 1931, leg. C.P.H., com. J.B.D.
- G. leucophaea* Grev., R. Dee, Berwyn (50), Jan., 1925, P.G.M.R. and D.A.J., com. D.A.J.
- G. elongata* Kaulf., Cwm Dyli (49), Aug., 1931, J.B.D.; F.R.; H.H.K.; E.C.W.; W.Y.
- G. atrata* Mielich., Glen Callater (92), July, 1930, J.B.D.; Cwm Dyli (49), Aug., 1931, E.C.W.; W.Y.
- Rhacomitrium ellipticum* B. & S., c.fr., Cwm Idwal (49), Aug., 1931, W.Y.
- Rh. aciculare* Brid., c.fr., Artro Valley (48), Aug., 1931, J.H.A.

Rh. protensum Braun., Langdale (69), July, 1931, A.T.

Rh. heterostichum Brid., forma, Craig Chailleach (88), July, 1927, W.Y. "This is *Rh. sudeticum*," W.R.S.

Rh. sudeticum B. & S., Ben Heasgarnich (88), July, 1903, W.Y. ; near summit of Snowdon (49), Aug., 1931, F.R. ; Am Buinein (88), July, 1908, W.Y. ; Corie Ceun-mor (92), July, 1917, W.Y.

Rh. ramulosum Lindb., Ben Douran (98), Aug., 1929, B.B.S., com. D.A.J.

Rh. lanuginosum Brid., c.fr., Ceunant Llenyrch (48), Aug., 1931, E.A.

Rh. canescens Brid., wet stony ground, Snowdon (49), Aug., 1931. "Leaves without hairpoints," J.B.D. ; var. *ericoides* B. & S., Westburnhope (67*), July, 1931, E.M.L. ; Stonewaite (70), June, 1930, S.P.R.

Coscinodon cribrosus Spence, Coniston (69), June, 1884, leg. Miss S. and Miss P. ; Denbigh (50), Aug., 1900, leg. T.B. ; Barmouth (48), 1901, leg. E.M.H. ; omnes ex-herb. Gent. Cambr.

Hedwigia ciliata Ehrh., c.fr., Artro Valley (48), Aug., 1931, J.H.A. ; var. *striata* Wils., Tyddyn-y-felin (48), March, 1921, D.A.J.

H. imberbis Spruce, Hir Ynys (48), Aug., 1931, J.H.A. ; E.A. ; Llanbedr (48), Aug., 1931, A.W. ; S.P.R. ; Tremadoc (49), June, 1931, D.A.J. and H.H.K., com. H.H.K.

Pottia crinita Wils., near Penzance (1), Feb, 1931, C.H.B. ; The Lizard (1), April, 1931, W.E.N.

P. commutata Limpr., Peacehaven (14), Jan., 1925, W.E.N.

P. lanceolata C.M., Tweedmouth (68), Jan., 1931, J.B.D.

Aloina (Tortula) rigida Kindb., Eberfeld (Rheinland), Oct., 1928, A. Sch.

Tortula ambigua Ångstr., Gunnerton (67*), June, 1931, 1931, J.B.D. and E.M.L., com. E.M.L. "Capsule distorted by a parasitic fungus, perhaps an undescribed *Septoria*. However the leaves seem to place the plant under this species," P.G.M.R. ; Fotherby (54), 1930, G.H.A.

T. aloides de Not., Cleeve Hill (33), Jan., 1928, D.A.J.

T. atrovirens Lindb., c.fr., limestone bank beside road above Bastia, Corsica, July, 1931, L.B.C.T.

T. muralis Hedw., var. *rupestris* Schultz, Cheddar Gorge (6), May, 1930, E.C.W. ; Hartside (70*), Oct., 1931, E.M.I. "Approaches the variety, but I do not think that a new record should be established on specimens so weakly characterised." P.G.M.R.

T. mutica Lindb., Neeping (54), 1930, G.H.A. ; Göteborg (Sweden), Oct., 1930, C.S.

T. laevipila Schwaeg., var. *laevipilaeformis* Limpr., Roxton (30), Aug., 1906, H.N.D. ; Uplyne (9), Dec., 1903, H.N.D. "Border and foliose gemmae well marked," H.N.D.

T. intermedia Berk., Weedon (32), Dec., 1887, H.N.D. ; Malham Cove (Yorks), July, 1896, H.N.D.

T. ruralis Ehrh., Zemm Tal (Tirol), July, 1928, J.B.D.

T. ruraliformis Dixon, c.fr., Hayle (1), Feb., 1931, C.H.B. ; Horn Head (Co. Donegal), July, 1890, H.N.D. ; The Crumbles, Eastbourne (14), Dec., 1887, H.N.D.

T. norvegica Wahl., Stuben, Langen (Tirol), July, 1928, J.B.D.

T. princeps de Not., Inchnadamph (Sutherland), July, 1899, W.E.N., E.S.S. and H.N.D. ; Moel Hebog (49), Aug., 1931, S.P.R. ; Sierra Nevada (Spain), 1931, c.fr., P.W.M.R.

Barbula lurida Lindb., Cheddar (6), April, 1928, H.H.K., J.B.D. and D.A.J.

Didymodon (Barbula) rubellus B. & S., Bieberstein (Rheinland), Aug., 1931, A. Sch.

Barbula ferruginascens Stirton, Snowdon (49), Aug., 1931, J.B.D.

B. recurvifolia Schp., Pateley Bridge (65), Sept., 1931, A.T. ; var. *robusta* Braithw., Annacoona (I.28), June, 1930, W.R.M. "Quite correct I think ; it is a very different plant from the type form. It is indeed very near to *B. Kneuckeri* Loeske & Osterw., but that has the margins more strongly recurved above and nearly all the basal cells empty and pellucid. Moenkemeyer makes that and the var. *robusta* both varieties of *B. recurvifolia*," H.N.D. ; Gleniffe (I.28), Sept., 1928, W.Y.

B. Nicholsoni Culm., rocks by R. Wye, near Hereford (36), Oct., 1931, C.H.B. ; bridge over R. Mole, Buckland (17*), March, 1931, E.C.W.

B. sinuosa Braithw., Bishops Cleeve (33), Jan., 1928, P.G.M.R. and D.A.J. ; Flint Wall near Bookham (17), April, 1931, E.C.W.

B. convoluta Hedw., c.fr., Flixboro. (54), 1931, G.H.A.

B. gigantea Funk, Tirol, July, 1928, J.B.D.

B. membranifolia c.fr., Bastia, Corsica, July, 1931, L.B.C.T.,
det. D.A.J.

Leptodontium gemmascens Braithw., Stogumber (5), March,
1931, W.W.

L. flexifolium Hampe, Campsie (86 B.), April, 1931, J.R.L.

L. recurvifolium Lindb., Llyn-y-Cae (48), Aug., 1931,
H.H.K. and D.A.J.

Weisia crispa Mitt., Shurdington Hill (33), March, 1928,
H.H.K. and D.A.J., com. D.A.J.

W. crispata C.M., Hartside (70*), Oct., 1931, E.M.L.

W. viridula Hedw., var. *densifolia* B. & S., Moors above
Settle (64), June, 1931, leg. C.A.Ch., com. W.H.B.—large,
pure mats., associated with *Thlaspi alpestre* and *Arenaria verna*
on lead mine waste heaps at 1500 ft. alt.

W. tenuis C.M., Mansfield (56), July, 1928, E.M.H.

W. calcarea C.M., Arlutus Ridge, Menton (6), April, 1930,
C.H.B.

W. rupestris C.M., Hexham (67*), June, 1931, E.M.L.

W. curvirostris C.M., var. *commutata* Dixon, Cwm Glas
Mawr (49), Aug., 1931, J.B.D.; Cullernose Rink (68), Sept.,
1931, H.T. and B.D., com. J.B.D.; var. *insignis* Dixon, Ben
Lui (88), Aug., 1929, B.B.S., com. D.A.J.; Dalmally (98),
June, 1931, C.H.B.

Trichostomum crispulum Bruch, Kenmare (I.1), Oct., 1931,
D.D.B.; var. *viridulum* Braithw., Hartside (70*), Oct., 1931,
E.M.L. "I think this is correctly referred to the variety,
which is of course a variable one, embracing two or three
different forms, agreeing, however, in the form of the acumen,
which I take to be the character of importance," H.N.D.

T. mutabile Bruch, c.fr., near Calvi, Corsica, July, 1931,
L.B.C.T.

T. tenuirostre Lindb., young fruit, Tyn-y-groes (48), Aug.,
1931, C.H.B.; Slieve Donard (I.38), Aug., 1928, W.Y. "Poor
specimen of *Zygodon Mougeotii*," P.G.M.R.

Tortella (Trichostomum) inclinata Lim., Bröltal (Rheinland),
May, 1931, A. Sch.

T. nitidum Schp., Bonifaccio, Corsica, July, 1931, L.B.C.T.;
walls of Harlech Castle (48), July, 1901, D.A.J. and H.N.D.

T. tortuosum Dixon, damp rocks above Wearhead, Durham (66), Oct., 1931, E.M.L. "An interesting form," P.G.M.R.; var. *fragilifolium* Dixon, Ingleborough (Yorks.), Aug., 1896, H.N.D.

T. fragile Dixon, arid ground near Calvi, Corsica, July, 1931, L.B.C.T. "This is *Pleurochaete squarrosa*," P.G.M.R.

Pleurochaete squarrosa Lindb., near Marbella, Malaga (Spain), March, 1931, P.W.M.R. "A striking form, which seem to come in part under var. *brevifolia* Amann together with transitions to type," P.G.M.R.; Chesil Beach (9), May, 1931, E.C.W.; Perranporth (1) June, 1927, H.H.K. and W.E.N.; Newborough (52), Aug., 1931, J.B.D.

Cinclidotus Brebissoni Husnot, Lewes (14), Feb., 1896, leg. W.E.N., com. H.N.D.

C. fontinaloides P. Beauv., R. Wye, Fownhope (36), Oct., 1931, C.H.B. "Leaves patent denticulate at apex. Shows some approach to var. *Lorentzianus* Mol." P.G.M.R.; rocks in water near Lake Bala (48), Aug., 1930, c.fr., S.P.R.

C. riparius Arnott, Beauchamp (37), Oct., 1931, P.G.M.R. and W.E.N.; H.H.K.; C.H.B.; D.A.J. "Several gatherings from the locality from which the plant was sent to Bauer's Musci Europaei Exsiccati. See note by W.E.N.," P.G.M.R.

C. duumbirus Schiff., Glarus (Switzerland), July, 1873, leg. G. W. Bauer, com. L.L.

Encalypta commutata N. & H., Cwm Dyli (49), Aug., 1931, E.C.W.

E. vulgaris Hedw., c.fr., wall top, Malham (64), April, 1931, A.T.

E. ciliata Hoffm., Glen Beag (89), July, 1930, W.Y.

E. streptocarpa Hedw., c.fr., Killin (88), July, 1897, H.N.D.

Anoetangium compactum, Schwaeg., c.fr., Cader Idris (48), Aug., 1931, F.E.M. and D.A.J., com. D.A.J.; Alt. Dhu Ghabnir (88), date (?), leg. W.J.W., ex-herb. W.G.T.

Zygodon viridissimus R. Brown, Downhill, Bellina (I.28), Jan., 1925, D.B.B.; Rephin (I.25), c.fr., com. D.B.B. "Yes, *Z. euviridissimus* Malta var. *occidentalis* (Corr.) Malta," P.G.M.R.; var. *rupestris* Hartm., sandstone rocks, Allendale Common (67*), Oct., 1931, E.M.L. "Yes, as understood by British botanists, but probably not the form *rupestris* of Malta, who restricts it to forms of his var. *vulgaris*. The plant distributed by the B.B.S. in the last few years represent the

corresponding form of var. *occidentalis* to which he does not give a special name. The only British record for Malta's form of which I know so far, is my own from near Killarney. The gemmae in Miss Lobley's plant are not well developed, but it probably belongs to var. *occidentalis*," P.G.M.R.

Z. Stirtoni Schp., c.fr., Kingshorn (85), Dec., 1928, W.Y. "Yes, *Z. euviridissimus* Malta var. *occidentalis* f. *Stirtoni* Malta," P.G.M.R.; wall, Headley Lane, Boxhill (17), May, 1931, A.M.S. "Var *occidentalis* Malta. An interesting form the nerve being excurrent in some leaves, while in others the pointer is formed by a prolongation of the lamina only," P.G.M.R.

Z. gracilis Wils., Ingleborough (64), Dec., 1929, W.H.B.

Ulota Bruchii Hornsch., c.fr., Artro Valley (48), Aug., 1931, J.H.A.

U. phyllantha Brid. (large form), Dalmally (98), June, 1931, C.H.B.

U. Hutchinsiae Hamm., Dalmally (98), June, 1931, C.H.B.; Cwm Idwal (49), Aug., 1931, W.Y.

Orthotrichum speciosum Nees, Aviemore (96), July, 1930, H.H.K., D.A.J. and J.B.D., com. J.B.D.

O. affine, var. *rivale* Wils., Hoardweel (81), Dec., 1930, J.B.D.

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

O. Sprucei Mont., Monnington (36), July, 1931, C.H.B.

O. diaphanum Schrad., Reigate (17), June, 1931, A.M.S.

Schistostega osmundacea Mohr., c.fr., Duston Sand Quarries (32), April, 1925, A.B.J. and H.N.D., com. H.N.D.

Oedipodium Griffithianum Schwaeg., c.fr., Cwm Dyli (49), Aug., 1931, E.C.W.

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

Tetraplodon mnioides B. & S., Crag Lough near Bardon Mill (67), July, 1931, E.M.L.; c.fr., Ingleborough (64), Sept., 1931, C.H.C. and F.E.M., com. F.E.M.

Ephemerum recurvifolium Lindb., Utterby (54), Oct., 1931, G.H.A.

Physcomitrium pyriforme Brid., banks of Frome at Wool (9), May, 1931, E.C.W. "Yes, with some *Funaria hygrometrica*," P.G.M.R.

Funaria fascicularis Schp., La Croix (S. France), April, 1930, C.H.B. ; Hyères (S. France), May, 1930, C.H.B.

F. calcarea Wahl, Silverdale (60), April, 1906, A.W.

Aulacomnium palustre Schwaeg., var. *imbricatum* B. & S., near Ulmer Hütte, Schwarzenstein (Tirol), July, 1928, J.B.D.

Timmia austriaca Hedw., Ulmer Hutte, Stuben, Langen (Tirol), July, 1928, J.B.D.

Catoscopium nigratum Brid., Holy Island (68), July, 1931, J.B.D.

Anacolia Webbia (Mont.), Sierra Nevada (Spain), 1931, P.W.M.R.

Bartramia Oederi Swartz., Ling, Gill Little (64), Sept., 1930, A.T.

B. stricta Brid., c.fr., Corsica, July, 1931, L.B.C.T.

B. Halleriana Hedw., Borrowdale (70), June, 1930, S.P.R. ; Killin (88), April, 1930, A.W.

Philonotis fontana Brid., c.fr., Pindle Moor (59), May, 1930, A.J. ; Cader Idris (48), Aug., 1930, S.P.R. ; var. *tomentella* Mol., Ulmer Hütte, Stuben, Langen (Tirol), July, 1928, J.B.D.

Ph. caespitosa Wils., The Lizard (1), June, 1927, W.E.N.

Ph. seriata Mitt., Glen Beag (92), July, 1930, J.B.D. ; Meall Odhar (92), July, 1930, W.Y.

Ph. calcarea Schp., Caenlochan (90), July, 1890, W.Y.

Breutelia arcuata Schp., c.fr., Talyllyn (48), Aug., 1931, D.A.J. ; also, a curious form with proliferations, Ceunant Llenyrch Wood (48), Aug., 1931, E.A. ; Cwm Bychan (48), Aug., 1931, J.H.A. ; Dalmally (98), June, 1931, C.H.B.

Mielichhoferia nitida var. *elongata* B. & S., Glen Callater (92), July, 1930, J.B.D.

Webera cruda Schwaeg., Sewingshields Crags (67*), March, 1931, E.M.L.

W. annotina Schwaeg., var. *bulbifera* Correns, Pomerania (Germany), June, 1930, L.L.

W. prolifera Bryhn, c.fr., Hayle (1), May, 1931, W.E.N., H.H.K. and D.A.J. com. D.A.J. ; idem, com. W.E.N.

W. Ludwigii Schp., Ben More (88), July, 1929, W.Y. ; The Bizzle, Cheviot (68), Sept., 1931, J.B.D. ; Cairngorm (96), July, 1930, J.B.D.

W. commutata Schp., Schwarzenstein (Tirol), July, 1928, J.B.D.

W. albicans Schp., Dolgelly (48), Aug., 1930, S.P.R. ; var. *glacialis*, Larig Ghru (92), Aug., 1923, D.B.B. "This is type," D.A.J.

Plagiobryum Zierii Lind., Staward-le-pele (67*), Nov., 1931, E.M.L.

P. demissum Lindb., c.fr., Craig Chailleach (82), July, 1927, W.Y.

Bryum filiforme var. *juliforme* Dixon, Carbis Bay (1), May, 1928, H.H.K., J.B.D., and D.A.J., com. D.A.J.

B. pallens Sm., Watton (17), Dec., 1928, E.C.W.

B. bimum Schreb., Dalmally (98), June, 1931, C.H.B. ; Tumby (54), Spring, 1931, G.H.A.

B. alpinum Huds., Ben Lawers (88), July, 1928, W.Y. ; Coniston (69), June, 1931, A.T. ; var. *viride* Husn., Cwm Dyli (49), Aug., 1931, W.Y.

B. argenteum L., var. *lanatum* B. & S., Leven Links (85), Sept., 1928, W.Y.

Mnium Seligeri Jur., Homburger Bröl (Rheinland), May, 1929, A. Sch. "The Handbook includes this plant under *Mnium affine* var. *elatum* B. & S.," W.E.N.

M. orthorrhynchum Brid., Creagan Lochain Lairige (88), Aug., 1912, W.E.N.

M. riparium Mitt., Whitbourne (36), Sept., 1931, C.H.B.

M. stellare Reich, c.fr., Vernet-les-Bains (S. France), May, 1931, C.H.B.

M. cinclidoides Hübn., Killin (88), Aug., 1909, W.Y. ; margin of Talyllyn Lake (48), Aug., 1931, H.H.K. ; Great Langdale (69), Sept., 1908, A.W.

M. punctatum var. *elatum* Schp., Killin (88), July, 1927, W.Y. "This plant is *dioicous* and the vegetative parts seem to agree with the var. *elatum*. Archegonia were found in one packet, the remainder being barren," D.A.J.

M. subglobosum B. & S., Newham Bog (68), Oct., 1931, J.B.D. ; Hutten Moor (62), May, 1931, G.F.H. "With synoicous inflorescence."

Fontinalis antipyretica L., var. *lasea* Milde, Malham Cove, (Yorks.), July, 1896, H.N.D. ; var. *laxa* Milde, Malham Cove (Yorks.), 1896, H.N.D. "Branch leaves very divergent and

rigid," ; forma *alpina* (teste Cardot), Dale Head (70), Aug., 1895, H.N.D.

F. dolosa Cardot, Shrewsbury, Aug., 1897, leg. W.P.H., com. R. de G.B., com. H.N.D. "Nearest *F. dolosa*, only differing in the more obtuse leaves," H.N.D. ; Limbury (30), Aug., 1882, leg. J.S., com. H.N.D.

F. squamosa L., Maghonabo Glen, June 1865, leg. W. Wilson, ex-herb. H.N.D. ; *subspecies dalecarlica* B. & S., Princetown (3), July, 1894, H.N.D. "I am doubtful of this," H.N.D.

F. Dixoni Cardot, B. Colwyn (48), Aug., 1888, H.N.D., Leste Cardst.

F. Duriaei, Vernet-les-Bains (S. France), May, 1931, C.H.B., det. H.N.D.

Neckera crispa Hedw., c.fr., Dyli Falls (48), July, 1931, Mrs. Bradford and H.N.D., com., H.N.D. "Type and var. *falcata* on the same plant," ; Clapham (Yorks.), July, 1896, H.N.D. "Showing transition to var. *falcata*," H.N.D. ; var. *falcata* Boul., Hartside (70*), Oct., 1931, F.M.L. "The variety is present, mixed with intermediates and type," D.A.J. ; Bracklinn Falls (88), July, 1897, H.N.D.

N. pumila Hedw., Llanbedr (48), Aug., 1931, S.P.R. ; Dalmally (98), June, 1931, C.H.B. ; Moreton (91), May, 1931, E.C.W.

N. complanata Huebn., Malham Cove (Yorks.), July, 1896, H.N.D. "Form analogous to *N. crispa* var. *falcata*, with which it was growing" ; var. *tenella* Schp., near Blakesley (32), Jan., 1896, H.N.D. "With intermediate forms."

Hookeria laete-virens Hook. & Tayl., Mousehole Cave (1), 1931, W.E.N., H.H.K. and D.A.J., com. D.A.J. ; July, 1886, H.N.D.

Leucodon sciuroides Schwaeg., Arundel Park (13), May, 1927, E.C.W. ; var. *morensis* B. & S., Craig Chailleach (88), July, 1891, leg. R. H. Meldrum, com. H.N.D.

Pterogonium gracile Sm., c.fr., Llanbedr (48), Aug., 1931, S.P.R. ; var. *harlecense* Jones, Artro Valley (48), Aug., 1931, J.R. "Intermediate between type and variety," D.A.J. ; var. *minus* Jones (var. *harlecense*), trees, Llechwedd (48), Sept., 1905, D.A.J., com. H.N.D.

Antitrichia curtispindula Brid., Siegtal (Rheinland), May, 1931, A.Sch. ; *A. californica* Sull., c.fr., Sierra Nevada (Spain), 1931, P.W.M.R.

Myurella julacea B. & S., Killin (88), July, 1927, W.Y.

Fabronia pusilla Raddi, c.fr., near Calvi, Corsica, July, 1931, L.B.C.T.

Anomodon attenuatus Huebn, Vernet-les-Bains (S France), May, 1931, C.H.B.; Siebengebirge (Rheinland), July, 1929, A. Sch.

Pterigynandrum filiforme Hed., Ben Lawers, (88) Aug., 1902, E.C., J.B.D. and D.A.J., com. D.A.J.

Pseudoleskea atrovirens B. & S., Ben Lawers (88), July, 1919, W.Y.; near Ranz, Stuben, Langen (Tirol), July, 1928, J.B.D.

Ps. catenulata B. & S., Glen Beag (89), July, 1930, W.Y.

Ps. striata Dixon, Bonifaccio, Corsica, July, 1931, L.B.C.T. "This plant is *Eurhynchium circinatum* B. & S., a very characteristic moss of the Mediterranean area. One would hardly expect to find *Ps. striata* on the hot dry rocks of the Straits of Bonifaccio," W.E.N.

Thuidium abietinum B. & S., Ulmer Hütte, Stuben, Langen (Tirol), July, 1928, J.B.D.; Thetford Warren (28), Oct., 1927, H.H.K. and W.E.N.

Th. hystricosum Mitt., Reigate (17), Jan., 1932, D.M.S.

Th. tamariscinum B. & S., young fruit, Ceunant Llenyrch (48), Aug., 1931, E.A.

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

Th. Philiberti Limpr., Meall Ghaordie (88), July, 1927, W.Y.

Cylindrothecium concinnum Schp., Boxhill (17), April, 1931, A.M.S.

Myurium Hebridarum Schp., Ins. Barra (110), Aug., 1899, leg. R. Braithwaite, com. H.N.D.

Pylaisia polyantha B. & S., on elder tree near Etal (68), Jan., 1931, J.B.D.

Orthothecium rufescens B. & S., Dalmally (98), June, 1931, C.H.B.

O. intricatum B. & S., var. *abbreviatum* Dixon, Ingleborough (64), 1913, leg. C.A.C., com. H.N.D.

Camptothecium lutescens B. & S., Barrasford (67*), June, 1931, J.B.D., H.T. and E.M.L., com. E.M.L.

C. nitens Schp., Lago di Garda, Riva (Italy), July, 1930. L.B.C.T. "*C. nitens* is a bog plant. This should be *C. lutescens* B. & S.," J.B.D. ; Lochan a Larige (88), July, 1929, B.B.S., com. D.A.J.

C. aureum (Lagaske) B.E., wall of Jericho Road (Mt. of Olives), Jerusalem, Nov., 1930, leg. F.M.G., com. A.S.

Brachythecium plicatum B. & S., near Ulmer Hütte, Stuben, Langen (Austria), July, 1928, J.B.D.

B. glareosum B. & S., Clandon Downs (17), April, 1931, E.C.W. ; Wearhead, Durham (66*), Oct., 1931, E.M.L. ; Wiehlgebiet (Rheinland), April, 1931, A. Sch. "The watery habitat raises suspicion. The plant is autoicous—it must be *Br. salebrosum* var. *palustre* Schp.," J.B.D.

B. rutabulum B. & S., formâ *paludosum*, "stem erect, pinnate," Abingdon (32), May, 1896, H.N.D. ; var. *longisetum* B. & S., Heyford (32), Jan., 1898, c.fr., H.N.D.

B. rivulare B. & S., near var. *latifolium*, Scafell (70), Aug., 1895, H.N.D. ; Brölgebiet (Rheinland), June, 1929, A. Sch.

B. glaciale B. & S., near Ulmer Hütte, Stuben, Langen (Austria), July, 1928, J.B.D.

B. reflexum B. & S., Alpes, Salzburg (Germany), Aug., 1927, L.L.

B. velutinum B. & S., var. *praelongum*, Boughton Park (32), Jan., 1898, c.fr., H.N.D.

B. populeum B. & S., Dormington (36), Nov., 1930, C.H.B. ; Boscastle (Cornwall), Aug., 1886, H.N.D., fide H. Boswell.

B. plumosum B. & S., Ceunant Llenyrch (48), Aug., 1931, J.H.A.

B. caespitosum Dixon, c.fr., Southwood Common (37), Oct., 1931, W.E.N. ; Stamford Bridge (37), March, 1931, P.G.M.R., H.H.K. and D.A.J., com. D.A.J.

B. latifolium (Lindb.), Philib., Galdhö i Lom (Norway), Aug., 1889, J.H. and C.K., com. J.L.

Hyocomium flagellare B. & S., Tyn-y-grces (48), Aug., 1931, J.H.A. ; Ceunant Llenyrch (48), Aug., 1931, C.E. ; Artro Valley (48), Aug., 1931, J.H.A.

Eurhynchium cirrosum Jur., Glockner Hans, Heiligenblut (Austria), July, 1928, J.B.D.

E. crassinervium B. & S., var. *turgescens*, Clapham (Yorks), July, 1896, H.N.D.

E. praelongum Nobk., var. *Stokesii* Brid., Ceunant Llenyrch (48), Aug., 1931, D.B.B. "This is *E. myosuroides* var. *rivulare*," J.B.D.

E. Teesdalei Schp., by the R. Till (69) Jan., 1931, J.B.D. ; Nantyffrith (50), Jan., 1925, P.G.M.R. and D.A.J., com. D.A.J.

E. tenellum Milde, Portland (9), May, 1931, E.C.W.

E. myosuroides Schp., var., Altnaharra (Sutherland), July, 1899, H.N.D. ; forma, Erwood (42), July, 1903, H.N.D. ; var. *brachythecioides* Dixon, Ben Clibreck (Sutherland), July, 1899, H.N.D.

E. myurum appr. var. *robustum* B. & S., Lago di Garda, July, 1930, L.B.C.T.

E. strigosum B. & S., var. *diversifolium* Lindb., Vernet les Bains (S. France), April, 1931, C.H.B.

E. meridionale de Not., Portland (9), May, 1928, J.B.D. ; April, 1930, F.E.M.

E. murale Milde, Burton Slather (54), 1931, G.H.A. ; var. *julaceum* B. & S., Barcombe Fell (67*), July, 1931, E.M.L.

E. megapolitanum Milde, Tamaris (S. France), Feb., 1931, C.H.B.

Sematophyllum demissum Mitt., tree trunk, Vizzavona, Corsica, July, 1931, L.B.C.T. "The areolation is highly papillose—a slender form of *Pterigynandrum filiforme* Hedw.," J.B.D.

Plagiothecium depressum Dixon, Holton-le-Moor, 1931, G.H.A. "The packets are badly mixed, but contain no *P. depressum*," J.B.D.

P. pulchellum B. & S., Hexham (67*), June, 1931, E.M.L. ; var. *nitidulum* Husn., Loch Kander (92), July, 1930, J.B.D.

P. denticulatum B. & S., var. *majus* Boul., Westburnhope (67*), July, 1931, E.M.L.

P. platyphyllum Mönk., Windecker Berg (Rheinland), May, 1931, A. Sch. "This plant is no doubt *P. platyphyllum* Mönk., as named, but as the plant was unfamiliar to me, I referred it to Mr. Dixon, who says that he should be inclined to refer it to *P. silvaticum*, as understood in this country, though we both recognise that it is not *P. silvaticum* as understood by Herr Mönkemeyer himself and some other continental botanists," W.E.N.

P. undulatum B. & S., forma (see Handbook), (E.A.'s Station), Cader Idris (48), Aug., 1931, F.E.M. and D.A.J., com. D.A.J.

Amblystegium compactum Aust., sea cliffs near Berwick (68), Nov., 1930, J.B.D. ; Saargau (Germany), Dec., 1931, C.W.F. com. L.L.

A. serpens B. & S., East Morton (64), Oct., 1931, c.fr., A.T. "Yes, with an admixture of one or two other small plants," J.B.D. ; var. *salinum* Carr., sea coast near Berwick (68), Nov., 1930, J.B.D. ; Newborough (52), Aug., 1931, A.M.S.

A. varium Lindb., Revesby (54), 1931, G.H.A.

Hypnum riparium L., Humberton (54), 1931, c.fr., G.H.A. ; var. *longifolium* Schp., Garstang (60), July, 1931, A.W.

H. polygamum Schp. var. *stagnatum* Wils., Ainsdale (59), July, 1924, J. A. Wheldon, com. W.G.T.

H. stellatum Schreb., Kilburn (62), June, 1931, W.B. ; Pateley Bridge (65), Sept., 1931, A.T. ; var. *protensum* Roehl, Doncaster (63), May, 1931, S.P.R.; also, Bröltal (Rheinland), April, 1929, A. Sch.

H. chrysophyllum Brid., Doncaster (63), Oct., 1931, S.P.R. "Leaves abruptly and longly acuminate. I would rather call it *H. stellatum* var. *protensum* Roehl," J.B.D. ; Boxhill (17), April, 1931, E.C.W.

H. hispidulum var. *Sommerfeltii* Myr., c.fr., Birdlip (33), Feb., 1928, H.H.K. and D.A.J., com. D.A.J.

Hypnum aduncum Hedw., var. *gracilescens* Schp., Grays (18), April, 1931, leg. W.R.S., com. E.C.W. ; var. *intermedium* Schp., Epping Forest (18), Nov., 1931, A.W. "A very interesting plant approaching the var. *pungens* H. Müll," W.R.S. ; *Group typicum* f. *falcatum* Ren., Ainsdale (59), Sept., 1928, W.G.T. "This is not the var. *falcata*, which plant has the stem leaves falcate as well as the leaves at the apex of stem and branches," W.R.S.

H. Wilsonii Schp., Ross Links (68), June, 1928, J.B.D.

H. lycopodioides Schwaeg., sand dunes, Southport (59), April, 1913, W.W. ; Braunton burrows (4), June, 1914, W.W. ; f. *obesum* Warnst., Freshfield (59), Oct., 1908, leg. J. A. Wheldon, com. W.G.T. ; Ross Links (68), Sept, 1928, J.B.D.

H. fluitans L. var. *Robertsiae*, Strensall Common (62), Aug., 1931, W.B. ; var. *falcatum* Schp., near Sedbergh (65), Aug., 1923, A.W. "This is *H. exannulatum* Gumb." W.R.S.

H. exannulatum Gumb., Langdon Common (66), May, 1931, S.P.R. ; Sabden South Lane (59), May, 1930, A.T. ; f. *submersum* s.f. *pinnatum* Mönk., Waldbröl (Rheinland), Dec., 1929, leg. A. Sch., det. L.L.

H. uncinatum Hedw., Arolla (Switzerland), Aug., 1931, ex-herb., F.A.S.

H. vernicosum Lindb., Brölgebiet (Rheinland), June, 1929, A. Sch.

H. revolvens Swartz., var. *Cossoni*, Scotton (54), 1931, G.H.A.; Ainsdale (59), Aug., 1931, W.G.T. ; f. *flavescens* Wheld., Ainsdale (59), Aug., 1931, W.G.T. "I should call this *H. intermedium*," W.R.S.

H. intermedium Lindb., Hartside (70*), Oct., 1931, E.M.L. ; Wahner Heide (Rheinland), Oct., 1931, A. Sch. "This is *H. revolvens* var. *Cossoni*. *H. intermedium* has the stem leaves with a much shorter acumen, less coloured at base, and is altogether a smaller plant," W.R.S.

H. commutatum Hedw., Cronkley Fell (65), May, 1928, S.P.R.

H. falcatum Brid., var. *virescens* Schp., Crosby Gill (69), April, 1922, A.W. "This is a form of *H. commutatum*," W.R.S.

H. sulcatum Schp., Ben Lawers (88), July, 1927, J.B.D. ; near Ulmer Hütte, Stuben, Langen (Austria), July, 1928, J.B.D.

H. reptile Rich., Mittersill (Austria), Aug., 1930, L.L.

H. cypressiforme L., var. *resupinatum* Schp., Hamsey (14), Dec., 1925, c.fr., W.E.N. ; var. *mamillatum* Brid., Cwm Bychan (48), Aug., 1931, F.R. ; var. *tectorum* Brid., Hartside (70*), Oct., 1931, E.M.L. ; Epping Forest (18), Nov., 1931, A.W. ; Hexham (67*), Feb., 1931, E.M.L. ; Harlech (48), Aug., 1931, E.A. ; var. *elatum* B. & S., Eglwyseg Rocks (50), Aug., 1924, H.H.K. and D.A.J., com. D.A.J.

H. Vaucheri Lesq., Heiligenblut (Austria), July, 1928, J.B.D.

H. imponens Hedw., Worplesdon (17), Sept., 1931, E.C.W. ; Matley Bog (11), April, 1930, B.B.S., com. D.A.J.

H. pratense Karl., Briesmoor, Berlin (Germany), May, 1926, L.L.

H. revolutum Lindb., Stadl Hütte, Gross Glockner (Tirol), July, 1928, J.B.D.

H. hamulosum B. & S., Finlarig Corrie (88), July, 1927, W.Y.

- H. Bambergeri* Schp., Ben Lawers (88), July, 1929, J.B.D.
- H. molluscum* Hedw., var. *condensatum* Schp., Crag Wood (67*), May, 1931, J.B.D. and E.M.L., com. E.M.L. ; Dalmally (98), June, 1931, C.H.B.
- H. crista-castrensis* L., Dalmally (98), June, 1931, c.r.r., C.H.B. ; Cwm Bychan (48), Aug., 1931, J.H.A.
- H. palustre* Huds., near Richmond (17), Jan., 1931, E.C.W. "A very lax form, somewhat mixed with other aquatic species, *Eurhynchium rusciforme* and *Cinclidotus*," J.B.D.
- H. eugyrium* Schp., Llanbedr (48), Aug., 1931, S.P.R.
- H. ochraceum* Turn., Crag Wood (67*), May, 1931, J.B.D. and E.M.L., com. E.M.L. ; Cwm Idwal (49), Aug., 1931, W.Y.
- H. scorpioides* L., Langdon Common (66), May, 1931, S.P.R.
- H. trifarium* W. & M., near Ben Chuirm (88), Aug., 1929, D.A.J.
- H. cordifolium* Hedw., Doncaster (63), June, 1931, S.P.R.
- H. giganteum* Schp., Moreton Heath (9*), May, 1931, E.C.W.; Skipworth Common (61), June, 1931, H.S., com. W.B. "These packets contain some *H. giganteum*, but, also, *H. cordifolium* and *H. cuspidatum*," J.B.D.
- H. sarmentosum* Whal., Cwm Idwal (49), Aug., 1931, E.C.W.; Cruach Ardhan (88), Aug., 1929, W.Y.
- H. Schreberi* Willd., Mordiford (36), Nov., 1931, c.fr., C.H.B.
- Hylocomium umbratum* B. & S., Tyn-y-groes (48), Aug., 1931, J.B.D. ; Aug., 1928 and Aug., 1930, S.P.R. ; Aug., 1931, E.A. ; Aug., 1931, H.N.D., and F.E.M., com. F.E.M.
- H. brevirostre* B. & S., Ceunant Llenyrch (48), Aug., 1931, J.H.A. ; Llanbedr (48), Aug., 1931, J.H.A.
- H. loreum* B. & S., Ceunant Llenyrch (48), Aug., 1931, c.fr., E.A.
- H. triquetrum* B. & S., "small dune form," Morfa Dyffryn (48), Aug., 1931, F.R.
- H. rugosum* de Not., Ben Doireaun (87), Aug., 1928, W.Y. ; Vernet les Bains (S. France), May, 1931, C.H.B. ; Sandoid (69), June, 1928, A.T.

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

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

Fissidens Julianus (Savi) Schimp., Charlotte N.C. (U.S.A.),
Oct., 1931, F.W.G.; in creek, Manotee, Florida (U.S.A.),
March, 1926, A.J.G.

Fissidens polypoides Hedw., near Fallahassee, Florida
(U.S.A.), April, 1931, A.J.G.

Archidium ohioense Schimp., Austin, Texas (U.S.A.), Feb.,
1931, F. McAllister, com. and det. A.J.G.

Pleuridium palustre B. & S., Flushing, N.Y., (U.S.A.), April,
1904, A.J.G. "This is the plant known also as *Bruchia*
palustris C.M. and *Sporledera palustris* Hampe." H.N.D.

Pleuridium Ravenelii Aust., Kingstree S.C. (U.S.A.), Feb.,
1931, F.W.G. det. Bartram.

Pleuridium subulatum Rabenh., Kingstree S.C. (U.S.A.),
Feb., 1931, F.W.G.

Bruchia fusca E.G.B., Charlotte, N.C. (U.S.A.), March,
1930, F.W.G., det. Bartram.

Bruchia Ravenelii Wils., Winter Haven, Florida (U.S.A.),
Jan., 1931, F.W.G., det. Bartram.

Bruchia Sullivantii Aust., Ocala Fla., National Forest
(U.S.A.), Feb., 1931, F.W.G., det. A.J.G.

Trematodon longicollis Mx.G., Winter Haven, Florida
(U.S.A.), Jan., 1931, F.W.G.

Dicranella subinclinata Lorz., Winter Haven, Florida
(U.S.A.), Jan., 1931, F.W.G. "As Mr. Gray requested, I
examined all the packets of this. I do not think there is any
mixture. Although there are leaves much like *Ditrichum*
tortile, the peristome shows it to be a *Dicranella*. Lorentz
describes the seta as "flavescens," R.S. Williams as "reddish,"
at least when old." Here it is decidedly red except when
immature. Lorentz describes the upper cells as quadrate,
R. S. Williams as short, about 2 x 1; here they are decidedly
longer. In other respects it agrees quite well with *D.*
subinclinata as described by R. S. Williams. I do not pretend

in the case of such a critical plant to give an opinion definitely ; but it is clearly either *D. subinclinata* or a very closely allied species," H.N.D.

Dicranum condensatum Hedw., National Forest, Ocala, Florida (U.S.A.), Feb., 1931, F.W.G., det. E.B.B. ; Silver Springs, Florida (U.S.A.), Feb., 1931, F.W.G., det. E.B.B.

Dicranum undulatum Ehrh., c.fr., in woods, Frost, W. Va. (U.S.A.), April, 1930, F.W.G.

Dicranum spurium Hedw., Hillsborough W. Va. (U.S.A.), July, 1930, F.W.G.

Dicranum pallidum B. & S., The Neck, Gaston County, N.C. (U.S.A.), March, 1930, F.W.G., det. Kaiser. "R. S. Williams considers this identical with *D. condensatum* Hedw.," H.N.D.

Dicranum Mühlenbeckii B. & S., Droop Mt., alt. 3,000 ft., Hillsborough, W. Va. (U.S.A.), Nov., 1931. "Immature because of severe drought," F.W.G.

Dicranoloma reflexifolium (C.M.), Java, 1930, Fr. V.

Leucobryum albidum Lindb., at base of cabbage palm, Sebring, Florida, (U.S.A.), Feb., 1931, F.W.G. ; Sanford, Florida (U.S.A.), Feb., 1931, F.W.G.

Leucobryum tahitense Ångstr., Faaroa Bay (U.S.A.), top of mountain, 500 m., April, 1927, J. W. Moore, det. E.B.B.

Leucophanes tahiticum Besch., S. of Uturoa on tree (U.S.A.), Jan., 1927, J.W.M. det., E.B.B.

Arthrocormus Schimperi Dz. & Malkf., Faaroa Bay (U.S.A.), April, 1927, J.W.M., det. E.B.B.

Syrrhopodon Banksii C.M., Tiso (U.S.A.), April, 1927, J.W.M., det. E.B.B.

Syrrhopodon floridanus Sull., at base of cabbage palm, Orlando, Florida (U.S.A.), Feb., 1931, F.W.G., det. E.B.B.

Syrrhopodon Texanus Sull., Bartow, Florida (U.S.A.), Jan., 1931, F.W.G., det. A.J.G.

Calymperes tahitense (Sull.) Mitt., Mt. Temehain, Jan., 1927, J.W.M., det. E.B.B.

Atomum Sullivantii Schp., Brunswick Gr. (U.S.A.), Feb., 1931, F.W.G., det. A.J.G. ; Marlinton W. Va. (U.S.A.), April, 1930, F.W.G.

Leptodontium aggregatum C.M., Java, 1930, Fr. V.

Weisia verticillata Brid., forma, Jersch, Trans Jordan (Palestine), April, 1931, leg. F.M.G., det. A.S.

Weisia viridula N. var. *longiseta* L. & J., Silver Springs, Florida, (U.S.A.), F.W.G., det. A.J.G.

Didymodon rubellus B. & S., Granville Gulf, Vermont (U.S.A.), May, 1931, A.J.G.

Barbula vinealis Brid., aqueduct at El Shellah, Jerash. Trans Jordan (Palestine), April, 1931, F.M.G., det. A.S.

Pottia truncatula Lindb., Owen Sound, Ontario (Canada), April, 1927, E.A.M.

Tortula fragilis Tayl., Mill Point, W. Va. (U.S.A.); "remarkable extension of range; see Bry., Sept. 1926," Oct., 1931, F.W.G., det. E.B.B.; April, 1931, F.W.G.

Tortula Porteri (J. & S.) Broth., Alderson, W. Va. (U.S.A.), Spring, 1929, F.W.G., det. E.B.B.

Grimmia pilifera Beauv., Marlinton, W. Va. (U.S.A.), Dec., 1930, F.W.G.

Racomitrium lanuginosum Brid., Java, Occ., Aug., 1930, Fr. V., det. H.N.D.

Nanomitrium synoicum (Jances) Lindb., Dinter Haven, W. Va. (U.S.A.), Jan., 1931, F.W.G.

Physcomitrium turbinatum (Mr.) Brid., Charlotte N.C. (U.S.A.), March, 1930, F.W.G., det. A.J.G.

Funaria hygrometrica var. *patula* Br. Eur., Astor Park, Florida (U.S.A.), Feb., 1931, F.W.G., det. A.J.G.

Funaria flavicans Mx., Ocala, Florida (U.S.A.), Feb., 1932, F.W.G., det. E.B.B.

Tetraplodon australis Sulliv. & Lesq., Winter Haven, Florida (U.S.A.), Jan., 1931, F.W.G., det. A.J.G.; April, 1931, A.J.G. and F.A. McF.

Webera cruda Schwaeg., Huntersville W. Va. (U.S.A.), May, 1930, F.W.G. "The specimens are small and barren. It may belong to this species," D.A.J.

Bryum argenteum, var. *lanatum* B. & S., Ocala Fla. (U.S.A.), Feb., 1931, F.W.G.

Mnium affine ciliare (Grev.) C.M., Mingo, W. Va. (U.S.A.), May, 1930, F.W.G. "If this is a variety of *M. affine* (*sensu stricto*), it should have creeping sterile stolons, but all the stems appear to be erect. It is very much like *M. Drummondii*, but that is synoicous, and this like *M. affine* is dioicous. I think probably Möenkemeyer is right in the view he takes (Laubm. Eur. 557); what he says may be condensed thus:—"The Finland *M. ciliare* (Grev.) belongs to *M. affine*, but the

N. American (Tennessee) plant is a var. of *M. insigne* Mitt., which he considers distinct from *M. affine* var. *elatum* (*M. insigne* auct., non Mitt.). Mr. Gray's moss is a fine plant," H.N.D.

Rhizogonium spiniforme (L.) Bruch., Sandford, Florida (U.S.A.), Feb., 1931, F.W.G., det. E.B.B. ; Polk, Co. Florida (U.S.A.), May, 1931, A. J. G.

Anacolia Baueri (Hamp.) Poi., Verdiedo Hills (U.S.A.), F. A. McFadden.

Ptychomitrium incurvum (Schw.) Sulliv., Marlinton, W. Va. (U.S.A.), Feb., 1930, F.W.G.

Ptychomitrium Drummondii H. & W., Sull., Maeshville, N.C. (U.S.A.), March, 1931, F.W.G., det. A.J.G.

Orthotrichum Porteri Aust., Cass, W. Va. (U.S.A.), April, 1929, F.W.G., det. E.B.B. "Considered by a good many authors as a variety of *O. cupulatum*," H.N.D.

Orthotrichum strangulatum Sulliv., Kerrs Corners, Virginia (U.S.A.), April, 1931, A. J. G. "This is considered by Paris and Brotherus identical with *O. Braunii* Bry. Eur., and also by several N. American authors," H.N.D.

Orthotrichum ohioense S. & L., Mingo, W. Va. (U.S.A.), May, 1931, F.W.G., det. E.B.B.

Ulota Bruchii Brid., Wunlass, Cass. W. Va. (U.S.A.), Summer, 1929, and Feb., 1930, F.W.G.

Ulota americana Lindb., Huntersville, W. Va. (U.S.A.), Nov., 1930, F.W.G. ; Alderson, W. Va. (U.S.A.), Nov., 1927, F.W.G.

Macromitrium fragilifolium Dixon nova species, typus, ex-herb, Fr. Verd.

Dichelyma capillaceum B. & S., Charlotte N.C. (U.S.A.), June, 1928, F.W.G.

Climacium Kindbergii Grout, Ocala, Florida, (U.S.A.), Feb. 1931, F.W.G., det. A.J.G. ; Manatee Co., Florida (U.S.A.), March, 1931, A.J.G.

Cryphaea glomerata B. & S., Charlotte N.C. (U.S.A.), Spring, 1928, F.W.G.

Forrestreomia trichomitria Lindb., Mingo, W. Va. (U.S.A.), May, 1930, F.W.G.

Forrestreomia trichomitria, var. *immersa* (Sull.) Lindb., Dade City, Florida (U.S.A.), Jan., 1931, F.W.G., det. E.B.B. ; Gainesville, Florida (U.S.A.), Feb., 1931, F.W.G., det. E.B.B.

Leucodon brachypus Brid., Secbent, W. Va. (U.S.A.), Dec., 1929, F.W.G., det. A.J.G.

Leucodontopsis floridana (Aust.) E.G.B., Dade, Co. Florida (U.S.A.), April, 1931, A.J.G.

Pseudocryphaea flagellifera (Brid.), E.G.B., Trinidad, 1929, P.W.R.

Pirela cymbifolia (Sulliv.), Card., Sanford, Florida (U.S.A.), Feb., 1931, F.W.G., det. E.B.B.

Papillaria nigrescens (Sw.) Broth., Sebring, Fla. (U.S.A.), Feb., 1931, F.W.G., det. E.B.B. ; Winter Haven, Fla. (U.S.A.), Jan., 1931, F.W.G. ; Marrulee, Florida (U.S.A.), March, 1926, A.J.G.

Neckeropsis undulata (Palis.) near Suapa, Trinidad, 1929, P.W.M.R. ; Dade City, Florida (U.S.A.), Jan., 1931, F.W.G., det. E.B.B.

Clasmatodon parvulus Sulliv., Charlotte N.C. (U.S.A.), May, 1930, F.W.G., det. Kaiser ; Dade City, Florida (U.S.A.), Jan., 1931, F.W.G.

Anomodon attenuatus Huebn., Mattawoman Creek, Maryland (U.S.A.), July, 1931, A.J.G.

Thuidium microphyllum (Sw.) Best., near La Platte, Ch. Co. (U.S.A.), July, 1921, E.P.K. and E.C.L., com. A.J.G. " This will be found in Brotherus " Musci " as *Haplocladium microphyllum* (Sw.) Broth.," H.N.D. ; Bartow, Florida (U.S.A.), Feb., 1931, F.W.G., det. A.J.G.

Thyridium constrictum (Sull.) Mitt., Faaroa Bay (U.S.A.), May, 1927, J.W.M., det. E.B.B.

Cratoneuron filicinum (L., Hedw.) Roth var. *aciculinum* (Kindb.), Grout N. Comb., Columbia Falls, Montana (U.S.A.), June, 1895, R.S.W., det. A.J.G.

Leptodictyum riparium (L.) Warnst., appr. var. *obtusifolium* Grout, Sanford, Florida (U.S.A.), Feb., 1931, F.W.G., det. A.J.G. ; formâ *obtusum*, Robinson's Springs, Sanford (U.S.A.), April, 1926, A.J.G. " = *Hypnum riparium* L.," H.N.D.

Drepanocladus exannulatus Gumb., Woodford Roud, Vermont (U.S.A.), June, 1931, A.J.G.

Hygrohypnum montanum (Wils.) Broth., Stratton, Vermont (U.S.A.), June, 1931, A.J.G.

Camptothecium aeneum (Mitt.), Johnson's Bar, Idaho (U.S.A.), April, 1928, G.W.J.

Camptothecium lutescens B. & S., Mull Creek, near Prospect (U.S.A.), L.F.H., com. A.J.G.

Scleropodium obtusifolium (Hook.) Kindb., Slocan City (British Columbia), Aug., 1926, F.A.McF.

Eurhynchium serrulatum (Hedw.) Kindb., Manatee, Co. Florida (U.S.A.), June, 1926, A.J.G. "Most works have this under *Rhynchostegium*," H.N.D.

Entodon Drummondii, Sanford, Florida (U.S.A.), April, 1926, A.J.G.

Entodon seductrix (Hedw.) C. Muell., near Manatee, Fla. (U.S.A.), Feb., 1926, A.J.G.

Heterophyllum haldanianum (Grey) Kindb., Cass, W. Va. (U.S.A.), Nov., 1927, F.W.G., det. E.B.B.

Brotherella recurvans (Schw.) Fleisch., Leatherbark Run (U.S.A.), Dec., 1927, F.W.G. "It is *Rhaphidostegium recurvans* of Jaeger," H.N.D.

Taxithelium planum (Brid.) Mitt., near Lake Okechobee, Florida (U.S.A.), March, 1926, A.J.G.

Ectropothecium ichnotocladum (C.M.), Java, 1930, Fr. V.

Ectropothecium sodale (Sull.) Mitt., Faaroa Valley (U.S.A.), Jan., 1927, J.W.M., det. E.B.B.

Isopterygium micans (Sw.) Broth., Sebring, Fla. (U.S.A.), Feb., 1931, F.W.G., det. E.B.B.

Hypnum curvifolium, Dunmore, W. Va. (U.S.A.), June, 1928, F.W.G.

Hypnum patientiae Lindb., Sanford, Fla. (U.S.A.), Feb., 1931, F.W.G.; base of tree in cypress swamp, Feb., 1926, A.J.G. "These specimens are no doubt correct, but they differ a good deal in habit from our British form and have a very strong resemblance to *H. cypressiforme*," J.B.D.; var. *americanum* R. & C., Manatee, Fla. (U.S.A.), April, 1926, A.J.G.

Ctenidium malacobolum (C.M.), Java, 1930, Fr. V.

Mittenothamnium diminutinum (Hampe) E.G.B., Dade Co. Fla. (U.S.A.), April, 1931, A.J.G. and A.F.McF.

Catharinea undulata W. & M., Buckeye, W. Va. (U.S.A.), Jan., 1930, F.W.G.

Pogonatum brachyphyllum (Mx.), Palis., Winter Haven, Fla. (U.S.A.), Jan., 1931, F.W.G.; Brunswick, Ca. (U.S.A.), Feb., 1931, F.W.G., det. E.B.B.

Cinclidotus riparius (Host.) Arnott. Since its original publication in 1797 by Host as *Gymnostomum riparium*, this plant has been the subject of a good deal of misunderstanding both here and on the Continent. The start as a *Gymnostomum* was bad and then the authors of the *Bryologia Europaea* regarded it as an aquatic form of *C. Brebissoni*, a view which was held for a long time. They claimed to have seen a long chain of intermediate forms in several places.

It was first discovered in England by Mr. A. W. Weyman, in the R. Teme near Ludlow and seems to have been generally accepted at first, being described and figured by Dr. Braithwaite in 1895 in his *British Moss Flora*. Mr. Dixon also included it in the first edition of his *Student's Handbook of British Mosses* (1896), but threw some doubt on its identity with the Continental plant. He expressed increasing doubt in successive editions of his book and in the 3rd edition (1924) omitted it altogether.

In 1911 the Rev. Dr. Rhodes gathered the same plant in the Teme in Worcestershire and sent it to the M.E.C. in 1912 as *C. riparius*. As a referee at that time I reported as follows:—"From the rather obscure papillose areolation and other features, I should refer it to *C. fontinaloides* P.B., rather than to *C. riparius*." I was accepting the view then current about the plant and I must admit that my reasons were frankly inadequate.

In 1928 Dr. Rhodes again gathered the plant and sent it to Herr Bauer for inclusion in his *Musc. Europ. et Americ. Exsicc.* as a form of *C. fontinaloides* with a copy of my note attached. A copy of the series containing the plant (nr. 2064) came into the possession of Dr. P. Culmann of Paris, who wrote to me protesting against my finding and to say that in his opinion the plant was undoubtedly *C. riparius*. On overhauling all my material I came to the same conclusion which has since been confirmed by visiting the locality under Dr. Rhodes' guidance and finding the plant with abundant female inflorescence.

The tufts of *C. riparius* are shorter and more compact than those of *C. fontinaloides*. The leaves are shortly mucronate with parallel sides, while those of *C. fontinaloides* taper towards each end. The leaf-cells are usually smoother than those of *C. fontinaloides*, though forms of *C. fontinaloides* occur with equally smooth cells and the nerve is narrower, about 110 m. below as against 170 m. in *C. fontinaloides*. The leaves in

C. riparius are little altered when dry, while in *C. fontinaloides* they are strongly contorted. The female inflorescence is situate in *C. riparius* on short lateral branches and in the terminal buds of the main stems. It is never found in the latter position in *C. fontinaloides* and when present it affords a crucial character in separating the two species.

C. riparius has been found in the Teme in three English counties. In Shropshire (40) by Mr. Weyman, in Worcestershire (37) by Dr. Rhodes, and in Herefordshire (36), by the Rev. C. H. Binstead.

W. E. NICHOLSON.

HEPATICS.

EUROPEAN (British and Continental.)

Riccia Michellii Raddi., Valluaris, S. France, Feb., 1926, D.A.J.

R. commutata Jack., Rowford, near Taunton (5*), Oct., 1931, W.W.

R. nigrella D.C., Lizard (1), May, 1930, W.E.N.

R. fliutans L., Rheinland, Aug., 1927, A.S.

Plagiochasma rupestre (Forst.) St., near Malaga, Spain; Feb., 1927, cultivated material. leg. E.A., ex-herb. W.E.N.

Marchantia polymorpha L., Rheinland, Sept., 1929, A.S. .
forma *aquatica* Nees, Newborough (52), Aug., 1931, E.C.W.;
Shapwick (6) Sept., 1930, W.W.

Aneura pinguis (L.), Dum., Rheinland, Feb., 1926, A.S.
"The dichotomous branching of the fronds suggests *Pellia*; moreover there are fertile fronds shewing the involucre of *P. Fabbroniana*." H.H.K.

A. multifida (L.) Dum., Church Hatch, Ashdown Forest (14), May, 1931, E.C.W.; Walham (54), April, 1931, G.H.A.

Metzgeria conjugata Lindb., Bröltal, Rheinland, Jan., 1927, A.S. "This is *Metzgeria furcata*, which is usually found growing on trees." H.H.K.

M. hamata Lindb., Cwm Idwal (49), Aug., 1931, E.C.W.

Moerckia Flotowiana (Ness) Schiffn., Birkdale (59), 1931, W.G.T.

Pellia Fabbroniana Raddi., Hogs Back (17*), May, 1929, E.C.W.; Ockham Common (17), Oct., 1931, E.C.W.; var. *lorea* Nees., Boulsworth Hill (59*), July, 1931, leg. A.R., com. W.G.T.

Blasia pusilla L., Rheinland, Aug., 1929, A.S.

Petalophyllum Ralfsii (Wils.) Gottsche, Birkdale (59), Sept., 1931, W.G.T.

Fossombronia Wondraczeki (Corda) Dum., Rheinland, Oct., 1931, A.S.

F. Loitlesbergeri Schiffn., Lizard (1), May, 1931, W.E.N., H.H.K., D.A.J.

F. Husnoti Corb., Lizard (1), May, 1931, W.E.N., H.H.K., D.A.J.

F. Crozalsii Corb., Lizard (1), April, 1931, W.E.N., H.H.K., D.A.J., com. W.E.N. and D.A.J.

Gymnomitrium alpinum (Gottsche) Schiffn., Clogwyn du'r Arddu, Snowdon (49), Aug., 1931, B.B.S., com. D.A.J.; Cwm Dyli (49), Aug., 1931, H.H.K.; var. *heterophyllum* Bernet, rocks, Cwm Bychan (48*), May, 1911, det. H.H.K. in his herbarium; Clogwyn du'r Arddu, Snowdon (49), with type Aug., 1931, B.B.S., com. D.A.J.; Cwm Dyli (49*), H.H.K.

Marsupella sparsifolia (Lindb.) Dum., Lochnagar (92), July, 1930, H.H.K., D.A.J., J.B.D.

M. Funckii (Web. et Mohr) Dum., Cwm Bychan (48), Aug., 1931, E.C.W.

M. emarginata (Ehrh.) Dum., Västergötland, Göteborg, Sweden, 1930, C.S.; Westfalen, Aug., 1929, A.J.

M. aquatica (Lindenb.) Schiffn., Blancland (66*), May, 1931, J.B.D., E.M.L.

M. sphacelata (Gies.), Lindb., Lochnagar (92), July, 1930, H.H.K., D.A.J., J.B.D.

M. Jorgensenii Schiffn., Irfon Valley (42), June, 1929, H.H.K., J.B.D., D.A.J.

Alicularia compressa (Hook.) Nees, Cairngorm (96), July, 1930, J.B.D.; Ashdown Forest (14*), May, 1931, E.C.W.; "large form," Crinkle Crags (70), June, 1926, A.W.; submerged in stream, Ceunant Llenyrch, Aug., 1931, E.A.

A. scalaris (Schrad.) Corda, var. *procerior* Schiffn., Blancland (66*), May, 1931, J.B.D., E.M.L.

Gongylanthus ericetorum (Raddi.) Nees, Valluaro, S. France, Feb., 1926, D.A.J.; Lizard Down (1), June, 1927, W.E.N.

Aplozia crenulata (Sm.) Dum., var. *gracillima* (Sm.) Heeg., Rheinland, April, 1930, D.S.; Turnby (54), 1931, G.H.A. "This is *Chiloscyphus pallescens*." H.H.K.

A. caespiticia (Hook.) Dum., Leckhampton (33), H.H.K., W.E.N.

A. sphaerocarpa (Hook.) Dum., c.fr., rocks, Maentwrog Valley, May, 1924, D.A.J.

A. riparia (Tayl.) Dum., var. *rivularis* forma *potamophila* Bern., Greenfield (63), April, 1931, W.W.

A. pumila (With.) Dum., Llyn Ogwen (49), Aug., 1931, com. F.R. and H.H.K.; var. *rivularis* Schiffn., Stone Wood, Shepley (63*), Aug., 1931, F.E.M.

Jamesoniella autumnalis (D.C.) Steph., Seatoller (70), Sept., 1928, W.E.N.; Tyn-y-Groes (48), June, 1931, D.A.J., H.H.K.; Nantcol, Llanbedr (48), June, 1931, D.A.J., H.H.K.

Gymnocolea acutiloba (Kaal.) K. Müll., Rhinog Fawr (48), April, 1922, D.A.J.

Lophozia bantriensis (Hook.) Steph., Blancland (66), May, 1931, J.B.D., E.M.L.; Ireby Fell (60), Sept., 1906, A.W.

L. heterocolpa (Thed.) Howe, rocks above Llyn-y-Cae, Cader Idris (48*), Aug., 1931, D.A.J., H.H.K.

L. longidens (Lindb.) Macóun. with *Sphenolobus ovatus* on walls below Llyn-y-Cae, Cader Idris (48), Aug., 1931, D.A.J.; Västergötland, Göteborg, Sweden, 1931, C.S.

L. alpestris (Schleich.) Evans, Nant Peris (49), Aug., 1931, E.C.W.

L. bicrenata (Schmid.) Dum., Rheinland, Aug., 1930, A.S.

L. excisa (Dicks.) Dum., forma *arenaria* (Nees) Schiffn., Harlech sandhills (48), Aug., 1931, E.A.

L. incisa (Schrad.) Dum., Blancland (67*), May, 1931, J.B.D., E.M.L.

L. quinquedentata (Huds.) Cogn., Bohustän, Ornst, Sweden, 1930, C.S.

L. lycopodioides (Wallr.) Cogn., Ingleborough (64*), Sept., 1931, F.E.M.; alt. 6,500 ft., Valias, Switz., leg. F.A.S., det. D.A.J.

L. Hatcheri (Evans) Steph., Braemar (92) July, 1930, J.B.D.

L. Floerkii (Web. et Mohr) Schiffn., Moel Siabod (49), Aug., 1931, E.A.; c. *gemmae*, Cat Bells, Derwentwater (70), Aug., 1928, W.E.N. "This requires a note, since three years ago, Mr. Nicholson sent similar specimens from the same locality under the name *Lophozia atlantica* (Report for 1928). It was formerly supposed that *L. Floerkii* never had *gemmae*. K. Müller in his book on the European Hepatics (1910) has "Gemmen unbekannt," and in the first edition of the Handbook (1912) we read "Gemmae absent or very rare." It is now the general opinion that most or perhaps all the plants which have been named *L. atlantica* in this country are really only gemmiferous forms of *L. Floerkii*. These specimens of

L. atlantica are very variable, and sometimes contain stems that obviously belong to *L. Floerkii*." H.H.K. ; var. *Naumaniana* Nees, Helwith Moss (64*), Sept., 1931, F.E.M.

L. barbata (Schmid.) Dum. Staward-le-pele (67), Sept., 1931, E.M.L. ; Silverdale (60), April, 1901, A.W. ; Västergötland, Göteborg, Sweden, 1930, C.S. ; Rheinland, Dec., 1929, A.S.

L. obtusa (Lindb.) Evans, Staward-le-pele (67*), Sept., 1931, E.M.L., det. H.H.K., D.A.J.

Sphenolobus saxicolus (Schrad.) Steph., Glenmore Forest (96), circa 1,200 ft., July, 1920, H.H.K., W.E.N.

S. exsectiformis (Breidl.) Steph., Waren Burn (68), Feb., 1931, J.B.D. ; Lambertton (81), Feb., 1931, J.B.D.

S. Michauxi (Web.) Steph., Bohuslän, Ornst, Sweden, 1930, C.S.

Anastrepta orcadensis (Hook.) Schiffn., Ullswater (70), Sept., 1931, E.M.L.

Plagiochila asplenioides (L.) Dum., var. *major* Nees, Washington (13), April, 1931, E.C.W. ; forma *subintegerrima* Schiffn., Holnecot, Ashburton (3*), June, 1931, E.A. ; Llanwothwl (42*), Oct., 1931, E.A. ; var. *humilis* Lindenb., Crag Lough (67*), July, 1931, E.M.L.

P. punctata Tayl., Artro Valley (48), Aug., 1931, E.C.W. ; Cwm Bychan (48), Aug., 1931, D.B.B.

Pedinophyllum interruptum (Nees) Pears., Glencar (I.29), Sept., 1928, B.B.S., com. D.A.J.

Leptoscyphus Taylori (Hook.) Mitt., c.fr., Bwlch Tyddiad, Cwm Bychan (48), Aug., 1931, B.B.S., com. D.A.J.

L. anomalus (Hook.) Mitt., Killhope (66*), May, 1931, J.B.D., E.M.L. ; Niederrhein, April, 1929, A.S.

L. cuneifolius (Hook.) Mitt., Rhaiadr Du, Tyn-y-Groes (48*), June, 1931, H.H.K., D.A.J.

Lophocolea alata Mitt., Clandon (17), July, 1931, E.C.W.

Chiloscyphus polyanthus (L.) Corda., Rheinland, April, 1931, A.S. ; var. *rivularis* Nees, Wichlgebeit, Rheinland, Aug., 1928, A.S. "This has the complicate-bilobed and keeled leaves of a *Scapania*, and is in fact *S. undulata*." H.H.K. ; railway cutting, Kinsdale (I.4.), Oct., 1931, D.B.B.

C. pallescens (Ehrh.) Dum., Newhaven Bog (68), Oct., 1931, J.B.D. ; East Burton (9*), May, 1931, E.C.W.

Cephalozia bicuspidata (L.) Dum., forma *conferta* Hüben., Ceunant Llenyrch (48), Aug., 1931, E.A.

C. connivens (Dicks.) Lindb., Tilgate Forest (14), May, 1931, H.H.K.

C. media Lindb., Blancland (66*), May, 1931, J.B.D., E.M.L.

C. macrostachya Kaal., Walmer Heide, Rheinland, Aug., 1930, A.S. "This is the same plant that Herr Schumacher sent in last year as *C. media*. It is now I think correctly named. Both *C. macrostachya* and *C. Luitlesbergeri* have perianths with long cilia at the mouth. The involucral bracts however are those of *C. macrostachya*. In these specimens perianths are scarce, but bracts are more plentiful. I have not seen any male plants with their large androecia." H.H.K.

Nowellia curvifolia (Dicks.) Mitt., Ceunant Llenyrch (48), Aug., 1931, E.C.W.

Cephaloziella Starkii (Funck.) Schiffn., Partney (54), Dec., 1931, G.H.A. "This is *C. Starkii*. It is dioicous and has underleaves," H.H.K.; Bergischesland, Jan., 1930, A.S.

C. Massalongi (Spruce) K. Müll., Copper mine, Cwm Dyli, Snowdon (49), Aug., 1931, B.B.S., com. D.A.J.; var. *aeraria* (Pears.) K. Müll., copper mine, Snowdon (49), Aug., 1931, com. J.B.D. and D.A.J.

C. dentata (Raddi) K. Müll., Lizard Down (1), June, 1927, W.E.N.

Hygrobiella laxifolia (Hook.) Spruce, Loch Kander (92), July, 1930, J.B.D.

Odontoschisma Spahgni (Dicks.) Dum., Hir Ynys (48), Aug., 1931, E.C.W.; Roman Wall (67), Aug., 1931, E.M.L.

Adelanthus decipiens (Hook.) Mitt., Tyn-y-Groes (48), Aug., 1931, E.C.W.; Artro Valley (48), Aug., 1931, H.H.K.

Calypogeia Trichomanis (L.) Corda, Waren Burnc (68), Feb., 1931, J.B.D.

C. Neesiana (Carest et Massal.) Massal., Chatley Heath (17), Oct., 1931, E.C.W. "Good specimens of *Calypogeia*, but this I consider the typical form of *C. Trichomanis* when growing on loamy soil. I have found the underleaves invariably one-third to one-fifth bilobed, and never entire or slightly emarginate." H.H.K.

C. arguta Nees et Mont., Hexhamshire (67*), Mar., 1931, E.M.L.; Authorpe (54), 1931, G.H.A.

Bazzania trilobata (L.) Gray, Harbottle Crags (67), May, 1931, J.B.D.

B. tricrenata (Whal.) Pears., Tyn-y-Groes (48), Aug., 1931, E.C.W.; Cwm Dyli, Snowdon (49), Aug., 1931, E.C.W.; Ullswater (70), Sept., 1931, E.M.L.

B. triangularis (Lindb.) Pears., Snowdon (49), Aug., 1931, J.B.D.

Lepidozia pinnata (Hook.) Dum., Harbottle Crags (67), May, 1931, J.B.D.; Klyoe Hills (68), Dec., 1931, J.B.D.; Artro Valley (48), Aug., 1931, E.C.W.; Sewingshields Crags (67*), Mar., 1931, E.M.L.; Clougha Scar (60), July, 1903, A.W.

L. reptans (L.) Dum., var. *julacea* Nees, Simonside (67), May, 1931, J.B.D.

Chandonanthus setiformis (Ehrh.) Lindb., var. *alpinus* (Hook.) Kaal., Cheviot (68), Sept., 1931, J.B.D.; Glen Doll (90), July, 1930, J.B.D.

Anthelia julacea (L.) Dum., Cwm Dyli (49), Aug., 1931, E.C.W.

A. Juratzkana (Limpr.) Trevis., Crib-y-Ddysgl, Snowdon (49), Aug., 1931, D.B.B.

Herberta adunca (Dicks.) Gray, volcanic ash, Cader Idris (48*), Aug., 1931, F.E.M., D.A.J.; summit of Snowdon (49), Aug., 1931, B.B.S., com. D.A.J.; Cwm Idwal (49), Aug., 1931, B.B.S., com. D.A.J. and E.C.W.

Ptilidium ciliare (L.) Hampe, Malvern (37), Aug., 1927, E.C.W.; Crag Lough (67*), Aug., 1930, W.R.S., E.M.L.; forma *inundatum* Schiffn., Widdy Bank Fell (66*), June, 1931, F.E.M., also, Cader Idris, Dolgelly (48*), Aug., 1931, F.E.M., C.V.B.M., and D.A.J.

P. pulcherrimum (Web.) Hampe, Glen Doll (90), July, 1930, J.B.D.; West Dipton Dene (67*), June, 1931, E.M.L.

Trichocolea tomentella (Ehrh.) Dum., Westcott (17*), Sept., 1928, E.C.W.; West Dipton Dene (67), July, 1931, E.M.L.

Diplophyllum gymnostomophilum Kaal., Glen Beag (89), July, 1930, H.H.K., D.A.J., J.B.D.

Scapania subalpina (Nees) Dum., Glen Beag (89), July, 1930, J.B.D.; Blacland (66*), May, 1931, J.B.D., E.M.L.

S. cuspiduligera (Nees) K. Müll., Blorengge, near Abergavenny (35), Feb., 1928, H.H.K., D.A.J.

S. aspera Bernet, Braemar (92), July, 1930, J.B.D. ; The Leet (51), July, 1929, W.G.T.

S. nemorosa (L.) Dum., Västergötland, Göteborg, Sweden, 1931, C.S.

S. ornithopodioides (With.) Pears., Clogwyn (49), Aug., 1931, E.C.W. ; Cwm Idwal (49), Aug., 1931, F.R. and D.B.B.

S. dentata Dum., var. *ambigua* De Not., bank in wood, Mawgan (1), May, 1931, W.E.N., H.H.K., D.A.J., com. W.E.N. and D.A.J.

S. uliginosa (Swartz.) Dum., Glen Beag (89), July, 1930, J.B.D. ; Lochnagar (92), July, 1930, J.B.D.

S. irrigua (Nees) Dum., Reigate Heath (17), Sept., 1931, E.C.W.

S. curta (Mart.) Dum., Waldbrol, Rheinland, Nov., 1929, A.S. "These same specimens were sent in by Herr Schumacher a year ago, and I passed them as *S. curta*, though with some doubt. Most of the material consists of a small and depauperate *Scapania* with numerous gemmae. I have now found some better developed plants which are certainly *S. irrigua*, to which they probably all belong." H.H.K.

S. umbrosa (Schrad.) Dum., Blancland (66*), May, 1931, J.B.D., E.M.L.

Radula complanata (L.) Dum., Rheinland, Mar., 1931, A.S.

R. Lindbergiana Gottsche, Zidertal, Tirol, Austria, July, 1928, J.B.D.

Pleurozia purpurea (Lightf.) Lindb., Rannock Moor (88), July, 1910, A.W. ; near Kenmore (I.1.), Oct., 1931, D.B.B.

Madotheca laevigata (Schrad.) Dum., Nant Peris (49), Aug., 1931, E.C.W.

M. Thuja (Dicks.) Dum., Harlech (48), Aug., 1931, com. E.A. and E.C.W.

M. platyphylla (L.) Dum., c.fr., Boxwell (34), Mar., 1928, H.H.K., D.A.J.

M. Porella (Dicks.) Nees, Artro Valley (48), Aug., 1931, J.B.D. and E.C.W.

Cololejeunea microscopica ((Tayl.) Schiffn., Rhaidr Du, Tyn-y-Groes (48), Aug., 1931, B.B.S., com. D.A.J. "This is recorded in the Census Catalogue for V.C. 48, but the locality is not known to me." D.A.J.

Lejeunea cavifolia (Ehrh.) Lindb., Rheinland, Feb., 1930, A.S.

L. patens Lindb., Cwm Glas Mawr (49), Aug., 1931, E.C.W.

L. Macvicari Pears., rocks in wood, Bochym near Kelston (1), May, 1931, com. W.E.N. and H.H.K.

Frullania germana Tayl., rocks, Clogwyn-du'r-Arddu, Snowdon (49*), Aug., 1931, E.C.W.

F. fragilifolia Tayl., Bohustän, Ornst, Sweden, 1930, C.S. ; Västergötland, Lerum, Sweden, 1931, C.S.

F. dilatata (L.) Dum., Lizard (1), June, 1931, W.G.T. ; Rheinland, Dec., 1928, A.S.

Anthoceros punctatus L., Rheinland, Oct., 1928, A.S.

A. crispulus (Mont.) Douin., Dadnor (36), Nov., 1931, E.A. ; Rowford near Taunton (5), Oct., 1931, W.W.

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

Riccia sanguinea Kashyap, Lahore, Punjab, India, Feb., 1931, R.S.C. "Prof. Kashyap in his book "Liverworts of the Western Himalayas and the Punjab Plain," p. 97, suggests that this species may be identical with *R. Frostii* Aust., and after careful examination and comparison with authentic specimens of *R. Frostii* from Hungary and Turkestan, I am confident that this view is correct. The thallus is spongy and resembles that of *R. crystallina*, but it is rather smaller and less spongy and the spores, which are somewhat tetrahedral, about 50 m. in diameter and covered with low ridges more or less parallel and not forming areolae as in other species of *Riccia*, agree exactly with those of the true *R. Frostii*." W.E.N.

Sewardiella tuberifera Kashyap, Mussoorie, India, Sept., 1930, R.S.C.

Petallophyllum indicum Kashyap, Lahore, Punjab, India, Jan., 1931, R.S.C.

Fimbriaria angusta St., Mussoorie, India, Sept., 1930, R.S.C.

Symphyogyna subsimplex Nees, ferntree caudex in forest near Rotorua, N.Z., May, 1931, K.W.A.

Pallavicinia radiculosa (S. Lac.) Schiffn., Tjibodas, Java, May, 1894, leg. Schiffn., com. F.V.

P. xiphioides (H.F. and T.) St., near Atiamuri, Totorua, N.Z., March, 1931, K.W.A.

Sphenolobus minutus (Crantz.) Steph., Framfjord, Arctic N. America, Aug., 1899, leg. H.G.S., ex-herb. Osloensis.

Chiloscyphus argutus (R.B. et N.) Nees, var. *ciliatistipus* Schiffn., Batavia, Java, Nov., 1893, leg. Schiffn., com. F.V.

Jackiella singaporensis Schiffn., Singapore, Nov., 1893, leg. Schiffn., com. F.V.

Zoopsis argentea H.F. et T., Prangas, Java, May, 1894, leg. Schiffn., com. F.V. "All these specimens are very much mixed with other species, but the long simple stems of the *Zoopsis* with inflated cells representing the rudimentary leaves make it easy of detection." W.E.N.

Plagiochila frondescens (Nees) Lindb., Preanger, Java, July, 1894, leg. Schiffn., com. F.V.

- P. circinalis* L. & H., nr. Rotorua, N.Z., July, 1931, K.W.A.
- Tylimanthus tenellus* (Tayl.) Mitt., "Puaiti Bush" nr. Rotorua, N.Z., May, 1931, K.W.A.
- Lepidozia dentifolia* St., Tongariro Natural Park, N.Z., April, 1931, K.W.A.
- Chandonanthus* (*Jungermannia*) *squarrosus* (Hook.) Mitt., Tongariro Natural Park, N.Z., April, 1931, K.W.A.
- Mastigophora* (*Jungermannia*) *flagellifera* (Hook) Nees, Puaiti Bush nr. Rotorua, N.Z., July, 1931, K.W.A.
- Lepidolaena Taylori* (G.) St., near Aitawmuri, Rotorua, N.Z., March, 1931, K.W.A.
- Balantiopsis diplophylla* (Tayl.) Mitt., near Lake Rotoiti, N.Z., Jan., 1931, K.W.A.
- Madotheca decurrens* St., Mussoorie, India, Sept., 1930, R.S.C.
- M. appendiculata* St., Mussoorie, India, Sept., 1930, R.S.C.
- Frullania squarrosa* Nees, Mussoorie, India, Sept., 1930, R.S.C.
- F. retusa* Mitt., Mussoorie, India, Sept., 1930, R.S.C.
- F. squarrulosa* Tayl., Atiamuri, near Rotorua, N.Z., April, 1931, K.W.A.
- F. nigricaulis* (R.B.N.), Telaga Bodas, Java, 1913, leg. Fleischer, com. F.V.
- F. ternatensis* G., Telaga Bodas, Java, Feb., 1894, leg. Schiffn., com. F.V.
- F. nodulosa* forma *dapitana* (St.) Verdoorn, Sumatra, Mar., 1894, leg. Schiffn., com. F.V.
- F. rostrata* H.F. et T., near Atiamuri, Rotorua, N.Z., Oct., 1930, K.W.A. "I find the underleaves much more angular (indeed almost dentata) in this plant than they are in normal forms of *F. rostrata*. Some years ago I examined a long series of specimens of this plant collected by the late Prof. Berggren in 1874, but in only one of them did the underleaves approach those of the present plant." W.E.N.
- Jubula Hutchinsiae* Hook., subsp. *javanica* (St.) Verd., Priangan, Java, 1902, leg. Fleischer, com. F.V.
- Ptychanthus Perrottetii* St., Mussoorie, India, Sept., 1930, R.S.C.
- Notothylas indica* Kashyap, Calcutta, India, Sept., 1931, leg. A. C. Jashi, com. R.S.C.

N. Levieri Schiffn., Mussoorie, India, Sept., 1930, R.S.C.

Anthoceros erectus Kashyap, Mussoorie, India, Sept., 1930, R.S.C. "Prof. Kashyap in his book above cited, suggests that this plant may be identical with *A. Longii* St. Certainly the general description of the two plants do not show important differences except in the inflorescence which is said to be dioicous in *A. erectus* and monoicous in *A. Longii*. Owing to its markedly proterandrous character in this genus, it is often difficult to be certain of the inflorescence, as a plant may appear to be all male at one stage of growth and all female at another." W.E.N.

BRYOLOGICAL PUBLICATIONS IN 1931.

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

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In view of the unavoidable delay in seeing some of the important reviews it has been decided no longer to limit these lists to works that have appeared during the previous two years, but to include

also works of importance of an earlier date. It occasionally happens that original monographs and papers read before scientific societies are completely overlooked by the reviews. It is absurd to omit these from an annual list merely because they happen to have appeared some years previously. A case in point occurred a few weeks ago.

I should like to thank Mr. D. A. Jones especially for making it possible for me to see Biological Abstracts and Botanisches Centralblatt. As many of the reviews in the former are unsigned, only the year, month, number and page are quoted in this list.

May I once more urge all those interested in bryology to bring to my notice any recent publications, more particularly those which appear in journals of small or only local circulation? Otherwise original research may be overlooked completely.

In conclusion I would thank all those who have so generously presented reprints of their own or other's works to the B.B.S. Many works previously listed without an asterisk have since been presented to the Library.

LESLIE B. C. TROTTER.

March, 31st, 1932.

OBITUARY.

ALFRED SUTTON (1859-1932).

Mr. Alfred Sutton was born on November 6th, 1859, and died on December 6th, 1932. In recording, with deep regret, his death, we of the B.B.S. all wish to convey our sincere sympathy to his family and to express our sorrow and grateful appreciation of his efficient and untiring work on our behalf.

He devoted a large part of his later life to the exacting duties of Distributor, bringing to them the habits of methodical and laborious attention to detail acquired during nearly 40 years of work in H.M. Patent office.

The Reports of recent years are evidence of this, though it is even more as Distributor of specimens that so many of us remember him with special gratitude, for invariably he included in this work kindly thought for individual needs, sending when possible surprise packets of unexpected specimens without too great regard for the rule of "*quid pro quo*." It was a pleasure to send him freshly-gathered mosses for his study and determination, and to the latter he gave characteristic care. Such material was a genuine delight to him, as in later life, when he first took up bryology, he was cut off by residence in London from opportunities for much field work.

In July, 1894, he became an Associate of the Royal School of Mines (A.R.S.M.), and was a member of the Royal Institution for 30 years.

Our late friend lived fully, his activities having included much valuable work on behalf of Commons and Footpaths Preservation, to which he added a love of natural history and a musical enthusiasm which found expression in the membership of various choral societies; yet in this many-sided life he found time for the work for which he will be gratefully remembered by our Society.

C. H. B.

**HORACE WOLLASTON MONCKTON,
1857-1930.**

Mr. H. W. Monckton was born in 1857 and educated at Wellington College. In 1880 he became a barrister of the Inner Temple. He had been devoted to field natural history early in life, especially geology and botany. Several papers were written by him on geology, and he was President of the Geologists' Association during the years 1902-4. In 1892 he became a Fellow of the Linnean Society and was Treasurer of the Society for 25 years.

During his later years he joined the British Bryological Society. He studied the mosses of the Bagshot district and the district of the Thames Valley Drift from Maidenhead to London. He attended the London meetings of our Society regularly and took active part in them. He passed away on the 14th January, 1930.

ANTONIO BOTTINI (1850-1931).

Bryology suffers a great loss in the death of the Marchese Antonio Bottini. He was born at Lucca on December 4th, 1850, and died on September 6th, 1931. In his youth he shewed a marked talent for botany. He obtained his Doctorate at the University of Pisa in 1886. He specialised early in bryology and acquired a profound knowledge of the mosses of his native country. Having very much at heart a comprehensive bryological survey of Italy, he laid a solid foundation in his

also studied the mosses of Montenegro and Corfu.

His discovery of *Calymperes Sowmieri* (1906) and *Barbella Strongyloides* (1899) in the Mediterranean basin was of importance as providing remarkable examples of geographical discontinuity, both being species of tropical genera.

Bottini was the first after the death of De Notaris to take up seriously the study of *Sphagna* in Italy. His *Sfagnologia Italiana* (1919) is a monumental work which rendered possible for the first time the investigation of *Sphagna* in Italy.

His *Muschi d'Italia* was initiated in 1885 and is a critical review of all work done on bryology in Italy, after personal examination of specimens. As this work marks a milestone in Italian bryology it is hoped it will see the light of day in the near future.

Bottini was warm-hearted and modest though justly conscious of his own great ability.

L. B. C. T.