

The British
Bryological Society



REPORT FOR 1928.

VOL. II PART 2.



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

1929.

Blank Page

EXECUTIVE OFFICERS
of the British Bryological Society
for 1928.

President :—

Rev. C. H. BINSTED, M.A., F.L.S.

Vice-President :—

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

Ex-Presidents :—

Mr. H. N. DIXON, M.A., F.L.S.

Dr. SYMERS M. MACVICAR.

Treasurer :—

Mr. J. B. DUNCAN.

Librarian and Curator :—

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

Excursion Secretaries :—

Captain C. D. CHASE, M.C., M.A.

Rev. W. R. MEGAW, B.A., M.R.I.A.

Distributors :—

Mosses.—Mr. A. SUTTON, A.R.S.M.

Hepatics.—Mr. F. E. MILSOM, B.Sc.

Additional Members :—

Miss D. HILARY, B.Sc.

Dr. W. WATSON, D.Sc., A.L.S.

Secretary :—

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

3 Oxford Buildings,
Cheltenham.

LIST OF MEMBERS, 1928.

Honorary Members :—

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

Ordinary Members :—

- Mr. G. H. Allison, 65, Convamore Road, Grimsby.
- Herr H. Andres, Argelanderstrasse, 124/2, Bonn am Rhein,
Germany.
- Miss E. Armitage, Dadnor, Ross, Herefordshire.
- Mrs. A. S. Bacon, B.Sc. (Lond.), F.L.S., Department of Biology,
Technical College, Brighton, Sussex.
- Herr Ernst Bartling, Zinkhütte, Bergisch-Gladbach, bei
Köln, Germany.
- Mr. Edwin B. Bartram, Bushkill, Pike County, Pennsylvania,
U.S.A.
- Mr. A. T. Beals, 2929, Broadway, New York City, U.S.A.
- Mr. W. Bellerby, 21, Clifton Green, York.
- Mrs. Ida M. Bentley, Northend, Ashford, Kent.
- Mr. R. W. Bingham, B.A., Royal School, Dungannon, Co.
Tyrone, Ireland.
- Rev. C. H. Binstead, M.A. (Oxon.), F.L.S., c/o Mr. A.
Binstead, 136, Cromwell Road, London, S.W.7.
- Mr. D. B. Bradshaw, Provincial Bank House, Royal Avenue,
Belfast.
- Mr. H. C. Broome, Netherthorpe, Failsworth, Manchester.
- Professor V. F. Brotherus, Helsingfors, Finland.
- Mr. W. H. Burrell, F.L.S., Bracondale, 203, Hall Lane,
Horsforth, Leeds.
- Mr. D. G. Catcheside, B.Sc. 2, Mount Ephraim Lane,
Streatham, London, S.W.16., and Dept. of Botany,
The University, Glasgow.
- Mr. 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.
- Miss C. A. Cooper, California Lane, Bushey Heath, Herts.
- 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.
- Mr. J. B. Duncan, 6, Summerhill Terrace, Berwick-on-Tweed.
- Dr. A. W. Evans, Yale University, Newhaven, Conn., U.S.A.
- 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.
- Mr. J. M. Grant, Marysville, Washington State, U.S.A.
- Mr. J. Groves, F.L.S., Trevarthian, Freshwater Bay, Isle-of-
Wight.
- Mr. J. W. Hartley, Mill-Head House, Carnforth.
- Miss A. G. Hebson, 21, Lancaster Road, Hampstead, London,
N.W. 3.
- Miss Mary Hewlett, M.Sc., Greenhead High School, Hudders-
field.
- Miss D. Hilary, B.Sc., 15, Plevna Terrace, Bingley, Yorks.
- 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., Ivy House, Great Bedwyn, Hunger-
ford.
- Mr. H. A. Hyde, M.A., F.L.S., National Museum of Wales,
Cardiff.
- Rev. R. Jackett, Crunwre Rectory, Whitland, Carmarthen-
shire.
- Mr. F. C. B. Jefferies, Brynmelyn, Winscombe, Somerset.
- Mrs. Jefferies, Brynmelyn, Winscombe, Somerset.
- Mr. D. A. Jones, M.Sc., A.L.S., 3, Oxford Buildings, Chelten-
ham.
- 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.
- Dr. Mauno J. Kotilainen, D.Ph., Korkeavuoren, Katu 8,
Helsinki, (Helsingfors), Finland.
- Mr. W. Leach, Newlands, Victoria Avenue, Quinton, near
Birmingham.
- Miss Eva M. Lee, M.Sc., 5, Logan Road, Bishopton, Bristol.
- Mr. J. R. Lee, 96, Finlay Drive, Dennistoun, Glasgow.
- Mr. Johannes Lid, Botanical Museum, Oslo, Norway.
- Rev. D. Lillie, M.A., B.D., The Manse, Watten, Caithness.

- Miss F. M. Loader, 5, Westbourne Mansions, Westbourne Crescent, Southampton.
- Mr. Percy Long, Glenlea, Carisbrooke Road, Newport, Isle-of-Wight.
- Mrs. F. A. MacFadden, Kamloops, B.C., Canada.
- Mr. C. V. B. Marquand, M.A. (Cantab.), F.L.S., Andreaea, 102, Mortlake Road, Kew Gardens, 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.
- Mr. F. E. Milsom, B.Sc., Glen Lyn, Station Road, Shepley, Huddersfield.
- Dr. Hjalmar Möller, Naturhistoriska Riksmuseum, Stockholm, Sweden.
- Mr. H. W. Monckton, V.P.L.S., F.G.S., 3, Harcourt Buildings, Temple, London, E.C.4.
- 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, Moscow Court, London, W. 2.
- Mr. J. L. O'Loughlin, 21, Corsehill Street, Streatham, London, S.W. 16, and St. Edmund Hall, Oxford.
- Mr. J. H. Payne, The Rowans, 90, Newhill, Wath-on-Deerne, 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.
- Rev. Dr. P. G. M. Rhodes, D.D., M.A. (Cantab.), F.L.S., Oscott College, Birmingham.
- Mr. P. W. M. Richards, Evreham Lodge, Iver, Bucks., and Trinity College, Cambridge.
- Mr. F. Rilstone, School House, Polperro, S.O., Cornwall.
- Mr. D. R. Robertson, 41, Johnston Avenue, Dundee.
- Prof. W. Robinson, D.Sc., University College, Aberystwyth.
- 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.
- Miss A. Muriel Saunders, St. Ann's, Reigate, Surrey.
- Mr. G. B. Savery, Silvertown, Exeter.
- Miss L. I. Scott, B.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., St. John's, Horton Crescent, Rugby.
- Mr. J. R. Simpson, The Limes, Selkirk.

- Miss K. E. Smith, The Quarry, Lutterworth Road, Nuneaton.
 Mr. R. W. Smitham, 49, Esplanade, Fowey, Cornwall.
 Mr. H. Stansfield, 20, Park Grove, York.
 Capt. Carl Stenholm, Södra Vägen, 24, Göteborg, Sweden.
 Mr. E. H. Stevens, B.A., Haw House, Rothbury, Northumberland.
 Mr. A. Sutton, A.R.S.M., 9, Brookfield Park, London, N.W.5.
 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. Arthur Turner, 140, Pine Street, Nelson, Lancashire.
 Lieut.-Col. A. Uggla, F.L.S., Royal Swedish Legation, 27, Portland Place, London, W. 1.
 Mr. F. Verdoorn, Begijnkade, 10, Utrecht, Holland.
 Mr. E. C. Wallace, Springfield, 2, Strathearn Road, Sutton, Surrey.
 Herr Johannes Warnstorf, Hohenzollern Strasse, 7/2, Wittenberge, 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.
 Prof. F. E. Weiss, D.Sc., F.R.S., Victoria University, Manchester.
 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.
 Mr. C. H. Wilson, 55, Gladstone Street, Scarborough.
 Miss E. M. Wray, B.Sc., 9, Park View, Beeston Hill, Leeds.
 Miss A. Wyndham, Orchard Wyndham, Williton, Somerset.
 Mr. William Young, Fairview, Kirkcaldy, Fifeshire.

NEW MEMBERS, 1929.

- Rev. W. J. Hayward, St. Mary's House, Newton Heath, Manchester.
 Mr. J. Helsby, 3, Kingsfield Road, Watford, Herts.

MOSESSES AND HEPATICS SENT FOR DISTRIBUTION, 1928—1929.

		<i>Sphagna</i>	<i>True Mosses</i>	<i>Hep-atics</i>	<i>Total</i>
Mr. G. H. Allison	....	4	46	12	62
Miss E. Armitage	....	6	6	*76	88
Mr. E. B. Bartram (U.S.A.)	....	....	65	....	65
Mr. W. Bellerby	....	18	90	28	136
Rev. C. H. Binstead	....	....	329	....	329
Mr. D. B. Bradshaw	....	....	26	12	38
Mr. W. H. Burrell	....	3	34	....	37
Mr. D. G. Catcheside	....	6	59	....	65
Mr. J. Charrier (France)	....	....	235	93	328
Mr. H. N. Dixon	....	....	428	....	428
Mr. J. B. Duncan	....	....	265	29	294
Miss D. Hilary	....	....	30	....	30
Mr. H. A. Hyde (Nat. Mus. of Wales)	....	39	15	20	74
Mr. R. Jackett	....	....	19	10	29
Mr. D. A. Jones	....	....	139	50	189
Mr. H. H. Knight	....	....	32	66	98
Mr. J. R. Lee	....	....	16	9	25
Mr. J. Lid (Norway)	....	44	....	76	120
Rev. D. Lillie	....	....	99	50	149
Herr L. Loeske (Germany)	....	....	132	....	132
Rev. W. R. Megaw	....	....	19	....	19
Mr. W. C. Millar	....	....	110	....	110
Mr. F. E. Milsom	....	....	....	24	24
Dr. Hj. Möller (Sweden)	....	....	395	....	395
Mr. H. W. Monckton	....	10	....	14	24
Mr. J. Murray	....	....	88	....	88
Mr. W. E. Nicholson	....	....	110	141	251
Mr. J. L. O'Loughlin	....	26	57	....	83
Rev. P. G. M. Rhodes	....	....	127	74	201
Mr. P. W. M. Richards	....	....	68	22	90
Mr. F. Rilstone	....	6	18	....	24
Dr. S. P. Rowlands	....	6	74	....	80
Miss A. M. Saunders	....	24	11	....	35
Herr A. Schumacher (Germany)	....	70	35	....	105
Mr. H. Stansfield	....	....	41	....	41
Mr. E. H. Stevens	....	....	66	....	66
Mr. A. Sutton	....	....	42	....	42
Mr. W. G. Travis	....	....	57	16	73
Dr. L. B. C. Trotter	....	....	6	....	6

			<i>True</i>	<i>Hep-</i>	
		<i>Sphagna</i>	<i>Mosses</i>	<i>atics</i>	<i>Total</i>
Mr. F. Verdoorn (Holland)	21	56	77
Mr. E. C. Wallace	83	139	222
Herr J. Warnstorf (Germany)	13	17	30
Dr. W. Watson	10	34	44
Mr. A. Wilson	20	35	86
Miss A. Wyndham	9	9
Mr. W. Young	226	348
			<hr/>	<hr/>	<hr/>
			388	3870	999 5257

* Includes 32 packets recorded wrongly under another name last year.

REFEREES.

Mosses :—

Sphagnaceae and Harpidia	....	Mr. SHERRIN.
Andreaeaceae to Grimmiaceae	....	Mr. SAVERY.
Tortulaceae to Orthotrichaceae, and European	....	Mr. NICHOLSON.
Schistostegaceae to Leskeaceae	....	Mr. JONES.
Hypnaceae, except Harpidia	....	Mr. DUNCAN.
Non-European, and Referee-in- Chief	....	Mr. DIXON.

Hepatics	....	Mr. KNIGHT.
Referee-in-Chief	....	Dr. MACVICAR.

REPORT OF SECRETARY.

In presenting the Seventh Annual Report, Vol. II., Part 2, of the British Bryological Society, it is encouraging to be able to mention that the Society continues to make steady progress. The membership is satisfactory, the finances are sound and increased interest is taken by members in the study of bryology.

On going to press we have been informed of the death of Prof. V. F. Brotherus of Helsingfors. The botanical world has lost one of its most eminent bryologists. Should an obituary notice not be available for this Report, it will appear next year. We much regret also to announce the death of Mr. R. W. Smitham of Fowey, a faithful member of our Society.

Mr. Sutton has undertaken the onerous duties of Distributor of Mosses this year again, and Mr. Milsom of Hepatics. Miss Saunders will help with the Mosses in the later stages of the distribution. Dr. Trotter has compiled a long and interesting list of Moss and Hepatic Publications—British and Foreign, for 1928 and has also presented the library with many Bryological Reprints. We beg to offer the sincere thanks of the Society to the above lady and gentlemen.

The Annual Meeting and Excursion was held at Belfast last year and an additional week was spent at Sligo, West of Ireland. Mr. J. B. Duncan's report will be found appended. A more detailed and very interesting account by the same author appeared in "The Irish Naturalists' Journal," for November, 1928, a copy of which was sent to every member. A large number of new records of Mosses and Hepatics were added. A well-marked feature in the excursions was the interest taken in hepatics, especially by the younger members of the Society.

On behalf of our members we take this opportunity of thanking the Belfast Naturalists' Field Club most cordially for their hospitality and assistance during our visit. The Editor of the Irish Naturalists' Journal also gave the visitors every help and welcome for which the Society is very grateful.

The items of information specified in last year's report may be again repeated this year:—(1) Mr. W. R. Sherrin is Librarian and Curator, to whom gifts of bryological books

and specimens will be very acceptable ; (2) Dr. 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.

3, Oxford Buildings,
Cheltenham,
April, 1929.

REPORT OF DISTRIBUTOR (Mosses).

This year we have fewer mosses to distribute, but a larger proportion of them are British, and there are more Sphagna. Compared with last year there are about 1000 fewer true mosses, but nearly 200 more Sphagna. Of the total, nearly two-thirds are British plants, whereas last year less than one half were gathered in this country; nearly one-third are from the continent of Europe, and the residue—amounting to about one-tenth of the whole—are non-European. The last, though relatively few in number, are interesting; they include many New Zealand and Tasmanian plants, some from South America—to Patagonia and the Falkland Islands, a number from the East and West Indies, and a few from South Africa. North American plants, which have formed so notable a feature in recent distributions, are this year represented only by a very few specimens. The European mosses include an interesting series of Scandinavian plants sent by Dr. Hjalmar Möller of Stockholm, who has also contributed a large proportion of the Non-European mosses.

The number of contributors is slightly less than last year, but the list includes some new names which are especially welcome. Our retiring President, the Rev. C. H. Binstead, and our new President, Mr. Nicholson, have, as in past years, sent most valuable collections, and Mr. Dixon has once more devoted to our use some of the overflowing wealth of his own herbarium. Most of our old and tried friends have again favoured us with most generous contributions, and it is very gratifying to note that we have an energetic band of comparatively young members who continue their active support, while some quite new members bid fair to emulate their example.

The Referees have increased the enormous debt of gratitude we already owed them for their self-sacrificing labours on our behalf over a period of so many years. They have found comparatively few errors in naming, but enough to demonstrate the great value of their expert knowledge to the ordinary member. Mr. Nicholson reports on one parcel that the general standard is very high, and on another that the plants for the most part maintain the high standard of excellence that one has been led to expect from our members in recent years. Most of the material, he says, is good, though in a few cases it is inadequate or has been gathered

at the wrong season. Mr. Sherrin expresses high appreciation of the excellence of the specimens of Sphagna contributed by Mr. Johannes Lid of Oslo and Herr Albert Schumacher. He would, however, like to impress on some of the other collectors the importance of adequate washing and floating-out in the preparation of specimens of Harpidia and Sphagna, as it adds enormously to the work of the Referee if this is left for him to do. The reports of the Referees on some of the gatherings are of special interest, especially those by Mr. Dixon on some of the Non-European plants.

Notwithstanding the further diminution in the number of specimens, we are confident that this distribution will be found as interesting and useful to members as that of any previous year, and it is hoped to complete it, with the help of Miss Saunders as Joint Distributor, at an earlier date than in recent years.

A. SUTTON.

9, Brookfield Park,
London, N.W.5.,
22nd *March*, 1929.

REPORT OF DISTRIBUTOR (Hepatics).

Parcels have been sent in this year by 22 members, the numbers of packets totalling 999. A gratifying range of species has been contributed.

Among the more unusual species may be mentioned *Gymnomitrium revolutum*, *Southbya nigrella* and *Scapania Kaurini*. It is pleasant to notice specimens collected by Herrn Schiffner and Kaalaas.

Several members have sent in unusual forms of well-known species. At the risk of emphasizing the obvious, it may be pointed out that one of the great uses of the annual distribution is to circulate abnormal forms, which, while not deserving of varietal rank, are nevertheless not typical. Such forms are of great assistance in elucidating puzzling specimens.

A nice amount of foreign material has been contributed, including a fine lot of Javanese *Frullaniaceae*.

Mr. Knight to whom, for his careful refereeing, the Society owes an ever present debt of gratitude, reports that the contributions are good. He has had little to correct, the specimens being nearly always correctly named.

F. E. MILSOM.

Shepley, Huddersfield,
March, 1929.

CURATOR AND LIBRARIAN'S REPORT.

The Society will be pleased to know that Dr. Trotter has been able to secure a large number of Bryological Reprints for the Library. They consist of the most recent publications of eminent British and Foreign Bryologists. They have been arranged and made readily available for consultation by members. Application by post is invited.

No new volumes have been added to the Library, but it has been decided to subscribe to two copies of the *Bryologist*, which will be circulated among members who apply, postage prepaid.

A valuable addition has been made to the Herbarium by the presentation of Part IV. of *Bryotheca Rossica* by Mr. H. N. Dixon, to whom the Society is very much indebted for the gift.

W. R. SHERRIN.

South London Bot. Inst.,
323, Norwood Road,
London, S.E.24.,
March, 1929.

STATEMENT OF ACCOUNT FOR 1928.

RECEIPTS.				EXPENSES.						
	£	s.	d.	£	s.	d.	£	s.	d.	
Balance from last Account .. .. .	..	..	..	£46	11	7	Printing—Report (1927)	20	10	0
Subscriptions—1928	45	8	8				" " Annual Meeting & Excursion	1	15	0
" President	1	1	0				Distribution costs—1927-28	5	6	6
" Arrears	0	10	0				Secretary's Expenses	3	4	5
" 1929 (paid before due)	5	15	0				Treasurer's	1	7	7
				52	14	8	Librarians'	0	8	9
Publications sold				1	6	6	Herbarium Boxes	2	17	0
Donations—Visitors at Annual Excursion				0	5	0	Stationery	0	13	0
Bank Interest				0	4	0	Annual Meeting (August, 1928)—Expenses	2	4	2
							Balance in hand, 31st December, 1928	62	15	4
				£101	1	9				
								£101	1	9

MOSS CENSUS CATALOGUE ACCOUNT.

Sales—1928, per Mr. W. R. Sherrin	£3	0	6	Balance due—31st December, 1927	£16	0	5
Balance due 31st December, 1928	13	3	10	Expenses—postages	0	3	11
	£16	4	4				
							£16 4 4

BALANCE SHEET, 31st DECEMBER, 1928.

LIABILITIES.				ASSETS.			
Subscriptions 1929—paid before due	£5	15	0	Cash in hand (Ordinary Account) 31st Dec., 1928	£62	15	4
Distribution costs 1928-29 (estimated)	5	0	0	Subscription in arrear (10/-)	0	0	0
Printing Report 1928 (estimated)	21	0	0	810 unsold copies Moss Census Catalogue Edn. II.	0	0	0
Deficit on Moss Census Catalogue Account	13	3	10				
Balance (excess of Assets over Liabilities)	17	16	6				
	£62	15	4				£62 15 4

Examined and found correct—T. A. BRUCE,
24/1/29. Barclays Bank, Berwick-on-Tweed.

J. B. DUNCAN, Treasurer.

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

REPORT ON PLANTS SENT IN BY MEMBERS.

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

SPHAGNA.

Sphagnum fimbriatum Wils., Cross-o'-Greet Bridge, Hodden Valley (64), silted in roadside beck, May, 1925, leg. C. A. Cheetham, det. and com. W.H.B. "An abnormal growth of the var. *robustum* Braithw." W.R.S.; var. *robustum* Braithw., Ockham Comm. (17*), July, 1928, c. fr.; leg. and com. E.C.W., det. W.R.S.; var. *intermedium* Russ. f. *densum* Wheld., Tents Muir (85), April, 1924, leg. D.R.R., det. J. A. Wheldon, com. H.A.H. "These plants are best under the var. *validius* f. *compactum* Warnst., as the branch leaves measure 1.5-1.6 mm., while in the var. *intermedium* they are 1.25 mm." W.R.S.

S. Girgensohnii Russ., Blagdon Hill, Blackdowns (5), Dec., 1915, W.W. "This is the var. *gracilescens* Grev.," W.R.S.; Vihovden, Voss, Norway, Aug., 1927, J.L.; var. *stachyodes* Russ., May, 1924, leg. D.R.R., det. J. A. Wheldon, com. H.A.H. "These plants are not the var. *stachyodes*, the tufts of which are short, dense, of the same width from base to apex, and the branches are short and spike-like." W.R.S.

S. Russowii Warnst., var. *Girgensohnioides* Russ., Bröltal, Rheinland, Germany, 1928, A. Schumacher.

S. rubellum Wils., var. *rubescens* Warnst., Vihovden, Voss, Norway, Aug., 1927, J.L.; var. *versicolor* Warnst., Goathland, (62), June, 1926, W.B. "This is the var. *rubescens* Warnst. The form known as var. *versicolor* has yellow, green and red distinctly seen in the tufts; it is rare, and the bright colours are lost in herbarium specimens." W.R.S.

S. acutifolium Ehrh., Broadmoor, Leith Hill (17), July, 1928, leg. and com. E.C.W., det. W.R.S.; var. *viride* Warnst., f. *drepanocladus* Warnst., Perleberg, Brandenburg, Germany, July, 1919, J.W. "This interesting plant is *S. acutifolium* f. *Schimperi*, Warnst., described in "Sphagnologia Universalis" (1911), p 101. The red colour in the branch leaves indicates the presence of antheridia; it will be seen that the cells at the base of these leaves differ from those of the normal leaves on the same branch in their increased size, in the absence

of fibrils in the hyaline cells, and in the red colour of the chlorophyllous cells. Though the stem leaves bear a strong resemblance in shape to those of *S. molle*, in having a narrow base, this plant, as in all forms of *S. acutifolium*, can be distinguished by the marginal cells of the branch leaves not being furrowed as in *S. molle*. See my 'Handbook of British Sphagna,' p. 13, figs. 8 and 12." W.R.S.; var. *versicolor* Warnst., Brölgebiet, Bladersbach, Rheinland, Germany, June, 1928, A. Schumacher.

S. quinquefarium Warnst., var. *viride* Warnst., f. *gracilescens* Warnst., Wiehltal, Ufersmühle, Rheinland, Germany, Oct., 1928, A. Schumacher. "This plant is very interesting, as it shows a transition from the type to the form *gracilescens*, the lower portion of the plant being quite typical, while the upper portion shews the characteristics of the form." W.R.S.; var. *pallens* Warnst., f. *drepanocladum* Warnst., Sidlaw Hills (90), May, 1924, leg. D.R.R., det. J. A. Wheldon, com. H.A.H.; var. *versicolor* Russ., Auchterhouse Hill (90), April, 1924, leg. D.R.R., det. J. A. Wheldon, com. H.A.H. "These packets contain *S. Warnstorffii* Russ. I have not detected any *S. quinquefarium*. Both species have their leaves arranged in five rows; they differ from one another in the shape of the stem leaves and in the pores of the upper half of the lower surface of the branch leaves." W.R.S.

S. plumulosum Röhl, Chatley Heath, Ockham (17), July, 1928, c. fr., leg. and com. E.C.W., det. W.R.S.

S. compactum D.C., Broadstone Moor (9), Sept., 1924, H.W.M.; Leith Hill (17), July, 1928, c. fr., E.C.W.; var. *squarrosulum* Russ., Andersrud in Enebakk, Norway, Sept., 1927, c. fr., J.L.; var. *subsquarrosulum* Warnst., Bröltal, Breitewiese, Rheinland, Germany, Aug., 1926, A. Schumacher.

S. teres (Schpr.) Ångstr., Ben Lawers (88), Sept., 1925, J.L.O'L.; var. *subteres* Lindb., Brölgebeit, Rheinland, Germany, Sept., 1928, A. Schumacher; var. *squarrosulum* (Lesq.) Warnst., Wimbledon Comm. (17), Dec., 1925, J.L.O'L.

S. amblyphyllum Russ., var. *macrophyllum* Warnst., f. *elegans* Warnst., Freiwalde (Kr. Mohrunge), East Prussia, Germany, Sept., 1909, leg. Dietzow, com. J.W.; var. *mesophyllum* Warnst., Broadmoor, Leith Hill (17), July, 1928, leg. and com. E.C.W., det. W.R.S.; var. *parvifolium* Warnst. (*S. angustifolium* C. Jens.), Vihovden, Voss, Norway, Aug., 1927, J.L.

S. pulchrum Lindb., Leith Hill (17), June, 1925, J.L.O'L. "Two out of five packets contain well-grown typical speci-

mens; the other three contain immature plants." W.R.S.; var. *virescens* Warnst., Bröltal, Bladersbach, Rheinland, Germany, 1907, A. Schumacher.

S. recurvum Pal. de Beauv. (*S. intermedium* Hoffm.), Lynwode (54), Aug., 1928, G.H.A.; var. *robustum* Breidl., Easthamstead (22), June, 1924, H.W.M.; var. *majus* Ångstr., Broadmoor, Leith Hill (17), July, 1928, leg. and com. E.C.W.; det. W.R.S.; var. *parvulum* Warnst., Liestergebiet, Langenohl, Westphalia, Germany, June, 1927, A. Schumacher. "I should call this the var. *majus* Ångstr. The branch leaves measure 1.6 mm." W.R.S.

S. cuspidatum Ehrh., var. *falcatum* Russ., f. *molle* Warnst., Brölgebiet, Kuchem, Rheinland, Germany, May, 1927, A. Schumacher.

S. molluscum Bruch, Stoborough Heath (9), June, 1928, and Leith Hill (17), July, 1928, c. fr., leg. and com. E.C.W., det. W.R.S.

S. subsecundum Nees apud Sturm, var. *tenellum* Warnst., f. *subfalcatum* Warnst., Wiehltal, Kühnbach, Rheinland, Germany, May, 1928, A. Schumacher; var. *intermedium* Warnst., Grünhagen (Kr. Pr. Holland), East Prussia, Germany, Oct., 1912, leg. Dietzow, com. J.W. "I should call this the var. *tenellum* Warnst. The stem leaves are 0.5 mm., without fibrils and non-septate." W.R.S.

S. inundatum Russ., Ockham Comm. (17), July, 1928, leg. and com. E.C.W., det. W.R.S.; var. *ovalifolium* Warnst., f. *eurycladum* Warnst., Ventongimps (1), Sept., 1928, F.R. "This is *S. aquatile* Warnst., var. *intortum* Warnst." W.R.S.

S. auriculatum Schpr., var. *ovatum* Warnst., f. *intortum* Warnst., Brölgebiet, Neuenhähnen, Rheinland, Germany, Jan., 1928, A. Schumacher; var. *canovirens* Warnst., Meerbach Hill (36), Sept., 1928, leg. C.H.B., det. W.R.S., com. E.A.

S. aquatile Warnst., Ockham Comm. (17), July, 1928, leg. and com. E.C.W., det. W.R.S.

S. crassicladum Warnst., var. *diversifolium* Warnst., Stoborough Heath (9), June, 1928, leg. and com. E.C.W., det. W.R.S.; var. *intermedium* Warnst., Epping Forest (18), June, 1926, leg. S. T. E. Dark and J.L.O'L., com. J.L.O'L.; Flint Wood, Doncaster (63), Oct., 1928, leg. and com. S.P.R., det. W.R.S.

S. imbricatum (Hornsch.) Russ., Vihovden, Voss, Norway, Aug., 1927, J.L.

S. papillosum Lindb., Lamdash, Arran (100), July, 1928, leg. R. Mackechnie, det. W.R.S., com. E.C.W.; var. *normale*

Warnst., Auchterhouse Hill (90), April, 1924, leg. D.R.R., det. J. A. Wheldon, com. H.A.H.; Stoborough Heath (9), June, 1928, leg. and com. E.C.W., det. W.R.S.

S. cymbifolium Ehrh., Wisley (17), July, 1928, leg. and com. E.C.W., det. W.R.S.; var. *glaucescens* Warnst., Brölgebiet, Rheinland, Germany, Sept., 1928, A. Schumacher; var. *pallescens* Warnst., f. *confertum* Wheldon, Tents Muir (85), May, 1924, leg. D.R.R., det. J. A. Wheldon, com. H.A.H.; var. *atroviride* Schlieph., Auchterhouse Hill (90), April, 1924, leg. D.R.R., det. J. A. Wheldon, com. H.A.H.; var. *versicolor* Warnst., Brölgebiet, Rheinland, Germany, Sept., 1928, A. Schumacher.

S. medium Limpr., Bettws-y-Coed (49*), Sept., 1928, and Llyn-y-Cwrt (50*), Aug., 1928, A.W.; Eaglesham (76), Oct., 1928, D.G.C.

TRUE MOSSES.

EUROPEAN (British and Continental).

Andreaea petrophila Ehrh., forma, Mont Mort, Grand St. Bernard, Switz., July, 1922, "with *Gymnomitrium concinatum*," P.G.M.R.; var. *acuminata* B. and S., Oetzthal, Tirol, Austria, July, 1928, P.W.M.R.

A. alpina Sm., Honister Pass (70), Sept., 1928, W.E.N.

A. Rothii Web. and Mohr, Slieve Donard (I. 38), Aug., 1928, W.Y.; var. *falcata* Lindb., Traprain Law (82*), Sept., 1928, leg. J.B.D. and W.C.M., com. W.C.M. "There is a certain amount of *A. petrophila* intermixed with the *A. Rothii* in these packets." G.B.S.

Tetraphis pellucida Hedw., Leith Hill (17), April, 1928, c. fr., E.C.W.

T. Browniana Grev., Warenford (68), Feb., 1928, leg. J.B.D. and W.C.M., com. W.C.M.

Catherinea undulata Web. and Mohr, form with aggregate setae, Wotton (17), Oct., 1927, E.C.W.

Oligotrichum hercynicum Lam. (*O. incurvum* (Huds.) Lindb.), Arjeppluog, Pite Lappmark, Sweden, Aug., 1918, Hj. M.; Cader Idris (48), Aug., 1928, c. fr., S.P.R.; var. *laxum* Braithw., Snowdon (49), Aug., 1919, leg. J. A. Wheldon, com. W.G.T.

Psilopilum laevigatum (Wahl.) Lindb., Karesuando, Torne Lappmark, Sweden, Sept., 1918, Hj. M.

Polytrichum nanum Neck., New Forest (11), May, 1928, leg. H.H.K., D.A.J. and J.B.D., com. J.B.D.; Lynwode (54), Aug., 1928, G.H.A.

P. aloides Hedw., Slieve Donard (I. 38), Aug., 1928, W.Y.

P. urnigerum L., Albury (17), April, 1928, E.C.W.; Val Roseg, Pontresina, Switz., June, 1928, P.W.M.R.

P. alpinum L., Calder Glen (76), Oct., 1928, D.G.C.; Craig Chailleach (88), July, 1895, W.Y.

P. piliferum Schreb., Forêt de Vouvant, Vendée, France, Nov., 1926, J.C.

P. strictum Banks, Ben Lawers (88), July, 1899, W.Y.

P. commune L., Allerthorpe Comm. (61), July, 1928, W.H.B.; f. *uliginosa* Hueben., Ockham Comm. (17), July, 1928, E.C.W.

Buxbaumia aphylla L., Fagelsee, Riga, Latvia, April, 1921, leg. N. Malta, com. P.G.M.R.

Diphyscium foliosum Mohr, Lydford (3), Sept., 1928, A. Wyndham.

Archidium alternifolium Brid., Greenlaw (81), Oct., 1928, leg. J.B.D. and W.C.M., com. W.C.M.; Fairhead (I. 39), Aug., 1928, D.B.B.

Ditrichum tenuifolium Lindb., Biddlestone Woods (68), Sept., 1927, E.H.S.

Ditrichum vaginans Hampe, Colin Top, near Belfast (I. 39), Aug., 1928, C.H.B., J.B.D., D.H., D.A.J., W.R.M. and W.Y.

D. subulatum Hampe, near Truro (1), May, 1928, leg. H.H.K. and J.B.D., com. J.B.D.; La Châtaigneraie, Vendée, France, April, 1927, J.C.

D. flexicaule Hampe, Portland (9), June, 1928, E.C.W.; Chillingham (68), June, 1928, leg. J.B.D. and W.C.M., com. W.C.M.

Swartzia montana Lindb., Cader Idris (48), Aug., 1928, c. fr., S.P.R.

S. inclinata Ehrh., Holy Island (68), Aug., 1928, leg. J.B.D. and W.C.M., com. W.C.M.; Rosses Point (I. 28), Sept., 1928, W.Y.

Seligeria paucifolia Carruth., Irby (54), May, 1928, G.H.A.; Pyecombe (13), July, 1928, A.S.

S. calcarea B. & S., Cherry Hinton (29), May, 1928, P.W.M.R.

Rhabdoweisia denticulata B. & S., Ingleton (64), April, 1925, A.S.

R. crenulata (Mitt.) Jameson, Seatoller (70), April, 1928, W.E.N.; Moelwyn Bach (48), Sept., 1922, D.A.J.

Oreas Martiana (Hoppe and Hornsch.) Brid., Kitzbühler Alpen, Salzburg, Austria, Sept, 1922, L.L.

Cynodontium Jenneri Stirt. (*C. laxirete* (Dixon) Grebe), Langleford (68), Sept., 1928, leg. J.B.D. and W.C.M., com. W.C.M.

C. virens Schpr., Ben Lawers (88), Aug., 1902, leg. E. Cleminshaw, J.B.D. and D.A.J., com. D.A.J.

Dichodontium pellucidum Schpr., var. *compactum* Schpr., Widdybank Fell (66), Aug., 1896, H.N.D.; Greenlaw (81), June, 1928, leg. J.B.D. and W.C.M., com. W.C.M.; Sandford (77), June, 1928, and Stewarton (75), Aug., 1928, J.R.L.

D. flavescens Lindb., Bolton Woods (64), Sept., 1927, D.G.C.; Ben Cruben (88), July, 1909, W.Y.

Dicranella cerviculata Schpr., Chillingham (68), June, 1928, leg. J.B.D. and W.C.M., com. W.C.M.

D. Schreberi Schpr., Garley Hill, Rothbury (67), Aug., 1928, E.H.S.

Blindia acuta B. & S., Cader Idris (48), Aug., 1928, S.P.R. ; Gossensass, Tirol, Austria, June, 1894, leg. C. Trantmann, com. H.J. M. ; var. *trichodes* Braithw., Sutherland, July, 1928, R.J. "I think that this goes best under the type. The leaves are not sufficiently elongated or acute for the var. *trichodes* ; also, the leaf-base is fairly long and not suddenly contracted." G.B.S.

Dicranoweisia cirrata Lindb., Falling Foss Woods (62), June, 1928, W.B. ; Crunwere (45), Oct., 1928, R.J.

D. crispula Lindb., Zinal, Valais, Switz., July, 1926, P.G.M.R.

Campylopus Schwarzii Schpr., Clogwyn, Snowdon (49), Sept., 1924, leg. D.A.J., com. A.S.

C. flexuosus Brid., Simonside Hills, Rothbury (67), June, 1928, E.H.S. ; var. *uliginosus* Ren., Llyn Arran, Dolgelly (48), Aug., 1928, c. fr., leg. and com. S.P.R., det. D.A.J. ; var. *paradoxus* Husn., Warthill (62), May, 1928, W.B.

C. pyriformis Brid., Allerthorpe Comm. (61), July, 1927, W.H.B.

C. fragilis B. & S., St. Ives (1), July, 1926, C.H.B. ; Ranmore Comm. (17), April, 1927, c. fr., J.L.O'L. "I should call these specimens *C. pyriformis*. The elongated leaves, rather narrow nerve and short leaf-base point to that species ; also, the habit is hardly robust enough for *C. fragilis*." G.B.S. ; Mervant, Vendée, France, July, 1928, J.C.

C. atrovirens De Not., Crummock Water (70), July, 1928, leg. M. Scanlon, com. E.H.S. ; var. *muticus* Milde, Cwm-y-Glo, Llanberis (49), Aug., 1924, A.S.

C. brevipilus B. & S., Stoborough Heath (9), July, 1928, E.C.W.

Dicranum fulvellum Smith, Cwm Idwal and Snowdon (49), Sept., 1924, leg. C.H.B. and A.S., com. A.S.

D. undulatum Ehrh., Klobenstein and Wolfsgruben, S. Tirol, June, 1926, leg. and com. C.H.B., det. H.N.D.

D. spurium Hedw., Eberswalde, Berlin, Germany, Aug., 1928, L.L.

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

D. Bonjeani De Not., Lynwode (54), Aug., 1928, G.H.A. ; var. *rugifolium* Bosw., Ross Links and Warenford (68), Dec., 1927 and Feb., 1928, J.B.D.

D. scoparium Hedw., var. *orthophyllum* Brid., Holy Island (68), April, 1928, leg. J.B.D. and W.C.M., com. W.C.M. ; var. *spadiceum* Boul., Baugh Fell (65), Jan., 1923, A.W.

D. majus Turn., Bolton Woods (64), Aug., 1926, leg. A. Smith, com. H.S.

D. fuscescens Turn., var. *falcifolium* Braithw., Bolton Woods (64), Sept., 1927, D.G.C.

D. Scottianum Turn., Cragside, Rothbury (68), Aug., 1928, leg. J.B.D. and E.H.S., com. E.H.S.

D. strictum Schleich., Plompton Rocks (64), Aug., 1924, W.H.B. ; near Berlin, Germany, Sept., 1928, L.L.

D. flagellare Hedw., Bredower Forst, Berlin, Germany, Sept., 1928, L.L.

D. montanum Hedw., Soprabolzano, S. Tirol, June, 1926, C.H.B.

D. longifolium Ehrh., Meran, S. Tirol, June, 1926, leg. and com. C.H.B., det. W.E.N.

Leucobryum glaucum Schpr., Tyn-y-groes, Dolgelly (48), Aug., 1928, S.P.R.

Fissidens osmundoides Hedw., Usway Burn (68), June, 1928, c. fr., E.H.S. ; Dalmeny (83), June, 1898, W.Y.

F. serrulatus Brid., near Penzance (1), May, 1928, leg. H.H.K., J.B.D. and D.A.J., com. D.A.J. and J.B.D.

F. adiantoides Hedw., Greenlaw (81), June, 1928, leg. J.B.D. and W.C.M., com. W.C.M. ; Esuandes, Charente Inf., France, May, 1927, J.C.

F. decipiens De Not., Brigsteer (69), June, 1928, C.H.B. ; Glenariff (I. 39), Aug., 1928, W.Y.

F. taxifolius Hedw., Glenariff (I. 39), Aug., 1928, W.Y.

Octodiceras Julianum Brid., between Cintra and Colores, Portugal (no date), com. D.A.J.

Grimmia apocarpa Hedw., var. *alpicola* Hook. and Tayl., Artro Valley (48*), Oct., 1922, new to Wales, D.A.J. ; var. *rivularis* W. & M., Gwynfryn Valley, Harlech (48), Aug., 1928, leg. and com. S.P.R., det. D.A.J.

G. conferta Funck, var. *pruinosa* Braithw., Belfast Mts. (I. 39), Nov., 1928, W.R.M.

G. maritima Smith, Kinghorn (85), Dec., 1928, c. fr., W.Y. " Only two of these packets contain *G. maritima*. In the others the plant is an *Orthotrichum*, probably *O. cupulatum*.

This can be recognised by the hairy, inflated calyptras and the rather obtuse, papillose leaves, but in the absence of ripe fruit, definite determination is impracticable." G.B.S.

G. plagiopoda Hedw., Kroppenthal, Naumburg, Thuringia, Germany, Feb., 1926, leg. C. Lindner, com. L.L.

G. crinita Brid., Hyères, S. France, Feb., 1926, C.H.B.; St. Pierre du Chemin and Le Marillet, Vendée, France, March, 1926, and Oct., 1927, J.C.

G. incurva Schwaegr., Titterstone Clee Hills (40), May, 1912, P.G.M.R., and Aug., 1927, J.B.D.; Glyder Fach (49), April, 1928, A.W.

G. mollis B. & S., Oetzthal, Tirol, Austria, July, 1928, P.W.M.R.

G. funalis Schpr., Ben Lawers (88), July, 1911, W.Y.

G. torquata Hornsch., Albula Pass, Switz., June, 1928, P.W.M.R. "I think that this plant is not a *Grimmia* at all, but *Anaectangium compactum*. The leaves are distinctly papillose, with very opaque cells, and they have no white hair-points." G.B.S.

G. orbicularis Bruch, Hyères, S. France, Feb., 1926, C.H.B.

G. Lisae De Not., St. Hilaire de Voust, Vendée, France, Oct., 1927, J.C.

G. decipiens Lindb., Fairhead (I. 39), Aug., 1928, D.B.B. and D.H.

G. elatior B. & S., Meran, S. Tirol, May, 1926, C.H.B.

G. patens B. & S., Cam Chreag, Killin (88), July, 1927, J.B.D.

G. Doniana Smith, Slieve Donard (I. 38), Aug., 1928, W.Y.

G. arenaria Hampe, Llanelltyd Bridge, Dolgelly (48), Aug., 1928, leg. and com. S.P.R., det. J.B.D. "I think this is quite correct, but the setae are not much bent." G.B.S.

G. ovata Schwaegr., Meran and Soprabolzano, S. Tirol, May and June, 1926, C.H.B.

G. commutata Hueben., R. Dee, Berwyn (50), Jan., 1925, D.A.J.; Meran and Soprabolzano, S. Tirol, May and June, 1926, C.H.B.

G. leucophaea Grev., R. Dee, Berwyn (50), Jan., 1925, D.A.J.; Hyères and Agay, S. France, March, 1926, C.H.B.

G. elongata Kaulf., Oetzthal, Tirol, Austria, July, 1928, P.W.M.R.

Rhacomitrium ellipticum B. & S., Snowdon and Cwm Idwal (49), Sept., 1924, A.S.

R. aciculare Brid., Vermdö, Uppland, Sweden, July, 1876, leg. A. Magnusson, com. Hj. M.

R. protensum Braun., Ben More (88), Aug., 1925, D.B.B. "These specimens have very much the appearance of *R. protensum*, but when carefully examined the leaf-points will be found to be very obtuse and faintly toothed. The plant is really *R. aciculare* Brid." G.B.S.; Traprain Law (82), Sept., 1928, W.C.M. "These packets contain *Grimmia patens* and not *R. protensum*. The comparatively acute apex to the leaves, with minute, rounded cells, and particularly the wings on the back of the nerve, are conclusive." G.B.S.; (*R. aquaticum* Brid.), Ljusterö, Uppland, Sweden, Sept., 1928, Hj. M.

R. fasciculare (Schrad.) Brid., Stora Tuna and St. Kopparberg, Dalarna, Sweden, Aug., 1911, and May, 1913, Hj. M.

R. heterostichum (Hedw.) Brid., Södra Mellby, Skåne, Sweden, July, 1913, Hj. M.; var. *affine* (Schleich.) Amann, Lofta, Småland, Sweden, May, 1915, Hj. M.; var. *gracilescens* B. & S., Craig Mohr (88), July, 1910, W.Y. "I should call this specimen *R. ramulosum* Lindb. The cells in the upper part of the leaf are elongated and not short as in *R. heterostichum*." G.B.S.

R. ramulosum Lindb., Ben Lawers (88), July, 1927, J.B.D.; Vika, Dalarna, Sweden, April, 1910, Hj. M.; var. *fastigiatum* (Loeske), Vilhelmina, Åsele Lappmark, Sweden, July, 1914, Hj. M.

R. lanuginosum Brid., Cader Idris (48), April, 1928, c. fr., S.P.R.; (*R. hypnoides* (L.) Brid.), Torsång, Dalarna, Sweden, Sept., 1911, Hj. M.

R. canescens Brid., Norberg, Västmanland, Sweden, Aug., 1927, leg. A. Tärnlund, com. Hj. M.; var. *ericoides* B. & S., Loch Skene (72), July, 1928, W.C.M.; Oxberg, Dalarna, Sweden, May, 1914, Hj. M.

Ptychomitrium polyphyllum Fuernr., Arthog (48), Aug., 1928, S.P.R.

Glyphomitrium Daviesii Brid., Fairhead (I. 39), Aug., 1928, W.Y.

Hedwigia ciliata Ehrh., Carrock Fell (70), June, 1927, leg. C.H.B. and J.M., com. J.M.; Shilmoor (68), June, 1928, E.H.S.; (*H. albicans* (Wahlenb.) Lindb.), Västervik, Småland, Sweden, Oct., 1914, Hj. M.; var. *striata* Wils., Tyddyn-y-Felin, above Harlech (48), May, 1924, D.A.J.

H. imberbis (Sm.) Spruce, Hir Ynys, Llanfrothen (48), May, 1920, c. fr., D.A.J.; Braithwaite (70), Aug., 1928, leg.

H.H.K. and W.E.N., com. W.E.N.; Sutherland, July, 1928, R.J. "This moss is not *Hedwigia*. It appears to be a member of the *Drepanium* group of the genus *Hypnum*." G.B.S. "Yes, it is *Hypnum cupressiforme*, var. *resupinatum* Schpr." J.B.D.

Phascum Floerkeanum W. & M., Banstead Downs (17), May, 1928, E.C.W. "This plant suffers from having been gathered in a state of too-advanced maturity. From the larger spores, over .03 mm, and the leaves where available, it is clearly a form of *P. cuspidatum* Schreb." W.E.N.

Pottia bryoides Mitt., Cleethorpes (54), May, 1928, G.H.A.

P. Heimii Fuernr., Gretna (72), May, 1928, J.M.; Chesil Beach (9), June, 1928, E.C.W.

P. crinita Wils., St. Abb's Head (81), Feb., 1928, J.B.D.

Tortula pusilla Mitt., Botley (22), Nov., 1927, leg. H.H.K. and D.A.J., com. D.A.J.

T. lamellata Lindb., Bishop's Cleeve (33), Dec., 1913, leg. H.H.K. and D.A.J., com. D.A.J.

T. rigida Schrad., Sheepscombe (33), Dec., 1913, leg. H.H.K. and D.A.J., com. D.A.J.; near Larne (I. 39), Aug., 1928, W.Y.; (*Aloina rigida* Kindb.), Elberfeld and Broeltal, Rheinland, Germany, Oct. and Nov., 1928, A. Schumacher. "The Elberfeld gathering is correctly referred to this species, but though there may be some admixture the bulk of the material in the Broeltal gatherings appears to belong to *T. ambigua* Ångstr." W.E.N.

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

T. cernua Lindb., Sprotborough (63), Oct., 1928, c. fr., S.P.R.

T. atrovirens Lindb., Menton, S. France, Jan., 1928, C.H.B.; Mittersill, Salzburg, Austria, Sept., 1927, L.L.

T. cuneifolia Roth., Menton, S. France, March and April, 1928, C.H.B.; Bourneau, Vendée, France, March, 1928, J.C.

T. Vahliana Wils., Hyères, S. France, Dec., 1926, leg. and com. C.H.B., det. W.E.N.

T. subulata Hedw., Braes of Balquhiddy (88), July, 1911, W.Y.; var. *subinermis* Wils., Moccas (36), Aug., 1928, C.H.B.

T. inermis Mont., Menton, S. France, March and April, 1928, C.H.B.

T. alpina Bruch., Meran, S. Tirol, May, 1926, leg. and com. C.H.B., det. W.E.N.

T. intermedia Berk., Dolgelly (48), Aug., 1928, S.P.R.

T. ruraliformis Dixon, Barmouth (48), Aug., 1928, S.P.R. ; Chesil Beach (9), June, 1928, E.C.W.

T. princeps De Not., Hume Castle (81), Dec., 1926, and Sept., 1927, J.B.D. ; Moel 'r Ogof (49), April, 1923, leg. W. H. Pearson and D.A.J., com. D.A.J. ; Raith, Kirkcaldy (85), March., 1894, W.Y.

T. papillosa Wils., Bolzano, S. Tirol, June, 1926, leg. and com. C.H.B., det. W.E.N. ; West Linton, Carlisle (70), Feb., 1927, J.M.

Crossidium squamigerum Jur., Menton, S. France, Feb. and March, 1928, C.H.B.

Barbula Fiorii Vent., Steigerthal, Harz, Germany, May, 1928, leg. K. Koppe, com. L.L.

B. ferruginascens Stirton (*B. rubella*, var. *ruberrima* Ferg.), Brandelhow, Derwentwater (70), Aug., 1928, W.E.N.

B. tophacea Mitt., f. *splendens* Ingham, Filey (61), July or Aug., 1921, leg. W. Ingham, com. P.G.M.R.

B. fallax Hedw., Naburn (62), Oct., 1919, H.S. " Mr. Dixon agrees with me that this plant is a form of *B. cylindrica* (Tayl.) Schpr. rather than *B. fallax*, and suggests that it might have been almost aquatic." W.E.N. ; var. *brevifolia* Schultz, Menton, S. France, March, 1928, C.H.B.

B. recurvifolia Schpr., Ross Links (68), May, 1928, leg. J.B.D. and W.C.M., com. W.C.M. ; var. *robusta* Braithw., Gleniff, Ben Bulben (I. 28), Sept, 1928, C.H.B., D.A.J., J.B.D. and D.H.

B. spadicea Mitt., Bodetal, Harz, Germany, July, 1928, L.L. ; Ingleton (64), May, 1926, leg. C. A. Cheetham and W.B., com. W.B. ; Corriecravie, Arran (100), Sept, 1928, J.R.L. ; Warenford (68), Feb., 1928, leg. J.B.D. and W.C.M., com. W.C.M. ; forma, Ben Bulben (I. 28), Sept., 1928, J.B.D.

B. rigidula Mitt. (*Didymodon rigidulus* Hedw.), Gummersbach, Rheinland, Germany, Oct., 1928, A. Schumacher.

B. Nicholsoni Culmann, Norham (68), Dec., 1926, J.B.D.

B. cylindrica Schpr., Polperro (2), March, 1928, F.R.

B. vinealis Brid., Kirk-Hammerton Mill (64), July, 1928, J.B.

B. sinuosa Braithw., Bishop's Cleeve (33), Jan., 1928, leg. P.G.M.R. and D.A.J., com. D.A.J.

B. Hornschuchiana Schultz, Menton, S. France, March, 1928, C.H.B.

Geheebia gigantea Boul., Krimml, Austria, July, 1928, leg. C.V.B.M. and J.B.D., com. J.B.D.

Leptodontium flexifolium Hampe, Oersdorf, Stade, Hanover, Germany, Sept., 1927, leg. Dr. R. Timm, com. L.L.

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

W. microstoma C.M., Mte. Crocione, L. Como, Italy, May, 1924, leg. and com. C.H.B., det. W.E.N.

W. tortilis C.M., Menton, S. France, Feb. and April, 1928, C.H.B.

W. crispata C.M., Shurdington Hill (33), March, 1928, leg. H.H.K. and D.A.J., com. D.A.J.

W. viridula Hedw., Polperro (2), April, 1928, F.R.

W. tenuis C.M., Rothbury (67*), July, 1928, E.H.S.

W. calcarea C.M. (*Gymnostomum calcareum* N. & H.), Sérigué, Vendée, France, March, 1928, J.C.; Menton, S. France, April, 1928, c. fr., C.H.B.; var. *viridula* C.M., Angle (45), Oct., 1928, R.J. "Fine specimens, but I should certainly refer them to the type rather than to the var. *viridula*, which is a much smaller plant with shorter stems and stouter, more obtuse leaves." W.E.N.

W. rupestris C.M., Ruddy Gill, Scafell Pike (70), form with long capsules and short-beaked lid, Aug., 1895, H.N.D.; Honister Pass (70), Aug., 1895, H.N.D.; Quiraing, Skye (104), July, 1893, H.N.D.; Brecon (42), Aug., 1894, leg. C.H.B. and H.N.D., com. H.N.D.

W. curvirostris C.M., var. *commutata* Dixon, St. Abb's, (81), Feb., 1927, J.B.D.; var. *insignis* Dixon, Killin (88), July, 1927, J.B.D.; Gleniff, Ben Bulbin (I. 28*), Sept., 1928, C.H.B., D.H. and W.Y. "All correctly named except Mr. Young's gathering, which Mr. Dixon agrees with me should be referred to the type rather than to this variety." W.E.N.

W. verticillata Brid., Finnich Glen (86), May, 1927, J.R.L.; Castle Howard (62), May, 1928, W.B.; Weldon Bridge (68), July, 1928, E.H.S.; Cremond (83), I. 1905, c. fr., leg. J. McAndrew, com. W.Y.

Timmiella Barbula Limpr., Menton, S. France, April, 1928, C.H.B.

Trichostomum crispulum Bruch, Sérigué, Vendée, France, March, 1928, J.C.; Menton, S. France, May, 1928, c. fr., C.H.B.; Stoborough Heath (9), June, 1928, E.C.W.; var. *brevifolium* B. & S. Hyères, S. France, Feb., 1926, and Menton, S. France, Jan., 1928, C.H.B. "I should regard the Menton plant as an undeveloped form of *T. crispulum* and not as coming under any definite variety. The Hyères plant is

doubtful." W.E.N. "I should agree in not placing the Menton plant under the var. *brevifolium* B. & S. The Hyères plant seems to me as well marked as the Welsh plant distributed in 1910 as the var. (see Mr. Nicholson's note in M.E.C. Report for 1920, p. 342), and I should have been inclined to place it under the var., but not as a very strongly marked form. It is not a clearly defined or satisfactory variety." H.N.D.; var. *viridulum* Braithw., Menton, S. France, Jan., 1928, C.H.B.

T. mutabile Bruch, Orton (69), Sept., 1926, C.H.B. "A striking form." H.N.D.; Gleniff, Ben Bulben (I. 28), Sept., 1928, W.Y.; var. *cophocarpum* Schpr., Glencar (I. 28), Sept., 1928, W.Y.

T. tenuirostre Lindb., Tyn-y-Groes (48), Aug., 1928, S.P.R. "There are a few stems of the *Trichostomum* in all the packets, but the bulk of the material is *Zygodon Mougeotii* (Bruch) B. & S." W.E.N.

T. flavovirens Bruch, Chesil Beach (9), June, 1928, E.C.W.

T. inclinatum Dixon (*Tortella inclinata* (Hedw. fil.) Limpr.), Theux, Ardennes, Belgium, Nov., 1927, leg. A. Cornet, com. F.V.

T. nitidum Schpr., Cheddar (6), May, 1928, D.A.J.; Menton, S. France, Feb., 1928, C.H.B.

T. fragile Dixon, Mittersill, Salzburg, Austria, Aug., 1928, L.L.

Tortella caespitosa (Schwaegr.) Limpr., Menton, S. France, leg. and com. C.H.B., det. W.E.N.

Pleurochaete squarrosa Lindb., Hyères, S. France, March and April, 1926.

Cinclidotus Brebissoni Husn., Prenteg, near Portmadoc (49), June, 1927, D.A.J.; (*Dialytrichia mucronata* Limpr.), Chantonay, Vendée, France, Aug., 1926, J.C.; Chantilly, Haute Saône, France, Feb., 1926, leg. V. Madiot, com. J.C.

C. fontinaloides P. de Beauv., Chantonay, Vendée, France, Aug., 1926, J.C.; Loch Erne (I. 33), Sept., 1928, W.Y.

C. riparius (Host.) Arn., Huy, Belgium, June, 1928, leg. A. Cornet, com. F.V.

Encalypta vulgaris Hedw., Agay, S. France, March, 1926, C.H.B.; Falls of Clyde (77), July, 1898, W.Y.

E. ciliata Hoffm., Lindhope Burn (68), Aug., 1928, E.H.S.; Cam Craig, Killin (88), July, 1900, W.Y.

E. rhabdocarpa Schwaegr., Largo Links (85), July, 1904, W.Y.

E. streptocarpa Hedw., Killin (88), July, 1901, c. fr., W.Y.

Anaetangium compactum Schwaegr., Meal-nan-Tarmachan and Ben Lui (88), July, 1893, and Falls of Falloch (88), July, 1897, H.N.D.; Black Force, How Gill Fells (65), April, 1925, W.H.B.; var. *pellucidum* Dixon, Spean Bridge (97), July, 1898, H.N.D. "Fairly good, but some intermediate." H.N.D.

Zygodon lapponicus B. & S., Ben Lawers (88), July, 1910, W.Y.

Z. Mougeotii B. & S., Traprain Law (82), Sept., 1928, W.C.M.

Z. viridissimus, var. *occidentalis* (Correns) Malta, Denbies, near Dorking (17), April, 1927, D.G.C.; Minwear Woods (45), Aug., 1928, P.G.M.R.; var. *rupestris* Hartm., Pagharn Beach (13), May, 1928, E.C.W.; Colin Glen (I. 39), Aug., 1928, W.Y. "This plant is a form of *Weisia rupestris* C.M. The obtuse leaves at once distinguish it from any form of the *Zygodon*." W.E.N.

Z. Stirtoni Schpr., Broxmouth Park, Dunbar (82), Aug., 1928, E.H.S.

Z. conoideus Hook. and Tayl., Notgrove (33*), on elders, March, 1928, leg. D.A.J. and H.H.K., com. H.H.K.

Ulota Bruchii Hornsch., Northay, near Chard (5), April, 1926, W.W.; Tilgate Forest (14), Sept., 1928, J.L.O'L.

U. vittata Mitt., Glencar (I. 29), Sept., 1928, W.R.M.

U. phyllantha Brid., Kintail (105), July, 1883, Lamorne Cove (1), July, 1886, Giant's Causeway (I. 39), July, 1890, and Tobermory (103), July, 1898, H.N.D.; Theddlethorpe (54), May, 1928, G.H.A.

U. Hutchinsiae Hamm., Beddgelert (49), July, 1888, Errigal (I. 35), July, 1890, and Lodore (70), Aug., 1895, H.N.D.; Oetztal, Tirol, Austria, June, 1928, P.W.M.R.

Orthotrichum rupestre Schleich., Killin (88), and Fearnan, Loch Tay (88), July, 1893, Altnaharra (108), July, 1897, and Marlborough Downs (7), July, 1907, H.N.D.

O. anomalum Hedw. var. *saxatile* Milde, Barnwell (32), Dec., 1887 and June, 1888, Letterkenny (I. 34), July, 1890, and Staffin, Skye (104), Aug., 1893, H.N.D.

O. Sardagnanum Vent., Monte Venere, Taormina, Sicily, April, 1897, leg. M. Fleischer, com. J.W.

O. Lyellii Hook. and Tayl., Blakesley (32), Aug., 1887, c. fr., and Glen Lyon (88), July, 1893, c. fr., H.N.D.

O. affine Schrad., Altnaharra (108), July, 1899, H.N.D.

O. rivulare Turn., Monnington (36), Aug., 1928, C.H.B.; Aira Force, Ullswater (69), Sept., 1891, and Erwood Bridge (43), July, 1903, H.N.D.

O. Schimperi Hamm., Tenda, Maritime Alps, Italy, April, 1928, C.H.B.

O. pulchellum Smith, Lairg (108), July, 1899, H.N.D.; Lamberton Moor (81), Dec., 1927, leg. J.B.D. and W.C.M., com. W.C.M.; Theddlethorpe (54), May, 1928, G.H.A.; Notgrove (33), March, 1928, leg. H.H.K. and D.A.J., com. D.A.J.

O. diaphanum Schrad., Upwey (9), June, 1928, E.C.W.; Theddlethorpe (54), May, 1928, with gemmae, G.H.A. "This is not a very rare condition with this species and probably forms the var. *aquaticum* Davies mentioned in the Handbook." W.E.N.

O. obtusifolium Schrad., Mont Dore, Auvergne, France, May, 1928, C.H.B. "These specimens are mixed with a form of *O. rupestre* Schleich." W.E.N.; Charny, Fribourg, Switz., June, 1923, c. fr., P.G.M.R. (1872).

Splachnum sphaericum L. fil. (*S. pedunculatum* (Huds.) Lindb.), Gellivare, Lule Lappmark, Sweden, July, 1919, Hj. M.; Poison Glen, Donegal, July, 1890, Ben Ledi (87), and Craig Chailleach (88), July, 1897, H.N.D.; Ben Heasgarnich (88), July, 1910, W.Y.; Darden Lough (67), Sept., 1928, E.H.S.

S. vasculosum L., Craig Chailleach (88), July, 1909, and July, 1927, c. fr., W.Y.; Vilhelmina, Åsele Lappmark, Sweden, July, 1926, Hj. M.

S. rubrum L., Wg. Djursåtra Wersås, Sweden, June, 1867, leg. L. J. Wahlstedt, com. Hj. M.

S. luteum L., Sorsele, Lycksele Lappmark, Sweden, July, 1925, Hj. M.

Tetraplodon mnioides B. & S. (*T. bryoides* (Zoëg.) Lindb.), Sarikoski, Karesuando, Torne Lappmark, July, 1912, Ullriksfors, Ström, Jämtland, July, 1914, and Jokkmokk, Lule Lappmark, July, 1921, all in Sweden, Hj. M.; Vestra Helagssjöu, Nordvestria Härjedalen, Sweden, Aug., 1914, leg. H. Smith, com. Hj. M.; var. *paradoxus* (R. Br.) Hag., Arjeppluog, Pite Lappmark, Sweden, Aug., 1918, Hj. M.

T. angustatus (Sw.) B. & S., Falun, Dalarna, Aug., 1913, and Sorsele, Lycksele Lappmark, Sweden, July, 1925, Hj. M.

T. Wormskjoldii (Hornem.) Lindb., Karesuando, Torne Lappmark, Sweden, July, 1912, Hj. M.

Tayloria tenuis Schpr., Stronaclachich, Killin (88), July, 1897, H.N.D.

T. lingulata (Dicks.) Lindb., Arjeppluog, Pite Lappmark, Sweden, July, 1918, Hj. M.

Ephemerum serratum Hampe, Kingsthorpe (32), Nov., 1885, H.N.D.

Physcomitrella patens B. & S., Chelker Reservoir, Addingham (64), Aug., 1928, W.H.B.; Monchamps, Vendée, France, June, 1928, J.C.

Physcomitrium sphaericum Brid., Whaley Bridge (58), Oct., 1901, leg. Prof. Barker, com. H.N.D.

P. pyriforme Brid., Staverton (32), April-May, 1895, H.N.D.

Funaria fascicularis Schpr., Kingsthorpe (32), April, 1886, Harleston (32), April, 1887, and Castle Dykes, Weedon (32), April, 1905, H.N.D.

F. ericetorum Dixon, St. Just (1), Aug., 1886, H.N.D.; Rothbury (67), Sept., 1928, E.H.S.

F. Templetoni Sm., High Lodore (70), Aug., 1895, and Spean Bridge (97), July, 1898, H.N.D.

F. mediterranea Lindb., Hyères, S. France, March, 1926, and Menton, S. France, April, 1928, C.H.B. "The specimens from Menton are rightly referred to *F. mediterranea*, but those from Hyères have the upper part of the leaf margins strongly denticulate and should be referred to *F. dentata* Crome. The two species are closely related and may well be united under the name of *F. calcarea* Wahl." W.E.N.

Aulacomnium turgidum Schwaegr., Ben Heasgarnich (88), July, 1899, W.Y.

A. palustre Schwaegr., Carrock Fell (70), June, 1927, leg. C.H.B. and J.M., com. J.M.; var. *imbricatum* Schpr., Brockenhurst (11), July, 1889, H.N.D.; Mt. Gaisstein, 2350 m., Salzburg, Austria, Sept., 1927, L.L.

A. androgynum Schwaegr., Eastnor Park (36), Oct., 1928, leg. D.A.J., and L.B.C.T., com. L.B.C.T.

Timmia norvegica Zett., Gleniff, Ben Bulben (I. 28*), Sept., 1928, leg. C.H.B., H.H.K. and A.S., com. A.S.; Ben Lawers (88), Aug., 1902, leg. E. Cleminshaw, J.B.D. and D.A.J., com. D.A.J.; Maol Ghaerdi (88), July, 1927, W.Y.

Catoscopium nigratum Brid., Holy Island (68), Aug., 1928, leg. J.B.D. and W.C.M., com. W.C.M.; Widdybank Fell (66), Aug., 1896, H.N.D.; forma, Foxdale, Isle of Man (71), Sept., 1914, leg. J. Hunter, com. H.N.D.

C. boreale Swartz, Helvellyn (69), July, 1891, H.N.D.

Bartramia stricta Brid., Menton, S. France, Feb., 1928, c. fr., C.H.B.; Valluaris, S. France, May, 1926, D.A.J.; Vouvant, Vendée, France, April, 1928, J.C.

B. ithyphylla Brid., Snowdon (49), July, 1888, and Ben Nevis (97), July, 1898, H.N.D.

B. pomiformis Hedw., Cronkley Fell (66), Aug., 1896, H.N.D.

B. Halleriana Hedw., Dolgelly (48), Aug., 1928, S.P.R.; Sefinenthal, Bernese Oberland, Switz., July, 1913, P.G.M.R.

Philonotis rigida Brid., Harlech (48), March, 1922, D.A.J.

P. fontana Brid., var. *adpressa* Ferg., forma, Ben Nevis (97), July, 1898, H.N.D.; Quinag (108), July, 1899, male plants, leg. W.E.N., E.S. Salmon and H.N.D., com. H.N.D.; Oxendale, Langdale (69), Oct., 1925, C.H.B. "Appr. var. *adpressa*." H.N.D.; var. *ampliretis* Dixon, Moelwyn Bach (48), July, 1925, D.A.J.

P. caespitosa Wils., Talsarnau (48), Sept., 1921, D.A.J.

P. calcarea Schpr., var. *laxa* Dismier Ms., Froxfield (7), Oct., 1911, leg. C.P.H., com. H.N.D.

P. marchica Willd., near Buch, Berlin, Germany, July, 1906, leg. Osterwald, com. L.L.

Breutelia arcuata Schpr., Barra, Skye (104), June, 1928, leg. W. Morrison, com. W.B.; Dolgelly (48), Aug., 1928, S.P.R.; Vitznau, Switz., July, 1928, P.W.M.R.

Orthodontium gracile Schwaegr., var. *heterocarpum* Watson, Laddow Rocks (58), Aug., 1927, W.W.

Leptobryum pyriforme Wils., Wyke Regis (9), June, 1928, c. fr., E.C.W.

Mielichhoferia nitida (Funck) Hornsch. (= *Oreas Mielichhoferi* Brid.), Mittersill, Salzburg, Austria, Aug., 1927, L.L.

Webera polymorpha Schpr., Meal na Saone (88), July, 1906, W.Y.

W. cruda Schwaegr., Ben Lawers (88), July, 1896, W.Y.

W. nutans Hedw., forma, Bolton Woods (64), July, 1896, and Altnaharra (108), July, 1899, H.N.D.; var. *longiseta* B. & S., Kilsby (32), June, 1892, and Billing Lings (32), May, 1896, H.N.D.

W. cucullata Schpr., Mont Mort, Grand St. Bernard, Switz., July, 1922, leg. and com. P.G.M.R., det. H.N.D.

W. annotina Schwaegr., Ben More (88), July, 1897, leg. C.H.B. and H.N.D., com. H.N.D.

W. proligera Bryhn, c. fr., Hayle River (1), May, 1928, leg. H.H.K., D.A.J. and J.B.D., com. J.B.D.

W. Ludwigii Schpr., Ruddy Gill, Scafell (70), Aug., 1895, H.N.D.; Ben Nevis (97), "form with leaves often very concave, cochleariform," July, 1898, H.N.D.; Ben Clibrack

(108), July, 1899, H.N.D. ; var. *elata* Schpr., Inchnadamp and Ben More (108), July, 1899, leg. W.E.N. and H.N.D., com. H.N.D.

W. commutata Schpr., Ben Voirlich (88), July, 1897, H.N.D.

W. carnea Schpr., Mitcham (17), April, 1927, c. fr., J.L.O'L. ; Menton, S. France, Feb., 1928, C.H.B.

W. albicans Schpr., Roade (32), male plants, May, 1886, H.N.D. ; Ben More (88), July, 1897, c. fr., leg. C.H.B. and H.N.D., com. H.N.D. ; Ben Lawers (88), July, 1899, c. fr., leg. W.E.N., E. S. Salmon and H.N.D., com. H.N.D. ; var. *glacialis* Schpr., Ruddy Gill, Scafell (70), Aug., 1895, Craig Chailleach (88), July, 1897, and Ben Heasgarnich (88), July, 1898, c. fr., H.N.D. ; Ben Lawers (88), July, 1927, J.B.D.

W. Tozeri Schpr., Menton, S. France, March, 1928, C.H.B.

Plagiobryum Zierii Lindb., Craig na Lochan (88), July, 1909, W.Y.

Bryum filiforme Dicks., Usway Burn (68), June, 1928, E.H.S. ; Colin Glen (I. 39), Aug., 1928, W.Y. ; var. *juliforme* Dixon, Carbis Bay (1), May, 1928, leg. H.H.K. and J.B.D., com. J.B.D.

B. concinnatum Spruce, Ben Cruben (88), July, 1909, W.Y. "This is not the sub-species, as the leaves are too imbricated, wider and more obtusely pointed, with a nerve usually vanishing below the apex. It is a well-developed form of *B. filiforme*." D.A.J.

B. pendulum Schpr., Melbourne (61), July, 1927, W.H.B. ; Sandhills, Druridge Bay (67), July, 1928, E.H.S. ; Aytré, Charente Inferieure, France, April, 1928, J.C.

B. arcticum R. Br., Ben Lawers (88), July, 1899, leg. W.E.N., E. S. Salmon and H.N.D., com. H.N.D.

B. pallens Sw., Wiehltal, Rheinland, Germany, July, 1928, A. Schumacher ; var. *speciosum* Schpr., Ben Lawers (88), July, 1893, H.N.D.

B. pseudo-triquetrum Schwaegr., forma, Ben More (88), July, 1897, leg. C.H.B. and H.N.D., com. H.N.D. "Seems comparable to the var. *atrotheca* Ren. and Card. of *B. bimum*." H.N.D.

B. pallescens Schleich., Dunley Hill, near Dorking (17), March, 1927, D.G.C. "This belongs to the *Ptychostomum* group. The inflorescence is synoicous and sub-autoicous, and the peristome has oblique lines between the transverse articulations on the inner surface. Evidently it is *B. pendulum*." D.A.J.

B. intermedium Brid., near Larne (I. 39), Aug., 1928, W.Y.

B. caespiticium L. var., Holme sand dunes, Norfolk (27), June, 1902, and July, 1903, leg. Rev. W. E. Thompson, com. H.N.D. "Spores large, .02 to .032 mm., see Trans. Norf. and Norw. Nat. Soc. VII., 564." H.N.D. "This appears to be the variety mentioned in the Handbook, Ed. 3, p. 366." A.S.

B. provinciale Philib. (*B. canariense* Schpr.), Bourneau, Vendée, France, March, 1928, J.C.

B. capillare L., forma, Sea shore, Holme, Norfolk (27), May, 1903, leg. Rev. W. E. Thompson, com. H.N.D. "Leaves too wide for *B. obconicum*, and twisted, but narrower than in the type and with very stout, much revolute (non-thickened) border." H.N.D.; an autoicous form, Sandhills, Harlech (48), May, 1921, D.A.J.; var. *elegans* Braithw., King's Seat, Killin (88), June, 1904, W.Y. "This has stems with a central strand as in *B. capillare*, but it has the colour and areolation of that protean moss *B. pallens*. It is without fruit." D.A.J. "I agree that this is a form of *B. pallens*. There are scarcely any limits to which *B. pallens* may not go." H.N.D.

B. obconicum Hornsch., Menton, S. France, April, 1928, C.H.B.

B. Donianum Grev., Menton, S. France, April and May, 1928, C.H.B.; Vouvant, Vendée, France, April, 1928, J.C.

B. erythrocarpum Schwaegr., Billing Ling (32), March, 1897, H.N.D.; Melbourne (61), July, 1927, W.H.B.

B. atropurpureum W. & M., East Holton (54), April, 1928, G.H.A.; Menton, S. France, April, 1928, C.H.B.; var. *gracilentum* Tayl., Kingsthorpe (32), Oct., 1897, H.N.D.; Eastnor Lake (36), Nov., 1928, leg. D.A.J., H.H.K. and L.B.C.T., com. L.B.C.T.

B. murale Wils., Polperro (2), May, 1928, F.R.; Menton, S. France, May, 1928, C.H.B.

B. alpinum Huds., Bearsden (99), Nov., 1928, D.G.C.; forma, Oxendale, Langdale (69), Oct., 1925, C.H.B.; var. *viride* Husn., Brecon (42), Aug., 1894, and Grange, Borrowdale (70), Aug., 1895, H.N.D.; Traprain Law (82), Sept., 1928, leg. J.B.D. and W.C.M., com. W.C.M.; Fairhead (I. 39), Aug., 1928, W.Y.; var. *meridionale* Schpr., Lamorne (1), July, 1886, H.N.D.

B. gemmiparum De Not, Menton, S. France, Feb., 1928, and Grimaldi, near Ventimiglia, Italy, April, 1928, C.H.B.

B. argenteum L., var. *lanatum* B. & S., Nyetimber, near Pagharn (13), May, 1928, E.C.W.

B. roseum Schreb., Raith, Kirkealdy (85), March, 1903, W.Y.; Brentor (3), Sept., 1928, A. Wyndham.

Mnium riparium Mitt., Cuckfield (13), May, 1922, W.E.N.

M. spinosum Schwaegr., Sefinenthal, Bernese Oberland, Switz., June, 1913, P.G.M.R.

M. stellare Reich., Barnoldsby (54), April, 1928, G.H.A.

Cinclidium stygium Swartz, Biesenthal, Berlin, Germany, Oct., 1928, L.L.

Fontinalis antipyretica L., var. *gigantea* Sull., Aber, N. Wales, Aug., 1892, and Jan., 1899, H.N.D.

Cryphaea heteromalla Mohr, St. Hilaire de Voust, Sérigué, and La Chapelle aux Lys, Vendée, France, March, 1928, J.C.

Neckera oligocarpa Bruch, Arjeppluog, Pite Lappmark, Sweden, July, 1918, c. fr., Hj. M.

N. crispa Hedw., Theux, Ardennes, Belgium, Jan., 1909, leg. M. Mairlot, com. F.V.

N. pumila Hedw., St. Pierre du Chemin, Vendée, France, March, 1926, J.C. "Some of the packets contain the var. *Philippeana* Milde." D.A.J.

N. complanata Huebn., Kiviks-Esperöd, Skåne, Sweden, July, 1918, Hj. M.

Hookeria laetevirens Hook. & Tayl., near Penzance (1), Dec., 1911, leg. H. Angwin, com. F.R.; *idem*, May, 1921, W.W.; O'Sullivan's Cascade, Killarney (I. 1), Aug., 1905, leg. D.A.J., com. H.N.D.

Fabronia pusilla Raddi, Menton, S. France, Feb. and March, 1928, C.H.B.

F. octoblepharis Schwaegr., Meran, S. Tirol, May, 1926, leg. and com. C.H.B., det. W.E.N.

Pterygophyllum lucens Brid., Westcott (17), Sept., 1928, E.C.W.

Leucodon sciuroides Schwaegr., Hemmestorp, Skåne, Sweden, May, 1919, and Djurö, Uppland, Sweden, Sept., 1920, Hj. M.

Pterogonium gracile Swartz, Llanberis (49), 1919, D.B.B.; Traprain Law (82), Sept., 1928, E.H.S.

Habrodon Notarisii Schpr., Killin (88), July, 1911, W.Y.

Antitrichia curtipendula Brid., Llyn Cynwch, Dolgelly (48), Aug., 1928, S.P.R.; Halltorp, Småland, Sweden, May, 1916, Kristianopel, Blekinge, Sweden, Sept., 1916, and Böda, Oeland, Sweden, May, 1917, Hj. M.

Leskea polycarpa Ehrh., near Arundel (13), Aug., 1928, E.C.W.

L. nervosa Myrin (*Leskeella nervosa* (Schwaegr.) Loeske), Chaumont, Neuchatel, Switz., July, 1913, P.G.M.R.; Wolfsgruben, Soprabolzano, S. Tirol, June, 1926, leg. and com. C.H.B., det. W.E.N.

Anomodon attenuatus Huebn., Klobenstein, S. Tirol, June, 1926, leg. and com. C.H.B., det. H.N.D. "An extremely delicate form." H.N.D.

A. viticulosus Hook. & Tayl., Boxwell (34), March, 1928, c. fr., leg. D.A.J. and H.H.K., com. H.H.K.

A. Rugelii (C. Muell.) Keissl. (*A. apiculatus* B. E.), Billingen, Västergötland, Sweden, Aug., 1914, leg. E. Jaederholm, com. Hj. M.

Leptodon Smithii Mohr., Dorchester (9), May, 1928, leg. H.H.K. and J.B.D., com. J.B.D.; Marsais-Ste.-Radegonde, Vendée, France, March, 1928, J.C.

Pterigynandrum filiforme Hedw., Wolfsgruben, Soprabolzano, S. Tirol, June, 1926, c. fr., C.H.B.; Ryggen, Dalarna Vika, Sweden, April, 1910, and Tärna, Lycksele Lappmark, Sweden, July, 1916, Hj. M.; var. *heteropterum* B. & S., Craig-na-Lochan (88), July, 1896, W.Y.

Heterocladium heteropterum B. & S., Dôl-y-Cae, Dolgelly (48), Aug., 1928, S.P.R.; Nantcol Ravine, Llanbedr (48), March, 1925, c. fr., D.A.J.

H. dimorphum B. & S., Ben Lawers (88), July, 1911, W.Y. "An oversight. This is *Hypnum Halleri* L." D.A.J.

Pseudoleskea atrovirens B. & S., Ben Lawers (88), July, 1927, J.B.D.

P. catenulata B. & S., forma and var. *acuminata* Culmann, Allt nan Uamh, near Inchnadamph (108), July, 1899, two gatherings, one of the var., the other fairly typical but passing into the var., leg. W.E.N., E.S. Salmon and H.N.D., com. H.N.D. "A striking form, differing from the type principally, though not exclusively, in the elongated leaf points. Mr. Nicholson recently sent a specimen to Dr. Culmann, who wrote that it is the same as the variety which he described in the Rev. Bryol., 1913, p. 50, as *Leskea catenulata* Brid. var. *acuminata* Culmann, from calcareous rocks above Gsteig, Switzerland," H.N.D.

Pseudoleskeella tectorum (A. Braun) Kindb., var. *flagellifera* Best (= var. *pulvinata* Amann), Zinal, Valais, Switz., July, 1926, leg. and com. P.G.M.R. (2699), det. H.N.D. *ex eod. loco*.

Thuidium abietinum B. & S., Klobenstein, S. Tirol, June, 1926, and Menton, S. France, Feb., 1928, C.H.B. ; Brännkyrka, Stockholmstraken, Sweden, July, 1920, Djurö, Uppland, Sweden, Sept., 1920, and Oesteråker, Uppland, Sweden, Aug., 1921, Hj. M.

T. hystricosum Mitt., Box Hill (17), April, 1927, D.G.C. and J.L.O'L.

T. Blandovii B. & S., (*T. lanatum* (Ström) Hagen), Jokkmokk and Kvikkjokk, Lule Lappmark, Sweden, July, 1919, and July, 1921, Hj. M.

T. tamariscinum B. & S. (*T. tamariscifolium* (Neck.) Lindb.), Gamleby, Småland, Sweden, May, 1915, Hj. M.

T. delicatulum Mitt., Lodore Falls (70), July, 1928, C.H.B. ; Tyn-y-Groes, Dolgelly (48), Aug., 1928, S.P.R. ; Oefvedskloster, Skåne, Sweden, Jan., 1900, c. fr., Hj. M.

T. recognitum Lindb., World's End, Llangollen (50), April, 1925, leg. P.G.M.R. and D.A.J., com. D.A.J. ; Duly'n Glen, near Tal-y-bont (49*), Nov., 1928, A.W. ; Böda, Oeland, and Halltorp, Småland, Sweden, May and June, 1917, Hj. M. ; Note :—The plant from near Lugano, Switz., April, 1924, A.S., distributed under this name in 1925 (see Report, 1925, p. 156), has since been found to be *T. delicatulum* Mitt., the inner perichaetial bracts being ciliate.

Climacium dendroides W. & M., Madingley (29), May, 1928, P.W.M.R.

Entodon Schleicheri (B.E.) Broth., Meran, S. Tirol, May, 1926, leg. and com. C.H.B., det. W.E.N.

Cylindrothecium concinnum Schpr., Cleeve Hill, near Cheltenham (33), Nov., 1928, H.H.K. ; Portrush (I. 39), Aug., 1928, D.B.B.

Pylasia polyantha B. & S., Bentham (64), Nov., 1928, leg. C. A. Cheetham, com. W.H.B. ; near Ingleton (64), April, 1925, leg. C. A. Cheetham, F.E.M. and D.A.J., com. D.A.J. ; Langton (54), April, 1928, G.H.A. "The cell structure is like *Hypnum cupressiforme*, but without fruit it cannot be definitely determined." J.B.D.

Orthothecium rufescens B. & S., Gleniff, Ben Bulbin (I. 28), Sept., 1928, D.H. ; Val Tuoro, Bergün, Graubünden, Switz., June, 1928, P.W.M.R.

Camptothecium lutescens B. & S., Pickering (62), Oct., 1916, and Tadcaster (64), April, 1917, H.S. ; var. *fallax* (Philib.) Breidl., Cannes, S. France, March, 1886, leg. Sir B. Stone, det. W.E.N., com. P.G.M.R.

C. nitens Schpr., Cartington (68), Dec., 1928, E.H.S.; Apollina, Fribourg, Switz., Feb., 1920, P.G.M.R.

Homalothecium Philippeanum (R. Spruce) B. & S., Sefinenthal, Bernese Oberland, Switz., June, 1913, P.G.M.R.

Brachythecium plicatum B. & S., Krimml, Austria, July, 1928, J.B.D.

B. glareosum B. & S., Gomshall (17), Feb., 1928, and Gatton (17), June, 1928, E.C.W.

B. rutabulum B. & S., Lulworth Cove (9), June, 1928, E.C.W. "A marsh form." W.R.S.

B. rivulare B. & S., Abington Park (32), on shady gravel path, far from water, June, 1896, and Nov., 1897, H.N.D.; var. *cataractarum* Sauter, stream above Aber (49), Aug., 1892, and Jan., 1899, H.N.D.

B. plumosum B. & S., Lodore (70), Aug., 1895, and Craig Chailleach (88), July, 1897, "a compact form," H.N.D.

B. caespitosum Dixon, Barston (38), May, 1927, P.G.M.R.; St. Hilaire de Voust, Vendée, France, March, 1928, J.C.

B. illecebrum De Not., Newent (33), Dec., 1913, leg. H.H.K. and D.A.J., com. D.A.J.

Hycomium flagellare B. & S., Wath, Niddersdale (64), Aug., 1925, H.S.; Finlarig Woods, Killin (88), July, 1911, W.Y. "This is *Hypnum commutatum* Hedw." J.B.D.

Eurhynchium cirrosum Jur., Ben Lawers (88), July, 1927, J.B.D.

E. speciosum Schpr., a luxuriant form, Carbis Bay (1), July, 1926, C.H.B.

E. praelongum Hobk., Harleston Quarries (32), May, 1898, c. fr., H.N.D.; var. *Stokesii* (Turn.) Brid., Aber (49), Jan., 1899, and Llyfnant Valley (47), July, 1901, H.N.D.

E. Swartzii Hobk., var. *rigidum* Boul., Menton, S. France, Jan., Feb. and March, 1928, C.H.B.

E. abbreviatum Schpr., Gomshall (17), Feb., 1928, E.C.W.

E. pumilum Schpr., Chipstead (17), Jan., 1928, E.C.W.; Bourneau, Vendée, France, March, 1928, J.C.

E. myosuroides Schpr., var. *cavernarum* Mol., Tremadoc (49), Dec., 1907 (see Handbook), leg. S. J. Owen and D.A.J., com. D.A.J.

E. circinatum B. & S., Portland (9), May, 1928, J.B.D., and June, 1928, E.C.W.; Hyères, S. France, Feb., 1926, c. fr., C.H.B.

E. strigosum B. & S., Meran, S. Tirol, May and June, 1926, C.H.B.

E. striatum B. & S., Lustleigh (3), July, 1894, H.N.D.

E. meridionale De Not., Portland (9), May, 1928, leg. H.H.K., J.B.D. and D.A.J., com. D.A.J. and J.B.D., and June, 1928, E.C.W.

E. striatulum B. & S., Ebbor Rocks (6), May, 1928, leg. H.H.K., J.B.D. and D.A.J., com. D.A.J.; Cheddar (6), May, 1928, J.B.D.; Symond's Yat (34), Aug., 1925, W.W.

E. murale Milde, Rothbury (67), Feb., 1928, E.H.S. "Two packets contain a trace of *E. murale*, but the bulk of the material is *Brachythecium rutabulum*, c. fr." J.B.D.

E. megapolitanum Milde, Pagham Beach (13), May, 1928, and Chesil Beach (9), June, 1928, E.C.W.

Sematophyllum micans (Wils.) Braithw., near Seatoller (70), Aug., 1928, leg. H.H.K. and W.E.N., com. W.E.N.

Plagiothecium elegans Sull., Killin (88), July, 1910, W.Y.

P. piliferum (Sw.) B. & S., Haga Park, Stockholm, Sweden (*loc. class.*), June, 1928, c. fr., L.L.

P. undulatum B. & S., Tyn-y-Groes, Dolgelly (48), Aug., 1928, c. fr., S.P.R.

Amblystegium confervoides B. & S., Borrowfield and Whitbarrow, near Kendal (69), June and July, 1928, C.H.B.

A. compactum Aust., Twizel (68), Oct., 1928, J.B.D.

A. serpens B. & S., var. *salinum* Carr., Ross Links (68), Sept., 1928, J.B.D.

A. fluviale B. & S., Senny Bridge (42), Sept., 1925, C.H.B.

A. filicinum De Not., Garroby Hill (61), March, 1908, H.S.; Greenlaw (81), June, 1928, leg. J.B.D. and W.C.M., com. W.C.M.; forma *prolixa* De Not., Gullane Links (82), July, 1897, H.N.D.; var. *Vallisclausae* Dixon, Brampton Bryan (36), Oct., 1928, E.A.; Malham Cove (64), July, 1896, H.N.D.; var. *Whiteheadii* Wheldon, Ross Links (68), June, 1928, J.B.D.

Hypnum elodes Spruce, Holy Island (68), Aug., 1928, leg. J.B.D. and W.C.M., com. W.C.M.; Ross Links (68), June, 1928, J.B.D.

H. polygamum Schpr., Holy Island (68), Aug., 1928, leg. J.B.D. and W.C.M., com. W.C.M.; var. *stagnatum* Wils., Naburn (62), Nov., 1915, H.S. "Not robust enough for var. *stagnatum*." J.B.D.; Ross Links, (68) June, 1928, J.B.D.

H. stellatum Schreb., Betty Hill (108), July, 1928, c. fr., R.J.; Rainsford June (59), July, 1928, W.G.T.; Ross Links (68), Sept., 1928, J.B.D.; forma *gracilis* Boul., Cronkley

Fell (65), Aug., 1896, and Yardley Chase (32), April, 1901, H.N.D. ; var. *protensum* Roehl., Ben Lawers (88), July, 1893, H.N.D.

H. chrysophyllum Brid., near Doncaster (65), Sept., 1928, leg. and com. S.P.R., det. W.R.S.

H. hispidulum Brid., var. *Sommerfeltii* Myr., Birdlip (33), Feb., 1928, leg. H.H.K. and D.A.J., com. D.A.J. ; Whitbarrow (69), July, 1928, C.H.B.

H. Halleri L. fil. (*Campylostelium Halleri* (Sw.) Fleisch.), Sefinenthal, Bern. Oberl., Switz., June, 1913, P.G.M.R.

H. aduncum Hedw., var. *paternum* Sanio, Strensall Comm. (62), Aug., 1928, W.B. "I think, on the whole, that this plant is best placed under the var. *paternum*, but it is a very weak, inundated form." W.R.S.

H. Sendtneri Schpr., Sandhills, Ainsdale (59), Sept., 1928, W.G.T. "This is *H. aduncum* (Gr. *typicum*) forma *falcata* Ren." W.R.S.

H. Wilsoni Schpr., Formby (59), June, 1911, W.G.T. ; Ross Links (68), Aug., 1928, leg. J.B.D. and W.C.M., com. W.C.M.

H. fluitans L., var. *atlanticum* Ren., Gaisgill (69), Oct., 1926, C.H.B. "This plant agrees well with a specimen named var. *atlanticum* f. *elongata* Ren. by Mr. Wheldon. It has more strongly serrated leaves than usual and appears to have been subjected to excessive inundation." W.R.S. ; var. *gracile* Boul., Llyn Clogwyn (49), Aug., 1924, J.L.O'L. ; var. *falcatum* Schpr., Hautes Fagnes, Ardennes, Belgium, Aug., 1927, F.V. ; var. *anglicum* Sanio, R. Randle, Mitcham (17*), April, 1924. "I think this is a form that must come under the var. *anglicum*, although it is not at all well marked ; it shows the thick nerve and coloured auricles of the group." W.R.S.

H. exannulatum Guemb., var. *purpurascens* Schpr., Ben Lawers (88), c. 3200 ft., July, 1928, J.R.L.

H. revolvens Swartz, Cader Idris (48), Aug., 1928, S.P.R. "One packet is correct, the others contain *H. ochraceum*, alone or mixed with *H. revolvens*." W.R.S.

H. intermedium Lindb., Sandhills, Ainsdale (59), June, 1927, W.G.T. "This is *H. revolvens* var. *flavescens* Wheldon. Mr. Wheldon's type specimen of the var. was gathered at Formby, which is not many miles distant from Ainsdale where Mr. Travis gathered this plant. The two plants, when compared, look identical." W.R.S.

H. decipiens Limpr., Ben Lawers (88), Aug., 1902, leg. E. Cleminshaw, J.B.D. and D.A.J., com. D.A.J.; Zinal, Valais, Switz., c. 1500 m., July, 1926, P.G.M.R. (2678). "This is *Amblystegium filicinum* De Not." W.R.S.

H. commutatum Hedw., forma, Wittering (32), April, 1886, H.N.D.; var. *Janzenii* Loeske, Juslenville, Ardennes, Belgium, Nov., 1927, leg. A. Cornet, com. F.V.

H. falcatum Brid., var. *virescens* Schpr., Clapham (64), July, 1896, H.N.D.

H. incurvatum Schrad., Brigsteer, Barrowfield and Whitbarrow, near Kendal (69), June and July, 1928, C.H.B.

H. cupressiforme L., var. *filiforme* Brid., Hazelwood (32), April, 1894, and Bolton Woods (64), July, 1896, H.N.D.; Killin (88), July, 1910, W.Y.; Glenariff (I. 39), Aug., 1928, D.B.B.; var. *mamillatum* Brid., Glencar (I. 28), Sept., 1928, W.Y. "Possibly correct, but without fruit one cannot be certain." J.B.D.; var. *ericetorum* B. & S., Colin Hill (I. 39), Aug., 1928, D.B.B.; var. *tectorum* Brid., Goswick Downs (68), Feb., 1928, leg. J.B.D. and W.C.M., com. W.C.M.; Paghham Beach (13), May, 1928, E.C.W.; var. *elatum* B. & S., Gullane Links (82), July, 1897, H.N.D.; Eglwyseg Rocks, Llangollen (50), Aug., 1924, leg. H.H.K. and D.A.J., com. D.A.J.; appr. var. *elatum*, Ranmore Comm. (17), April, 1927, D.G.C. "May have some slight resemblance to this var. which is, however, a much larger and more robust form." J.B.D.

H. imponens Hedw., Matley Bog, New Forest (11), May, 1928, W.E.N.

H. revolutum Lindb., Gross Glockner, Austria, 9200 ft., July, 1928, J.B.D.

H. hamulosum B. & S., Meal na Saone (88), July, 1906, and Craig na Lochan (88), July, 1911, W.Y.

H. callichroum Brid., Ben Cruben (88), July, 1909, and Ben Heasgarnich (88), July, 1910, W.Y.

H. pratense Koch (*Breidleria pratensis* (Koch) Loeske), Birkenwerder, Berlin, Germany, June, 1926, L.L.

H. Bambergeri Schpr., Ben Lawers (88), July, 1927, J.B.D.

H. procerrimum Mol., Chasseron, Jura, Switz., July, 1920, P.G.M.R.

H. molluscum Hedw., Ben Lawers (88), July, 1893, H.N.D.; near Theux, Ardennes, Belgium, May, 1921, leg. M. Mairlot, com. F.V.; var. *condensatum* Schpr., Ben Cruben (88), July, 1909, W.Y.

H. crista-castrensis L., High Lodore (70), July, 1891, H.N.D.

- H. palustre* Huds., Clapham (64), July, 1896, H.N.D.
- H. molle* Dicks., Combe des Morts, Grand St. Bernard, Switz., July, 1922, P.G.M.R.
- H. dilatatum* Wils., Aber, near Bangor (49), May, 1920, D.A.J.
- H. arcticum* Sommerf., Ben Lawers (88), July, 1927, J.B.D.
- H. eugyrium* Schpr., Glenariff, Aug., 1928, D.H. and D.B.B. ; var. *Mackayi* Schpr., Linshiels (68), Aug., 1928, leg. J.B.D. and E.H.S., com. E.H.S.
- H. ochraceum* Turn., Craig Chailleach (88), July, 1893, H.N.D. ; Usway Burn (68), Aug., 1928, E.H.S.
- H. scorpioides* L., Land's End (1), July, 1886, slender form, and Lochay Bridge, Killin (88), July, 1897, H.N.D. ; Betty Hill (108), July, 1928, c. fr., R.J.
- H. stramineum* Dicks., Sow of Athol (88), Aug., 1883, a weak form with faint nerve, H.N.D. ; Dalwhinnie (96), Aug., 1883, H.N.D. ; Craig Chailleach (88), 3000 ft., July, 1897, H.N.D. ; Ben More (108), July, 1899, leg. W.E.N. and H.N.D., com. H.N.D. ; Leith Hill (17), April, 1928, E.C.W.
- H. cordifolium* Hedw., Strensall Comm. (62), May, 1928, c. fr., H.S., and Oct., 1928, W.B.
- H. giganteum* Schpr., Inchnadamph (108), July, 1899, H.N.D. ; Strensall Comm. (62), March, 1928, W.B.
- H. cuspidatum* L., Naburn (62), May, 1928, c. fr., H.S.
- Hylocomium splendens* B. & S., a slender form, Collyweston Quarries (32), April, 1897, H.N.D.
- H. umbratum* B. & S., Ben More (88), July, 1897, leg. C.H.B. and H.N.D. com. H.N.D. ; Ceunant Llenyrch (48), Sept., 1917, leg. D.A.J. and P.G.M.R., com. P.G.M.R. ; Albula Pass, Graubünden, Switz., c. 6500 ft., June, 1928, P.W.M.R.
- H. pyrenaicum* Lindb., Ulmer Hütte, Arlberg, Austria, 7500 ft., July, 1928, leg. C.V.B.M. and J.B.D., com. J.B.D. ; var. *latifolium* Meylan, Mont Mort, Grand St. Bernard, Switz., leg. and com. P.G.M.R. (1681), det. Amann.
- H. brevirostre* B. & S., Barnwell Wold (32), June, 1888, H.N.D. ; Tyn-y-Groes, Dolgelly (48), Aug., 1928, S.P.R.
- H. loreum* B. & S., Tyn-y-Groes (48), Aug., c. fr., S.P.R.
- H. triquetrum* B. & S., Williton (5), July, 1928, c. fr., A. Wyndham.
- H. rugosum* De Not., Icklingham (26), June, 1928, P.W.M.R. ; Whitbarrow Scar (69), July, 1928, C.H.B.

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

Arranged according to Engler & Prantl,
("Pflanzenfamilien," Ed. 2.).

Andreaea spurio-alpina C. Müll., Agulhas-negras, Serra do Itatiaia, Brazil, July, 1902, leg. P. Dusén, com. Hj. M.

Fissidens rigidulus Hook. fil. and Wils., near Lake Wakatipu, New Zealand, misit. J. Meiklejohn, det. H.N.D., com. D.L.

Campylopus appressifolius Mitt., Port Hills, Canterbury, New Zealand, April, 1927, misit Mrs. J. Meiklejohn, dup. det. H.N.D., com. D.L.

C. canescens Schpr., Beaver Isl., Falkland Isls., 1925, leg. J. Hamilton, dup. det. H.N.D., com. D.L. "This is in my opinion only a state of *C. introflexus* Brid." H.N.D.

C. clavatus (R. Br.) Hook., fil. and Wils., Nelson, New Zealand, 1927, misit Mrs. J. Meiklejohn, dup. det. H.N.D., com. D.L.; Derby and King River, Tasmania, Nov., 1913, and Jan., 1914, leg. W. A. Weymouth, det. V.F.B., com. J.M.

Thysanomitrium umbellatum W. Arn., Maduré, Indes Anglaises, May, 1926, leg. Rev. Père Foreau, com. J.C. "This is a wide-spread species which has been split up under many names, *T. Blumei* Doz. and Molk., *T. nigrescens* (Mitt.), etc." H.N.D.

Dicranum aciphyllum Hook. fil. and Wils., Beaver Isl., Falkland Isls., 1925, misit J. Hamilton, dup. det. H.N.D., com. D.L.

D. perhorridum Hook. fil. and Wils., Chiloe Isl., S. America, 1917, misit J. Hamilton, dup. det. H.N.D., com. D.L.

Dicranoloma Billardierii (Schwaegr.) Par., Chiloe Isl., S. America, 1920, misit J. Hamilton, dup. det. H.N.D., com. D.L.; Hobart, Tasmania, Feb., 1891, leg. W. A. Weymouth, com. J.M.

Leucoloma Sieberianum Hornsch., E. coast of Tasmania, Nov., 1913, leg. W. A. Weymouth, det. V.F.B., com. J.M.

Syrrhopodon pomiformis (Hook.) Hampe (*Hypodontium pomiforme* (Hook.) C.M.), on bark from Knysna, Cape Colony, 1923, com. W.G.T.

Anaectangium jamaicense (C. Müll.) Par., Flamstead, Jamaica, *ad saxa*, c. 3660 m., July, 1922, (Musci Jamaicae No. 37), leg. E. Jäderholm, det. V.F.B., com. Hj. M.

Triquetrella filiformis C.M., Kaiapoi and Redcliffe, New Zealand, Jan., 1927, misit Mrs. J. Meiklejohn, dup. det. H.N.D., com. D.L.

Tridontium tasmanicum Hook., Hobart Rivulet, Tasmania, Jan., 1897, leg. W. A. Weymouth, det. V.F.B., com. J.M.

Streptopogon mnioides Schw. (*Calypotropogon mnioides* (Schwaegr.), Mitt.), S. coast of Tasmania, Jan., 1911, leg. W. A. Weymouth, com. J.M.

Tortula serrulata H. and Gr., Port Hills, Canterbury, New Zealand, April, 1927, misit Mrs. J. Meiklejohn, dup. det. H.N.D., com. D.L.

Barbula flagellaris Schpr., Rio Aysén, Patagonia, Feb., 1897, leg. P. Dusén, com. Hj. M. "This is the plant that has been long considered to be Schimper's species; but Thériot has shown (Bull. Soc. Havraise d'Etudes Diverses, 1er Trimestre, 1917) that Schimper's moss has been misunderstood, owing to a mixture of two species in the original collection by Bertero. The true *Barbula flagellaris* Schpr. is a *Tortula* (*Syntrichia*), and must be known as *Tortula flagellaris* (Schpr.) Thér. The present plant was recognised as different by Sullivant, and was described by him as *Barbula adpressa*. Thériot, however, in Notes Bryologiques (Bull. Soc. bot. Genève XVII (1925), p. 252), has established its identity with the wide-spread *Tortula pilifera* Hook. The further question remains whether this belongs properly to *Barbula* or *Tortula*, different writers holding different views on this point. Thériot holds the opinion (with Brotherus) that it is a *Barbula*; and in that case it must be known as *Barbula pilifera* (Hook.) Brid." H.N.D.

Racomitrium pruinosum C.M., Mt. Wellington, Tasmania, 4000 ft., Sept., 1891, leg. W. A. Weymouth, det. C. Müller, com. J.M. "I prefer to call this *R. lanuginosum* (or rather *R. hypnoides*) var. *pruinosum* Hook. fil. and Wils." H.N.D.

Leptostomum inclinans R. Br., Mt. Faulkner, Tasmania, on rocks, Dec., 1892, leg. W. A. Weymouth, det. V.F.B., com. J.M.; near New Plymouth, New Zealand, 1923, misit Mrs. J. Meiklejohn, dup. det. H.N.D., com. D.L.; forma *procera*, Henty River, Tasmania, on branch of tree, Feb., 1891, leg. W. A. Weymouth, det. V.F.B., com. J.M.

Rhizogonium Novae-Hollandiae Brid., Geeveston, Tasmania, Nov., 1906, leg. W. A. Weymouth, det. V.F.B., com. J.M.

R. bifarium Schpr., Hobart Rivulet, Tasmania, Jan., 1909, leg. W. A. Weymouth, det. V.F.B., com. J.M.

R. mnioides (Hook.) Schpr., near Lake Wakatipu, New Zealand, misit J. Meiklejohn, com. D.L.

Mniodendron divaricatum (Hornsch. and Reinw.) Lindb., Salak, Java, June, 1897, leg. and com. Hj. M., det. V.F.B.

Philonotis australis (Mitt.) Par., near Lake Wakatipu, New Zealand, 1918, misit J. Meiklejohn, com. D.L.

Breutelia pendula (Hook.) Jaeg., forma *robusta*, King River, Tasmania, Jan., 1914, leg. W. A. Weymouth, det. V.F.B., com. J.M.

B. arundifolia (Dub.) Fleisch., Pangerango, Java, c. 3000 m., April, 1897, leg. and com. Hj. M., det. V.F.B.

Macromitrium sulcatum Brid., Mahableswar, W. Ghats, India, on tree, leg. Rev. E. Blatter, det. and com. H.N.D.

M. Regnellii Hampe, Caldas, Brazil, 1845, leg. J. F. Widgren, com. Hj. M.

Schlotheimia Grevilleana Mitt., on timber from Knysna, Cape Colony, 1923, com. W.G.T.

Leucodon julaceus (L.) Sull., near Kerrville, Texas, U.S.A., April, 1928, leg. Mrs. E. A. Harris, det. and com. E.B.B.

L. sciuroides Schwaegr., on bark of boxwood from Anatolia, Asia Minor, Jan., 1928, com. W.G.T.

Cladomnion ericoides (Hook.) H. fil. and Wils., Mt. Egmont, N. Isl., New Zealand, April, 1928, leg. H. C. Edwards, det. and com. E.B.B.

Ptychomnion aciculare (Brid.) Mitt., Huon, Tasmania, Feb., 1892, leg. W. A. Weymouth, com. J.M.; Maugaweka, N. Isl., New Zealand, forest edge, April, 1928, leg. H. C. Edwards, det. and com. E.B.B.

Spiridentopsis longissima (Raddi) Broth., Serra do Mar, Parana, Brazil, c. 700 m., Feb., 1910, leg. P. Dusén, com. Hj. M.

Papillaria amblyacis (C.M.) Jaeg., near New Plymouth, New Zealand, 1923, misit Mrs. J. Meiklejohn, dup. det. H.N.D., com. D.L.

P. appressa (Hornsch.) Jaeg., Jaguarahyoa, *ad truncos arborum*, June, 1910, leg. P. Dusén, com. Hj. M.

P. nigrescens (Sw.) Jaeg., Moneagua, Jamaica, *in muro*, 922 m., (Musci Jamaicae No. 108), and Flamstead, Jamaica, *ad rupes*, 3660 m. (Musc. Jam. No. 110), July, 1922, leg. E. Jäderholm, det. V.F.B., com. Hj. M.

P. flavo-limbata Hampe and C.M., Derby, Tasmania, Nov., 1913, leg. W. A. Weymouth, det. V.F.B., com. J.M.

Meteorium latifolium (Lindb.) Broth. (*Papillaria latifolia* (Lindb.) Jaeg.), Ypiranga in ramulis, Serra do Mar, Parana, Brazil, Aug. and Sept., 1908, leg. P. Dusén, com. Hj. M.

M. Henschenii (Ångstr.) Broth., Nova Friburgo, Brazil, in truncis arborum, Feb., 1903, and Iraty, Brazil, in ramulis, Feb., 1909, leg. P. Dusén, det. V.F.B., com. Hj. M.

M. Dubyanum (Hampe) Broth., Flamstead, Jamaica, ad arbores et ad saxa, 3660 m., July, 1923 (Musc. Jam. Nos. 106 and 107), leg. E. Jäderholm, det. Elizabeth C. Britton, com. Hj. M.

Meteoriopsis Widgreniana (Ångstr.) Broth. (*Meteorium Widgrenianum* (Ångstr.) Mitt.), Iraty, Brazil, in ramulis, Feb., 1909, leg. P. Dusén, com. Hj. M.

M. implanata (Mitt.) Broth. (*Meteorium implanatum* Mitt.), Iraty, Brazil, in truncis putridis et in ramulis, Feb. and July, 1909, and Jaguariahyoa, Brazil, ad truncos putridos, June, 1910, leg. P. Dusén, com. Hj. M.

M. reclinata (C.M.) Fleisch., Mahableswar, W. Ghats, India, on trees, Jan., 1928, leg. Rev. E. Blatter, det. and com. H.N.D.

Cryptoleptodon flexuosus (Harv.) R. and C., Simla, Himalaya, India, June, 1897, leg. Determes, com. J.C.

Neckera pennata Hedw., Fall Lake, N. Minnesota, June, 1897, leg. J. M. Holzinger, com. J.M.

N. hymenodonta C.M., St. Mary's Pass, Tasmania, Nov., 1911, leg. W. A. Weymouth, det. V.F.B., com. J.M.

Thamnium caucasicum Kindb., on boxwood from Anatolia, Asia Minor, 1924, com. W.G.T.

Camptochaete arbuscula (Hook.) Jaeg., and var. *deflexa* Wils., near Lake Wakatipu, New Zealand, 1916 and 1918, misit J. Meiklejohn, dup. det. H.N.D., com. D.L.

Lembophyllum clandestinum (H. fil. and Wils.) Lindb., Mt. Nelson, Tasmania, Nov., 1890, leg. W. A. Weymouth, com. J.M.

Acrocladium auriculatum (Mont.) Mitt., Maugaweka, N. Isl., New Zealand, forest edge, April, 1928, leg. H. C. Edwards, det. and com. E.B.B.

Echinodium hispidum (H. fil. and Wils.) Jaeg., Maugaweka, N. Isl., New Zealand, April, 1928, leg. H. C. Edwards, det. and com. E.B.B.

Thelia hirtella (Hedw.) Sull., near Kerrville, Texas, U.S.A., May, 1928, leg. Mrs. E. A. Harris, det. and com. E.B.B.

Pseudoleskea atrovirens B. & S., Lake Superior, U.S.A., 1888, leg. W. Gouge, com. J.M. "This I find to be *Leskea nervosa* (Schwaegr.) Myr." H.N.D.

Thuidium furfurosum (H. fil. and Wils.) Jaeg., Hobart Rivulet, Tasmania, Dec., 1896, leg. W. A. Weymouth, det. V.F.B., com. J.M.

Amblystegium Philonotis Dus., Beaver Isl., Falkland Isls., 1925, misit J. Hamilton, dup. det. H.N.D., com. D.L.

Drepanocladus aduncus (Hedw.) Mönkem. (*Hypnum aduncum* Hedw.), var. *flexilis* Ren., Mt. St. Hilaire, Montreal, Canada, Aug., 1912, leg. H. Dupret (284), det. Best, com. P.G.M.R. "Roth considered this *D. paternus-gracilis*." P.G.M.R. "I consider this to be a weak form of *Hypnum exannulatum* Gumb. Note the abruptly dilated, hyaline auricles and the denticulations on the stem leaves. It looks like a plant that has suffered from a prolonged drought." W.R.S.; var. *subpiliger* Ren., f. *capillifolia* Dupret, Montreal, Canada, Sept., 1911, leg. H. Dupret, com. P.G.M.R. "Wheldon considered this typical *sub-piliger*, but Dupret considers it a special form on account of the narrow stem leaves." P.G.M.R.

D. brachiatus (Mitt.) Dixon (*D. longifolius* (Wils.) Williams), Beaver and Quaker Isls., Falkland Isls., 1925, misit J. Hamilton, dup. det. H.N.D., com. D.L.

Pleuropus Bonplandii (Hook.) Broth., Head of Guadaloupe River, Texas, U.S.A., April, 1928, leg. Mrs. E. A. Harris, det. and com. E.B.B. "New to the United States." E.B.B.

P. euchloron (Bruch) Broth., on boxwood from Anatolia, Asia Minor, 1924, com. W.G.T.

Brachythecium rutabulum (L.) B. & S., forma *robusta*, Huon, Tasmania, Nov., 1906, leg. W. A. Weymouth, det. V.F.B., com. J.M.

Entodon chloropus Ren. and Card., Kumili Mts., Indes Anglaises, Oct., 1924, leg. Rev. Père Foreau, com. J.C. "This may be the correct plant, but it appears to me only one of the forms of *E. plicatus* C.M." H.N.D.

Stereophyllum Wrightii (Sull.) Ren. and Card., Head of Guadaloupe River, Texas, U.S.A., April, 1928, leg. Mrs. E. A. Harris, det. and com. E.B.B.

Acanthocladium extenuatum (Brid.) Mitt., Mt. Victoria, Tasmania, 2000 ft., Nov., 1913, leg. W. A. Weymouth, com. J.M.

Sematophyllum subhumile (C.M.) Fleisch., Manular, Indes Anglaises, April, 1926, leg. Rev. Père Foreau, com. J.C.

Glossadelphus Zollingeri (C.M.) Fleisch., Mt. Serumalai, Indes Anglaises, April, 1927, leg. Rev. Père Foreau, com. J.C.

Stereodon chrysogaster (C.M.) Mitt., Mt. Wellington, Tasmania, March, 1893, leg. W. A. Weymouth, det. V.F.B., com. J.M.

S. Mossmannianus (C.M.), Guy Fawkes Rivulet, near Hobart, Tasmania, Sept., 1890, leg. W. A. Weymouth (No. 1094), det. V.F.B., com. J.M.

Microthamnium acrorrhizon (Hornsch.) Jaeg., Ypiranga, *in truncis putre scantibus*, 830 m., Serra do Mar, Parana, Brazil, April, 1904, leg. P. Dusén, com. Hj. M.

HEPATICS.

EUROPEAN (British and Continental).

Riccia Beyrichiana Hampe, Fairhead (I. 39), Aug., 1928, D.B.B.

R. Huebeneriana Lindb., margin of pond, Horsted Keynes (14), Sept., 1928, W.E.N. ; also, Oct., 1928, W.E.N. H.H.K. and D.A.J.

Targionia hypophylla L., Vendée, France, April, 1928, J.C.

Reboulia hemisphaerica (L.) Raddi, Vendée, France, April, 1928, J.C.

Dumortiera hirsuta (Sw.) Reinw. Bl. et. Nees, Glencar (I. 29), Sept., 1928, F.E.M.

Marchantia polymorpha L., var. *aquatica*, Little Stanney (58), Oct., 1928, W.G.T.

Metzgeria conjugata Lindb., wet sandstone rocks, Storey Arms, Brecknock Beacons (42), April, 1927, P.W.M.R.

M. hamata Lindb., Puck's Glen (98), July, 1928, J.R.L.

Moerckia Flotowiana (Nees) Schiffn., Hightown (59), Aug., 1928, W.G.T.

M. Blyttii (Moerck.) Brockm., Ben Lawers (88), June, 1901, W.Y.

Pellia Fabbroniana Raddi, var. *lorea* Nees, in spring, Brampton Bryan (36), Oct., 1928, E.A. "I have frequently found this variety, its growth being dense, erect, very brittle and often encrusted with lime. The present plant grew submerged in a spring, in soft elongated mosses, not encrusted and only slightly branched. I think it may be the form described by Macvicar, p. 75, Ed. 2., of the Handbook, as a form analogous to the var. *undulata* of the other species of *Pellia* (see description). Mr. D. A. Jones has seen the plant and agrees with my suggestion ; there are no bands, otherwise it is very like the undulate form of *P. epiphylla*." E.A.

Gymnomitrium obtusum (Lindb.) Pears., Slieve Donard (I. 38), Aug., 1928, W.Y. ; also, rocks, Cat Bells (70), Aug., 1928, W.E.N.

G. revolutum (Nees) Philib., moist mica-schist rocks, *circa*, 8500 ft., near Ober Gurgl, Oetztal, Austria, July, 1928, P.W.M.R.

Marsupella Pearsoni Schiffn., Moel 'r Ogof (49), May, 1916, E.C. and D.A.J. ; also, Ben More (88), July, 1927, J.B.D.

Alicularia compressa (Hook.) Nees, Crinkle Craggs, June, 1916, leg. Wheldon and Wilson, com. W.G.T. "A green wavy form with spreading leaves, deciduous below."

Eucalyx obovatus (Nees) Breidl., Stone Wood, Shepley (63), Aug., 1928, F.E.M.

Southbya nigrella D.C., Vendée, France, March, 1928, J.C.; also, Cap d'Antibes, Riviera, France, Feb., 1926, D.A.J.

Aplozia sphaerocarpa (Hook.) Dum., c. fr., Maentwrog (48), May, 1924, D.A.J.

A. riparia (Tayl.) Dum., var. *rivularis* Bern., Austwick (64), May, 1926, W.B.

A. atrovirens, var. *sphaerocarpoidaea* (De Not.) Massal., shaded molasse, Bois de Grandfey, Fribourg, Switzerland, Dec., 1922, P.G.M.R.

Anastrophyllum Donianum (Hook.) Steph., Nordfjord, Norway, Aug., 1888, leg. B. Kaalaas, com. J.L.

Gymnocolea inflata (Huds.) Dum., Lynwode (54), Aug., 1927, G.H.A.; also, Meal Odhar (92), July, 1904, W.Y.

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

Lophozia turbinata (Raddi) Steph., Charente, France, May, 1928, J.C.

L. badensis (Gottsche) Schiffn., c. fr., Cranham Woods (33), Jan., 1928, H.H.K. and D.A.J.

L. Muelleri (Nees) Dum., Glen Beag (89), Jan., 1904, W.Y.; also, Pen Wood, near Stroud (34), Feb., 1928, D.A.J. and H.H.K.; var. *Libertae* (Huben) Schiffn., Gleniff, Sligo (I. 28), Sept., 1928, H.H.K.

L. Kaurini (Limpr.) Steph., Ousdale, Caithness (109), July, 1913, D.L.

L. ventricosa (Dicks.) Dum., Wokingham (22), Jan., 1928, H.W.M.

L. lycopodioides (Cogn.) Wallr., Stillwasserwald, Cant. Fribourg, Switz., July, 1926, J. Aebischer and P.G.M.R.

L. Hatcheri (Evans) Steph., scree, at 1500 m., Valais, Switz., July, 1926, P.G.M.R.

L. atlantica (Kaal.) Schiffn., Cat Bells (70), Aug., 1928, W.E.N.

Sphenolobus ovatus (Dicks.) Schiffn., Craig na Lochan (88), June, 1901, W.Y.

S. politus (Nees) Steph., Ben Lawers (88), July, 1903, W.Y.

Plagiochila asplenoides (L.) Dum., type, c. fr., tree roots at 1000 m., Cant. Friburg, Switz., June, 1923, P.G.M.R.

var. *major* (Nees) forma *subintegerrima* Schiffn., Widworthy (4*), March, 1928, E.A.; var. *minor* Lindenb, Ben Lawers (88), July, 1911, W.Y.; also, Swilla Glen, Ingleton (64), May, 1926, W.B.

P. spinulosa (Dicks.) Dum., Cwm Bychan (48), Jan., 1927, D.A.J. and P.G.M.R.

P. punctata Tayl., Cwm Bychan (48), Jan., 1927, D.A.J. and P.G.M.R.; also, Tyndrum (88), July, 1903, W.Y. "A small form of *P. punctata*; this is var. *minuta* of the Handbook." H.H.K.

P. tridenticulata Tayl., Moel 'r Ogof (49), April, 1923, W.H.P. and D.A.J.

Pedinophyllum interruptum (Nees) Pears., Glencar (I. 29), Sept., 1928, J.B.D., H.H.K., D.A.J. and F.E.M.; also, Gleniff (I. 28), Sept., 1928, H.H.K.; and Düdingen, Cant. Fribourg, Switz., May, 1923, P.G.M.R.

Leptoscyphus cuneifolius (Hook.) Mitt., Tyndrum (88), July, 1903, W.Y. "This is *Plagiochila punctata*, var. *minuta*." H.H.K.

Lophocolea cuspidata Limpr., Vendée, France, March, 1928, J.C.

Chiloscyphus polyanthus (L.) Corda, in spring, Brampton Bryan (36), Oct., 1928, E.A. "Two forms of this plant are enclosed in each packet, from the same habitat, the smaller more compact, partially submerged, the larger completely submerged; both have similar and typical areolation." E.A.

C. pallescens (Ehrh.) Dum., c. fr., Witcombe Wood (33), Jan., 1928, D.A.J. and H.H.K.

Harpanthus Flotowianus Nees, Ben Gulabin (89), July, 1904, W.Y.

Cephalozia Lammersiana Spr., var. *grandiflora* Spr., Falling Foss (62), June, 1928, W.B.

C. fluitans (Nees), Spruce, Chobham (17), April, 1928, H.W.M.

Nowellia curvifolia (Dicks.) Mitt., near Killin (88), Aug., 1925, D.B.B.; also, Slieve Donard (I. 38), Sept., 1928, D.B.B.

Cephalozia Starkii (Funck) Schiffn., Colin Hill, Belfast (I. 39), Aug., 1928, D.B.B.

C. Baumgartneri Schiffn., Vendée, France, March, 1928, J.C.

C. striatula (Jens.) Douin., marshy ground, Wigpool Common (34), June, 1928, H.H.K., D.A.J. and W.E.N.

Hygrobiella laxifolia (Hook.) Spruce, Glenariff (I. 39), Aug., 1928, W.Y.

Pleuroclada albescens (Hook.) Spruce, in snow valleys, 8-9000 ft., near Ober Gurgl, Oetzthal, Austria, July, 1928, P.W.M.R.

Calypogeia Neesiana (Carest. et Mass.) Mass., Eridge Rocks (14), Oct., 1928, H.H.K., D.A.J., and W.E.N.

Bazzania trilobata (L.) Gray, Rocks, Seatoller (70), Aug., 1928, H.H.K. and W.E.N.

B. tricrenata (Wahl.) Pears., Glen Lochay (88), July, 1899, W.Y.

B. triangularis Pears., Ben Lawers (88), June, 1901, W.Y.

Lepidozia reptans (L.) Dum., Lynwode (54), Aug., 1928, G.H.A.

L. Pearsoni Spr., Puck's Glen (98), July, 1928, J.R.L.

L. trichoclados K. Müll., Am Brimein (88), July, 1903, W.Y.

Anthelia julacea (L.) Dum., Ben Laiogh (88), July, 1908, W.Y.

Herberta adunca (Dicks.) Gray, Ben Lawers and Cam Creag (88), July, 1927, J.B.D.

H. Hutchinsiae (Gotts.) Evans, roots of trees, rocky ravine, Seatoller (70), Sept., 1928, W.E.N.; also, Rogaland, Norway, July, 1886, leg. B.K., com. J.L.

Mastigophora Woodsii (Hook.) Nees, Ben Chuirn (88), July, 1903, W.Y.

Ptilidium ciliare (L.) Hampe, in birchwood, Umhausen, Oetzthal, Austria, July, 1928, P.W.M.R. "This is *P. pulcherrimum*; the habitat at once suggests this; also, perianths are present." H.H.K.

Trichocolea tomentella (Ehrh.) Dum., Torc Cascade, Killarney (I. 2), Oct., 1925, D.B.B.; also, Swilla Glen, Ingleton (64), May, 1927, W.B.

Scapania compacta Dum., Vendée, France, Oct., 1927, J.C.

S. Kaurini Ryan, Nystuliö in Opdal, 1765 m., July, 1889, leg. C.K. and E.R., com. J.L.

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

S. gracilis (Lindb.) Kaal., Hordaland, Norway, Sept., 1876, leg. N.W., com. J.L.; also, Crunwere (45), Oct., 1928, R.J.

S. aspera Beruet., below Creux du Vent, Jura Mts., Switz., July, 1920, P.G.M.R.

S. ornithopodioides (With.) Pears., Rogaland, Norway, July, 1886, B.K., com. J.L.; also, Ben Chuirn (88), July, 1903, W.Y.

S. dentata Dum, var. *speciosa* Nees, Llyn Clogwyn (49), Sept., 1924, W.B.; also, Pont Aberglaslyn (49), Aug., 1916, P.G.M.R.

S. undulata (L.) Dum., Meal Tarmachan (88), July, 1911, W.Y.

S. uliginosa (Sw.) Dum., Vestfjorddalen, Norway, Aug., 1879, A.B., com. J.L.

S. obliqua (Arnell) Schiffn., forma, with smaller cells, adit, Moelwyn Bach (48), Sept., 1922, D.A.J., *teste* Schiffner.

S. paludosa K. Müll., Caenlochan (90), July, 1904, W.Y.; also, Beinn Doireann (88), June, 1904, W.Y. "That from Caenlochan is correct; the other from Beinn Doireann is *S. obliqua*." H.H.K.

S. irriqua (Nees) Dum., Lynwode (54), Aug., 1928, G.H.A.

Radula Lindbergii, var. *germana* Jack, Cam Creag (88), July, 1927, J.B.D.; also, Glenariff (I. 39), Aug., 1928, W.Y., "I cannot find any *Radula* here." H.H.K.

R. voluta Tayl., wet rocks near Seatoller (70), Aug., 1928, H.H.K. and W.E.N.

Pleurozia purpurea Lightf., Rogaland, Norway, July, 1885, B.K., com. J.L.

Madotheca Thuja (Dicks.) Dum., near Kinghorn (85), Dec., 1928, W.Y.

M. platyphylla (L.) Dum., c. per., Boxwell (34), March, 1928, H.H.K. and D.A.J.

M. Porella (Dicks.) Nees, rocks in stream, R. Artro, Harlech (48), April, 1915, D.A.J. and P.G.M.R.

Marchesinia Mackaii (Hook.) Gray, Cheddar (6), May, 1928, J.B.D., H.H.K. and D.A.J.

Jubula Hutchinsiae (Hook.) Dum., Glenariff (I. 39), Aug., 1928, W.Y.; also, Tremadoc (49), c. fr., April, 1921, J.Ll.W. and D.A.J.

NON-EUROPEAN.

Metzgeria chilensis Steph., near Lake Wakatipu, New Zealand, leg. J. Meiklejohn, com. D.L.

Plagiochila Volkensii Steph., near Mt. Kenia, E. Africa, 1910, leg. A. J. Allan, com. D.L.

Lepidozia sylvatica Evans, Valley Drive, Locust, Monmouth Co., N.J., U.S.A., leg. C. C. Haynes, com. P.G.M.R.

L. concinna Col., near Lake Wakatipu, New Zealand, 1909, leg. J. Meiklejohn, com. D.L.

Trichocolea mollissima Tayl., near New Plymouth, New Zealand, 1923, per Mrs. J. Meiklejohn, com. D.L.

Madotheca Queenslandica Steph., Kikuyu, E. Africa, 1910, leg. A. Y. Allan, com. D.L.

M. Stangeri L. & G., near Lake Wakatipu, New Zealand, 1910, leg. J. Meiklejohn, com. D.L.

Jubula Hutchinsiae Hook., sub. sp. *javanica* (St.) Verd., on ferns, Tjiburrum, Java, 1902, leg. Fleischer, com. F.V.

Frullania squarrosa Dum., Sandford, Florida, U.S.A., Oct., 1924, S. Rapp, com. P.G.M.R.

F. Asagrayana Mont., Wadeborough, N.C., U.S.A., Dec., 1921, F. S. Chapman, det. G. E. Conklin, com. P.G.M.R.

F. stricta Lindb., Tananarive, Madagascar, 1880, Hildebrandt, com. P.G.M.R.

F. gracilis N., Java, April, 1894, leg. V. Schiffner, com. F.V.

F. ornithocephala N., Tjibodas, Java, April, 1894, leg. V.S., com. F.V.

F. commutata Steph., Tjibodas, Java, April, 1894, leg. V.S., com. F.V.

F. serrata forma *crispulo-dentata* Verd., West Java, 1894, leg. V.S., com. F.V.

F. claviloba Steph., Tjibodas, Java, April, 1894, leg. V.S., com. F.V.

F. reflexistipula Sde., West Java, 1894, leg. V.S., com. F.V.

F. nigricaulis R.B.N., Magamendong, Java, Jan., 1894, leg. V.S., com. F.V.

F. apiculata N., Magamendong, Java, Jan., 1894, leg. V.S., com. F.V.

F. vaginata, Magamendong, Java, Jan., 1894, leg. V.S., com. F.V.

F. moniliata N., Tjibodas, Java, April, 1894, leg. V.S., com. F.V.

F. recurvata L. et L., Tjibodas, Java, April, 1894, leg. V.S.,
com. F.V.

F. nepalensis L. et L., Preanger, Java, 1894, leg. V.S.,
com. F.V.

F. microauriculata Verd., Preanger, Java, April, 1894, leg.
V.S., com. F.V.

F. campanulata Sde. Lac., Batavia, Java, 1894, leg. V.S.,
com. F.V.

F. nodulosa forma *irreflexa* Verd., Malacca, 1911, leg.
Ridley, com. F.V.

128

REPORT OF THE ANNUAL MEETING, 1928.

J. B. DUNCAN.

(Extracted from the *Journal of Botany*, November, 1928,
p. 340).

The British Bryological Society held its Annual Meeting and Excursion at Belfast from August 25th to September 1st. The Rev. C. H. Binstead, M.A., F.L.S., presided at the Annual Meeting, and Mr. W. E. Nicholson, F.L.S., of Lewes, was elected President for the two ensuing years, 1929 and 1930, and Dr. Walter Watson, D.Sc., A.L.S., of Taunton, Vice-President. The membership of the Society now exceeds 100.

Daily excursions were arranged, the most interesting being to the Giant's Causeway and Portrush, where some good plants were found on the sand-hills; and, also Fair Head, where among the basaltic rocks *Glyphomitrium Daviesii* was abundant. On Colin Mountain, *Ditrichum vaginans*, a very rare inconspicuous moss, was found in plenty. It was discovered here by J. H. Davies in 1901, the only other British station being on Ben Nevis. Here, also, *Cephaloziella Hampeana*, an addition to the Irish hepatic list, was gathered. The beautiful Glenarrif made a pleasing contrast, and here many good plants were obtained. These localities are all in Co. Antrim (v.c. I. 39). One day on Slieve Donard was the only time devoted to Co. Down (v.c. I. 38).

After the official meeting a party of seventeen proceeded to Sligo, where five days were spent. The weather unfortunately became very wet, but two fine days permitted so very useful work to be done, and many additions were made to the moss-floras of Co. Leitrim and Co. Sligo.

On Ben Bulbin, already known as the only station for *Barbula recurvifolia* var. *robusta* and as one of the few localities for the rare *Weisia curvirostris* var. *insignis*, were found four rare species which are additions to the Irish moss-flora, viz.—*Encalypta commutata*, *Timmia norvegica*, *Mnium orthorrhynchum*, and *Amblystegium compactum*.

In all, some 138 new vice-county records were made—Sphagna, 17; Mosses, 57; Hepatics, 64.

Scotland was chosen for next year's Excursion, when Killin and Crianlarich—Tyndrum will be visited from July 26th to August 9th.

BRYOLOGICAL PUBLICATIONS IN 1928.

—o—

(This list also contains some works published in 1927. An asterisk denotes that a copy of the work has been presented to the Library.)

MOSESSES.

- ALLORGE, P.—Sur l'amplitude éco-sociologique de quelques espèces atlantiques de Norvège. Veröffentl. Geobot. Inst. Rübel in Zürich, IV., pp. 197-209, Zürich 1927.
- *AMANN, J.—Nouvelles additions et rectifications à la flore des mousses de la Suisse, 5e Série. Mém. de la Soc. Vaudoise des Sciences Naturelles, Lausanne 1928, No. 16, Vol. II., No. 9, pp. 25-64, (includes a few sphagna).
- *BARTRAM, E. B.—Costa Rican mosses collected by Paul C. Standley in 1924-1926. Smithsonian Inst. United States National Museum, Vol. XXVI., Part 3, 1928, pp. 51-114, figs. 39.
- *Mosses of Jamiaca. Jamaica Naturalist, Aug., 1928, pp. 15-20. Orcutt, Kingston, Jamaica.
- *Ditto. Ibid, Feb., 1928, pp. 5-6.
- Studies in Funaria from South-Western United States. Bryologist, XXXI., 1928, pp. 89-96, Pls. VIII. and IX.
- Texas mosses collected by Mrs. E. A. Harris. Bryologist, XXXI, 1928, pp. 104-5.
- *BAUER, E.—Musci Europaei Exsiccati, 39 Serie, Nr. 1901-1950. Prague, May, 1927.
- BEALS, A. T.—Review. Williams, R. S., Mosses of Peru. Bryologist, XXX, 1927, p. 75.
- Review. Grout, A. J., North American Musci Perfecti, fasc. V. Bryologist, XXXI, 1928, p. 36.
- BLAGG, Betty.—In Grannis Hollow (Iowa, U.S.A.). Bryologist, XXXI., 1928, pp. 98-100. (List of mosses.)
- BLAYDES, G. W.—New station for Bryoziphium norvegicum (Bridel) Mitt. Bryologist, XXX, 1927, p. 88.
- BOROS, Adam.—Über den Einfluss der Kultur auf die Moosflora der Ungarischen Tiefebene. Annales Bryologici, Vol. I., 1928, pp. 10-12.
- *Zur Vorkommen des Anomodon rostratus im Komitate Vas. Mag. Bot. Lapok, 1927, p. 103.

- Fontinalis antipyretica*, var. nov. *thermalis* Boros. Bauer, Musci Europ. et Amer. Exsicc. Schedae zur Ser. 39, 1927.
- Funaria hungarica* Boros. Ibid, Sch. zur Ser. 38, p. 4-5, No. 1864 et 14-15.
- BRILLIANT, B.—Les formes de la plasmolyse produites par les solutions concentrées de sucres et de sels dans les cellules de *Mnium* et de *Catharinea*. Compt. Rend. Acad. Sci. de l'Urss in Compt Rend. Sci. de l'Union des Républiques Soviétiques Socialistes, No. 11, pp. 155-160, figs. 3, Leningrad, 1927.
- BROTHERUS, V. F.—Hawaiian Mosses. Bernice P. Bishop Museum Bull. No. 40, pp. 37, Pls. VIII, Honolulu, 1927.
- *Contributions à la flore bryologique du Cachemire. Annales Bryologici Vol. I., 1928, pp. 28-46 (4 spp. and 1 var. nov.).
- *Musci novi Japonici. Ibid, pp. 17-27 (25 spp. and 2 vars. nov.).
- BRYAN, G. S.—Abnormal sex organs of *Mnium medium*. Bot. Gaz. LXXXIV., 1927, pp. 89-101, figs. 1-20.
- DAVY de VIRVILLE, Ad.—L'action du milieu sur les mousses. Rev. gén. de Botanique XL., 1928, pp. 30-44, Planches et figs., 190.
- Ditto. Ibid, pp. 95-110.
- Ditto. (fn.) Ibid, pp. 156-173.
- DIXON, H. N.—*Splachnobryum pacificum* Dixon sp. nov. Rev. Bryol. Nouv. Sér., Tome I., No. 1, 1928, p. 12.
- **Homaliopsis* Dix. et P. d. l. Varde, Gen. Nov. Muscorum. Repr. from Annales Bryologici, Vol. I., 1928, p. 47-48.
- *Studies in the Bryology of New Zealand, Part V. New Zealand Institute Bull. No. 3, July 7th, 1927, pp. 239-298.
- Review. Mönkemeyer, W. Die Laubmoose Europas, Liefg. 2, 8vo. pp. 257-576, figs. 52-118, R.M. 25, Liefg. 3, pp. 577-960, figs. 119-226, R.M. 26. Akademische Verlagsges., Leipzig, 1927. Jour. Bot. 1928, pp. 27-30.
- Review. Grout, A. J. Moss Flora of North America, North of Mexico. Jour. Bot. LXVI., 1928, pp. 365-7.
- **Spolia Mentawiensia*: Musci. Repr. from Jour. Malayan Branch Royal Asiatic Society, Vol. VI., Part 1, March, 1928, p. 23:4.
- Miscellanea Bryologica, XI. Jour. Bot. LXVI, 1928, pp. 347-354.

- DIXON, H. N. et POTIER de la VARDE, R.—Contribution à la flore bryologique de l'Inde méridionale. Arch. Bot. I., Bull. mens. Nos. 8-9, pp. 161-184, Caen, 1927 (1 gen. nov., 38 spp. nov.).
- DOUIN, C.—Nouvelles observations sur la feuille des mousses. Rev. gén. de Botanique XL., 1928, pp. 65-85, Pls. XIX-XX.
- *DOUIN, R.—Contribution à l'étude du genre *Philonotis*: *Philonotis fontana* Brid. var. *diversifolia*. Bull. Soc. Bot. France, 1928, Tome 75, Sér. V., Tme. IV., pp. 250-252, fig. 1.
- DREESEN, P.—Die Laubmoose des Siebengebirges. Sitzber. Ver. preuss. Rheinl. u. Westf., 1926, D. (1927), pp. 51-58.
- DUNHAM, E. M.—Review. Brotherus, V. F. Hawaiian Mosses. Bryologist XXXI., 1928, p. 61-2.
- DUPRET, H.—*Amblystegium riparium* var. *abbreviatum*. Bryologist XXXI., 1928, pp. 96-8, fig. 1.
- FELD, J.—Beiträge zur Laubmoosflora des Sauerlandes, besonders des Gebietes um Medebach. Sitzber. Ver. preuss. Rheinl. u. Westf., 1926, D. (1927), pp. 60-76.
- FRYE, T. C.—Review. Grout, A. J. Moss Flora of North America, North of Mexico, Vol. III., Pt. 1, pp. 1-61, Pls. 1-XIV. Bryologist XXXI., 1928, p. 107.
- *GAMS, H.—*Brotherella lorentziana* (Molendo) Loeske, und *Distichophyllum carinatum* Dixon et Nicholson: ein Versuch zur kausalen Erfassung engbegrenzter Moosareale. Annales Bryologici, Vol. I., 1928, pp. 69-78.
- **Schistostega osmundacea*. Pflanzenareale, Jena (Fischer), 1928.
- *Zur Geschichte einiger Wassermoose. Verh. Intern. Verein f. theor. u. angewandte Limnol., III., pp. 178-185, maps 3, 1927.
- GROUT, A. J.—Review. Holzinger. Musci Acrocarpi bor. Amer. et Europae, Fasc. 26, Nos. 626-650. Bryologist XXXI., 1928, p. 19.
- Review. Savicz, L. Sur la fructification de *Rhytidium rugosum* (Ehrh.) Kindb. en Russie. Ibid, p. 108.
- Moss notes. (Includes description and plate of *Fissidens* (*Octodiceras*) *Manatensis* Grout). Ibid, pp. 29-32.
- North American Musci Perfecti, fasc. V., 1928.
- **Camptothecium* B. & S. Bryologist XXXI., 1928, pp. 41-47.
- Classification of the Musci. Ibid, pp. 56-61.

- Moss Flora of North America, North of Mexico. Vol. III., Pt. 1, 8vo. pp. 1-62, Pls. I-XIV., Pbd. by the author, 1 Vine St., New Brighton, N.Y. City, U.S.A., 1928 (2 dollars, 50).
- HENRY, R.—Mousses d'Extrême-Orient. Rev. Bryol., Sér. Nouv., Tome I., No. 1. 1928, pp. 41-48 (Tonkin, Yunnan, Cochin China, 7 spp. nov. and 1 var. nov.).
- HOLZINGER, J. M.—Musci acrocarpi Bor. Amer. et Europ. fasc. 26, Nos. 626-650, 1928.
- JENNINGS, O. E.—Review. Mönkemeyer. Die Laubmoose Europas, Lief. I., Bryologist XXXI., 1928, pp. 37-40.
Review. Dixon, H. N. and Potier de la Varde, R. Contribution à la flore bryologique de l'Inde méridionale. Bryologist XXXI., 1928, p. 108.
- JENSEN, C.—Pottia Randii Kenn. in Schweden. Annales Bryologici, Vol. I., 1928, p. 113-114.
- *KORCZAGIN, A. A.—Étude expérimentale de la var. nigrescens du genre Polytrichum. Overdruk uit Annales Bryologici, Vol. I., 1928, pp. 118-126.
- KOTILAINEN, M. J.—Hygrohypnum styriacum (Limpr.) Broth., ein neues Moos in Fennoskandia. Ann. Soc. Zool.-Bot. Fenn. Vanamo V., 1927, No. 7.
- *LADYZENSKY, C.—Contributions to the ecology of mosses in the neighbourhood of Peterhof. Repr. Lab. Morphology and System. Botany Peterhof., 1927, pp. 365-38 (In Russian ; $\frac{1}{2}$ -page summary in German.)
- *LOESKE, L.—System und Experiment. Overdruk uit Annales Bryologici, Vol. I., 1928, pp. 127-132.
Beiträge zur Morphologie der Laubmoose. Sitzber. Ver. preuss. Rheinl. u. Westf., 1926, D. (1927), pp. 27-31.
Zur Systematik der Laubmoose. Verhandl. Bot. Ver. Brandenb., LXIX., 1927, pp. 30-36.
- *MACHADO, A. (Antonio Luis Machado Guimaraes).—Briofitas de Portugal, segunda parte, Musgos. Coimbra, Imprensa da Universidade, 1928, pp. 125, figs. 11.
- MALTA, N.—Die Ulota-Arten Süd-Amerikas. Acta Horti Bot. Univ. Latviensis II., pp. 165-208, figs. 22, Pls., II. Riga, 1927. (2 spp. nov., 1 sub-sp. nov. and 3 vars. nov.)
Uebersicht der Moosflora des Ostbaltischen Gebietes, II, Laubmoose. Ibid, pp. 19-36, figs. 4.
- MARTIN SANS, E.—Un herbier du Frère Saltel ; mousses et lichens de la collection Herrmann. Bull. Soc. Hist. nat. Toulouse LVI., 1927, p. 116.

- MEDELIUS, S.—Phascum mitraeforme, en for Sverige ny bladmossa. Botan. Notiser, 1927, p. 380, Lund. (In Swedish.)
- MÖNKEMEYER, W.—Die Laubmoose Europas, Liefg. II., 8vo., pp. 257-576, figs. 52-118, R.M. 25, Liefg. III., pp. 577-960, figs. 119-226, R.M. 26. Akademische Verlagsgesells., Leipzig, 1927.
- MOXLEY, E.A.—A bog and its bryophytes (mosses only). Bryologist XXXI., 1928, p. 34-5.
Further notes on mosses of the Bruce Peninsula (Ontario). Ibid, p. 126.
- *MOXLEY, G. L.—Bryological notes from Southern California (mosses only). Bryologist XXXI., 1928, pp. 7-10.
- NAVEAU, R.—Mousses critiques. Rev. Bryologique, Sér. nouv., Tome I., No. 1, 1928, pp. 38-40 (geographical distribution of exotic spp.).
- PICKETT, F. L. and JONES, G. N.—Check-list of the mosses known to occur in South-Eastern Washington and adjacent Idaho. Bryologist XXXI, 1928, pp. 54-56.
- *POTIER de la VARDE, R.—Fructification de Pterobryella vagapensis C.M. Rev. Bryol., Sér. Nouv., Tome I., No. 1., p. 36-7, fig. 1, 1928.
Mousses nouvelles de l'Afrique tropicale française. (Diagnoses préliminaires.) Bull. Soc. Bot. France, LXXIV., 1927, pp. 142-153.
*Extrait des "Mousses de l'Oubangui." Archives de Botanique, Tome I. (1927), Mém. 3, pp. 23-32, mai 19, 1928. (Oubangui = ? Ubangi, Belgian Congo.)
*Musci novi indici. Extr. des Annales de Cryptogamie Exotique mars 1928, Tome I., fasc. 1, pp. 37-47, figs. 4.
- *SAVICZ-LUBITZKAJA, L.—Sur la fructification de Rhytidium rugosum (Ehrh.) Kindb. en Russie. Overdruk uit Annales Bryologici Vol. I., 1928, pp. 140-143.
- SCHMIDT, H. (Freiburg i. B.).—Ueber ein Fall von Variation anatomischer Merkmale. Annales Bryologici, Vol. I., 1928, pp. 144-6, Pl. 1. (Tortula atrovirens, T. revolvens.)
- SVIHLA, Ruth D. and A.—A further note on the South-Eastern range of Buxbaumia. Bryologist XXXI., 1928, p. 24.
- *THÉRIOT, J.—Sur le Pterigynandrum filiforme (Timm.) Hedw. et ses variations. Rev. Bryologique, Nouv. Sér. Tome I., No. 1, 1928, pp. 1-11, figs. 11.

Sixième Contribution à la flore bryologique de Madagascar. Soc. havraise d'études diverses, 1926, figs. 7, Le Havre, 1927. (7 spp. nov.)

*Mexican mosses collected by Brother Arsène Brouard, II. Smithsonian Miscellaneous Collections, Vol. 81, No. 1, Aug., 1928, Washington (City), pp. 1-26, figs. 9. (7 spp. nov. and 1 var. nov.)

TIMM, R.—Ueber das atlantische Moos *Campylopus brevopilus* B. Eur. und über Mischrasen fruchtender Moose. Abhandl. Naturw. Verein Bremen XXVI., 2, 1927, pp. 419-423.

TRABUT, L.—Quelques mousses désertiques. Bull. Soc. Hist. Nat. Afr. Nord., XVIII., pp. 12-13, Algiers, 1927. (*Tortula Saharæ* and *Funaria Saharæ*, spp. nov.)

*TROTTER, L. B. C.—*Pterigynandrum filiforme* Hedw. var. *heteropterum* B. & S., with gemmae in Switzerland. Bryologist XXXI., 1928, pp. 15-18, Pl. II.

v.d. WIJK, R.—*Oligotrichum incurvum* Lindb. in Holland. Annales Bryologici Vol. I., 1928, p. 153-4.

WILLIAMS, R. S.—*Orthotrichum Macfaddenæ* sp. nov. Bryologist XXXI., 1928, p. 52, Pl. V.

Sphaerothecium Hampe—a good genus. Bryologist XXXI., 1928, p. 72, Pl. VII.

Some apparently undescribed mosses from Peru; also new combinations. Ibid, pp. 109-122. Pls. VII.

HEPATICES.

ARNELL, H. W.—Skandnaviens Levermossor. In Otto R. Holmberg's Skandnaviens Flora. (comprises whole of Finland and Scandinavia), 1928.

BRINKMAN, A. H.—Notes on some Canadian hepatics. Bryologist XXXI., 1928, pp. 75-82. (*Pellia*, *Marsupella*, *Gymnomitrium*.)

*BROEKSMIT, T.—Les Hépatiques de Ténériffe. Annales Bryologici, Vol. I., 1928, pp. 13-16.

*BUCH, H.—Die Scapanien Nordeuropas und Sibiriens, II., systematischer Teil. Soc. Scientiarum Fennica Commentationes Biologicae III., 1 Helsingfors, 1928, pp. 173, figs. 34, map.

CAMPBELL, D. H.—Collecting liverworts in Hawaii. Bryologist XXX., 1927, pp. 97-101.

CHALAUD, G.—Les rameaux foliaires chez les Hépatiques. Rev. Gén. de Bot. XXXIX., pp. 15-25, Paris, 1927.

- Les Hépatiques de la région toulousaine. Flore, Biologie, Géobotanique. Bull. Soc. Hist. Nat. Toulouse 56, pp. 325-390, Toulouse, 1927.
- CHAUDHURI, H.—A short study on the configuration and the formation of sexual organs in *Marchantia palmata* in relation to certain external factors. Jour. Indian Bot. Soc. VI., 1927, pp. 53-56, figs. 6.
- CONKLIN, G. H.—A correction with additions. (Refers to *Bryologist*, 1925, p. 13-14). *Bryologist* XXXI, 1928, p. 35.
- *DISMIER, G.—Note sur la présence de deux hépatiques intéressantes et nouvelles pour la forêt de Fontainebleau : *Lepidozia silvatica* Ev. et *Alicularia geoscypha* De Not. Bull. Soc. Bot. France LXXIV., Tome III., 5e Série, 1927, pp. 886-9.
- DOP, P. et CHALAUD, G.—Concentration en ions hydrogène de quelques sols à hépatiques. C. R. Congrès Ass. Fr. Avanc. Sc. Lyon, 1926, pp. 658-9, Paris, 1927.
- DOUIN, C.—Les Cephaloziellacées Européennes. *Annales Bryologici* Vol. I., 1928, pp. 49-68.
- DUGAS, Marguerite.—Observations sur les hépatiques des environs de Montpellier. Bull. Soc. Bot. France LXXIV., pp. 107-112, Paris, 1927.
- GARJEANNE, A. J. M.—Aus dem Leben der *Odontoschisma Sphagni*. *Annales Bryologici* Vol. I., 1928, pp. 79-88, figs. 3, Pls. 3.
Hepaticologische Notizen. *Ibid*, p. 89-90.
- HERZOG, Th.—*Scapania portoricensis* Hpe. et G. *Annales Bryologici* Vol. I., 1928, pp. 91-112, figs. 10.
- *LOESKE, L.—*Fossombronina Fleischeri* Osterwald. *Sonderab. aus d. Verhandl. d. Bot. Vereins der Prov. Brandenb.* 70, 1928, pp. 1-3, figs. 7.
- McALLISTER, F.—Sex ratio and chromosomes in *Riccia Curtisii*. Bull. Torr. Bot. Clb. LV., 1928, pp. 1-10, figs. 11.
- MARRIOTT, St. J.—The hepatics of Essex. *Essex Naturalist* XXII., 1928, p. 74.
- MEDELIUS, S.—Review. Arnell, H. W. *Skandinaviens Levermossor*. *Annales Bryologici* Vol. I., 1928, pp. 155-158.
- NICOLAS, G.—Sur un *Pythium* parasite du *Marchantia polymorpha* L. Bull. Soc. Mycol. France XLIII., 1927, pp. 119-121, fig. 1.

O'HANLON, M. E.—A study of *Preissia quadrata*. Bot. Gaz. LXXIV., 1927, pp. 208-218, figs. 1-15.

Notes on *Reboulia hemisphaerica*. Bryologist XXXI., 1928, pp. 47-50, Pl. IV.

SAXTON, W. T.—The life-history of *Lunularia*. Proc. Linn. Soc. London, 140th session, Nov., 1928, p. 20. (Paper read Feb., 2nd 1928.) Note also in Jour. Bot. LXVI., 1928, p. 95.

*SHOWALTER, A. M.—Studies in the Cytology of the Anacrogynae, III., Fertilisation in *Fossombronia angulosa*. Annals Bot. XLI., No. CLXI., Jan., 1927, pp. 37-46, Pls. IV-VI.

*Ditto. IV. Fertilisation in *Pellia Fabbronia*. Ibid XLI., No. CLXIII., July, 1927, pp. 409-417, Pls. XIX-XXI.

*Hermaphroditism in a dioicous hepatic. Repr. from Proc. National Acad. Sciences, Vol. XIII., No. 6, June, 1927, pp. 369-372, (Deals with *Pellia Neesiana* Limpr.)

*TIMM, R.—Beobachtungen an Lebermoosen im Botanischen Garten zu Hamburg, aus dem Nachlasse des Professors Dr. Zacharias. Sonderab. aus Abhandln. des Naturwiss. Vereins zu Hamburg, 1928, Bd. XXII., Hft. 1, pp. 25-83, figs. 50, Pls. VI.

VERDOORN, Fr.—Ueber *Frullania nervosa* Mt. und einige andere Lebermoose. Extr. du Recueil des Travaux Botaniques Neerlandais, Vol. XXV., A, 1928, pp. 452-460, figs. 8.

*Revision des travaux parus jusqu'en, 1928, sur la flore cryptogamique africaine, III., Hépatiques. Annales de Cryptogamie Exotique, Oct., 1928, Tome I., Fasc. 3. (63 Rue de Buffon, Paris Ve.) (113 references given.)

*De *Frullaniaceis* I. Kritische Studie der inlandsche *Frullania*soorten. Overdr. uit het Nederlandsch Kruidkundig Archief, 1927, Aft. 2. Amsterdam, 1928 (J. H. de Bussy).

*Kritische Bemerkungen über ostasiatische und ozeanische *Frullania*-Arten aus dem Subgenus *Homotropantha*. (De *Frullaniaceis* III.) Extr. de la Rev. Bryol., 1928, pp. 109-122.

*Ueber einige amerikanische *Frullaniaceae*. (De *Frullaniaceis* II.) Extr. des Ann. de Cryptogamie Exotique, ann., 1928, T. I., Fasc. 2, pp. 213-220.

- v.d. WIJK, R.—Morphologische Betrachtungen über *Treubia* und das Blatt der Hepaticae. *Annales Bryologici* Vol. I., 1928, pp. 147-152.
- WOLFSON, A. M.—The chromosomes of *Sphaerocarpus taxanus*. *Amer. Jour. Bot.* XIV., 1927, pp. 513-519, fig. 1.

—o—

SPHAGNA.

- *BAUER, E.—Musci Europaei et Americani Exsiccati. Sch. u. Bemerkungen zur 40 Serie, 1928.
- *DISMIER, M. G.—Flore des Sphaignes de France. *Arch. Bot.* I., Mém. No. 1, pp. 64, figs. 39, Caen, 1927 (1928).
- DOUIN, C.—La disposition des feuilles et des ramifications chez les Sphaignes. *Rev. Bryol., Nouv. Sér., Tome I., No. 1, 1928, pp. 26-35, Pl. I.*
- FONT, Q. P.—Notas sobre la flora gaditana (Mts. in Algeciras). *Bol. R. Soc. esp. Hist. nat., XXVII., pp. 39-40, Madrid, 1927. (Re. Sphagnum auriculatum Schp.)*
- GEPP, A.—Review. Sherrin, W. R. Handbook (vide infra). *Jour. Bot. Mch., 1928, p. 90.*
- *KORTSCHAGIN, A.—Zur Bryoflora des Gouvernements Wologda : Sphagnaceae. Aus den Arbeiten der Landwirtschaftl. Versuchsstation des Bezirks Wologda, 1927, pp. 389-416. (In Russian; German summary.)
- MESLIN, R.—Le *Sphagnum quinquefarium* Warnst. dans le Calvados. *Bull. Soc. Linn. Normandie, 7e Sér., X., p. 89, Caen, 1927. (Re. var. viride Warnst.)*
- SHERRIN, W. R.—An illustrated Handbook of the British Sphagna. London (Taylor & Francis), 1928, pp. 74, Pls. VIII.
- New records for sphagna in Scotland. *Jour. Bot.* 1928, p. 153.
- Ditto. *Ibid*, 1927, p. 352.
- In Bauer's Musci Europ. et Amer. Exsiccati Ser. 40 (vide supra.).
- *SMIRNOVA, Z.—Materials to peat-moss flora of the Ural. 1928 (? Perm). (In Russian, including name of journal; English summary.) Reprint.

—o—

BRYOPHYTES.

- ALLORGE, M. A. P.—Notes sur la flore bryologique de la Péninsule Iberique. I. Muscinées récoltées par M. Roger

Heim dans la Chaîne Cantabrique. *Rev. Bryol. Sér. Nouv.*, Tome I., No. 1, 1928, pp. 53-58. (Hepatics, sphagna and mosses.)

Reviews of works by the following:—BROTHERUS, V. F.; DISMIER, M.G.; DIXON, H.N. et POTIER de la VARDE, R.; HERZOG, Th.; MALTA, N.; NAVEAU, R.; ARNELL, H. W.; CHALAUD, G.; DOP, P. et CHALAUD, G.; DUGAS, M.; ERVIDEIRA, A.; FONT, Q.P.; GAMS, H.; MEDELIUS, S.; MESLIN, R.; MØLLER, Hj.; REIMERS, H.; DOUIN, R.; and VERDOORN, Fr. (To save space the titles are omitted.) *Rev. Bryol. Nouv. Sér. Tome I.*, 1928, pp. 59-73.

*ARMITAGE, E.—Some Spanish Bryophytes. *Bryologist* XXXI., 1928, pp. 123-126. (Malaga, S. coast.)

ARNELL, H. W.—Die Moosvegetation an den von der Schwedischen Jenissei-Expedition im Jahre, 1876, besuchten Stellen. *Annales Bryologici*, Vol. I., 1928, pp. 1-9.

*BARTRAM, E. B.—Newfoundland mosses collected by Mr. Bayard Long, in 1924-1926 (sphagna and mosses). Repr. from *Rhodora*, Vol. XXX., Jan., 1928, pp. 1-12, Pl. CLVIII.

*BAUER, E.—Laub. und Lebermoose von Porto Alegre. Separat. aus d. Verhandln. d. Zool.-Bot. Gesells. in Wien, Bd. 77, Jahrg., 1927, p. 1, (refers to previous work pubd. in same journal in 1905).

BEALS, A. T.—An interesting letter shared with permission. (Re. bryophytes on Catskills, New York). *Bryologist* XXXI., 1928, pp. 85-88.

BIERS, P. M.—Deux bryologues inattendus : la correspondance de Jean-Jacques Rousseau avec Lemoignon de Malesherbes. *Rev. Bryol., Sér. Nouv.*, Tome I., No. 1, 1928, pp. 49-52.

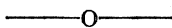
*BOROS, A.—Die Sphagnum-Moore Mittel-und Westungarns vom Pflanzengeographischen Standpunkte. Debrecen, 1926, *Mitteiln. Kommission f. Heimatkunde*, Bd. II.

BRIZI, U. e FENAROLI, L.—Apunti sulla flora della brughiera lombarda. *La Brughiera*, 1927, Piacenza, *Federaz. ital. d. Consorza agrari*. (30 mosses and 1 hepatic from Lombardy.)

BURNHAM, S. H.—Obituary, Harriet Wheeler. *Bryologist* XXXI., 1928, p. 32-3.

- CHALAUD, G.—Nouvelles observations sur les rameaux foliaires des bryophytes. *Rev. Gen. Bot.* XXXIX., pp. 691-697, Paris, 1927.
- *DISMIER, M. G.—Les muscinées du Vivarais. *Rev. Bryol. Sér. Nouv.*, Tome I., No. 1, 1928, pp. 13-25. (Hepatics, sphagna and mosses.)
Bryotheca gallica, Nos. 151-175, 176-200, 201-225, Paris, 1927. (For list vide *Rev. Bryol.*, Sér. Nouv., Tome I., No. 1, 1928, pp. 75-6.)
- *DOUIN, R.—Nouvelles recherches sur les hépatiques et les mousses fossiles des tufs du Lauteret (Hautes-Alpes.). *Rev. gén. Bot.* XXXIX., pp. 213-217, Paris, 1927.
- DUCLOS, P.—Catalogue des muscinées de la Vallée du Loing et de la Forêt de Fontainebleau (secteur Sud). *Bull. Ass. Natural. Vallée Loing*, 10e année, pp. 135-194, Moret-sur-Loing, 1927 (1928).
- DUGAS, M.—Review. Chalaud, G. (vide supra.). *Rev. Bryol.*, Sér. Nouv., Tome I., No. 1, 1928, p. 72.
- *DUNCAN, J. B.—The British Bryological Society in Ireland (Annual Meeting, Belfast). *Jour. Bot.*, 1928, pp. 340-342. (Mosses, hepatics and sphagna.)
- ERVIDEIRA, A.—Muscineas de Tras-os-Montes. *Bol. Soc. Brot.*, 4, (2a ser.) pp. 4-8, Coimbra, 1927. (Includes *Sphagnum Gravetii*, new to Portugal.)
- FRÉMY, P. et MESLIN, R.—Excursion botanique dans la La Meauffe (Manche), 12 juillet, 1926. *Bull. Soc. Linn. Normandie*, 7e sér., IX., pp. 118-130, Caen, 1926 (1927). (Includes about 40 bryophytes.)
- FRYE, T. C.—Observations on the age of a few bryophytes. *Bryologist* XXXI., 1928, pp. 25-29.
- GEPP, A.—Obituary, Caro Benigno Massalongo. *Jour. Bot.* LXVI., 1928, p. 150.
 Review. *Annales Bryologici* Vol. I., 1928. *Jour. Bot.* LXVI., 1928, p. 179-180.
- *HASE, O.—Zur Verbreitung der Moose in den Sphagnum-Mooren des Gouvernements Wologda der U.S.S.R. *Botaniska Notiser*, 1928, Lund, pp. 323-326.
- JENNINGS, O. E.—Reviews. *Miscellaneous Notes on bryological literature.* *Bryologist* XXXI., 1928, p. 62-3.
- *KOOPMANN-FORSTMANN, D. und KOOPMANN, A. N.—Einige bemerkenswerte Moose aus der Holländischen Provinz Friesland. *Overdruk uit Annales Bryologici* Vol. I., 1928, pp. 115-117. (Sphagna and mosses.)
- KOPPE, F.—Beiträge zur Kenntnis der Moose und Gefäßpflanzen in Westpreussen und Nordposen. *Deutsche*

- Wissensch. Zeitschr. f. Polen. Poznan. Hft. 13, pp. 32-57, 1928.
- *LEE, W. A. and TRAVIS, W. G.—The Muscinae of the Wirral. Supplementary List. Repr. from the North Western Naturalist, March, 1928, pp. 26-32. (Mosses, hepatics and sphagna.)
- LOTSY, J. P.—On hybrid gones and on homozygous hybrids. Annales Bryologici Vol. I., 1928, pp. 133-139, figs. 3. (Mendel's theory applied to bryophytes.)
- *NAVEAU, R.—Musci Bequaerti. Bull. Soc. Roy. Botan. Belgique, Tome LX., Fasc. 1, 1927, pp. 11-56, figs. 31. (Mosses and sphagna, Belgian Congo.)
- *RICHARDS, P. W. M.—Ecological notes on the bryophytes of Middlesex. Repr. from Jour. Ecology, Vol. XVI., No. 2, 1928, pp. 269-300, Camb. Univ. Press.
- *SAVICZ, L. and V. P.—Bryotheca Rossica, decas III. Hortus Bot. Princip. U.S.S.R., Leningrad, 1928, Nos., 21-30, pp. 100-103. (In Latin.)
- *Ditto. Decas IV. Ibid, 1928, Nos., 31-40. (In Latin.)
- SCHMIDT, H.—Beiträge zur Moosflora Badens. Mitt. Bad. Landesver. f. Naturk. II., 1927-8.
- VERDOORN, Fr.—Bryophyta Arduennae Exsiccata, decades I. et II., Utrecht, 1927 (vide Rev. Bryol., 1928, p. 77).



During the last few months the importance of Russian work on the bryology of Central Europe has been brought to my notice. Unfortunately, Russian is a closed book to most bryologists outside the U.S.S.R. Still, for the sake of completeness of the Card Index, all bryological works should be included. The assistance of any member of the B.B.S. possessing a knowledge of Russian will, therefore, be much appreciated. In many cases reprints are received in which not only the subject matter but also the name of the journal is printed in Russian; this renders accurate indexing rather difficult to one who can scarcely read the alphabet!

I would again like to thank all those who have so generously presented reprints of their works to the B.B.S. Library; a large number have been received during the last twelve months. Also all those who have assisted in bringing the Index up-to-date by sending me lists of references.

LESLIE B. C. TROTTER,

Ledbury,

23rd March, 1929.

OBITUARY.

RICHARD WILLYAMS SMITHAM.

Mr. Smitham died at Fowey, Cornwall, on the 23rd of November, 1928, at the age of 70 years. He had been in failing health for three years, and was therefore unfortunately prevented from devoting as much time and energy to the study of the cryptogams as he desired. Formerly, he spent most of his leisure time in the collection of sea-weeds, many specimens of which he collected for the British Museum, till he was compelled by war-time regulations to cease rambling along the beautiful Cornish coast. Of late years he had studied the Sphagna Group, and had sent some interesting specimens to the Distribution, well-prepared and beautifully labelled.

His retirement in 1923 from the Headmastership of Fowey Council (Boys') School marked the completion of a worthy term of thirty-eight years in that capacity. Public presentations from scholars, old boys, and the managers of the school on his withdrawal to private life evinced the high regard and esteem which he had won. He was also a Governor of Fowey Grammar School.

It has been arranged that his Herbarium shall be housed in the Truro Museum of the Cornwall Institution, of which he was a member.

D. B.

Blank Page