

1930 Wilson Hepatic Catalogue 3rd ed.

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**A Census Catalogue**  
OF  
**BRITISH HEPATICS**

WITH  
**List of the Botanical Vice-Counties and their  
boundaries and Lists of Sources of Records.**

**(3rd EDITION)**

COMPILED FOR  
**The British Bryological Society**

(FORMERLY THE MOSS EXCHANGE CLUB)

BY  
**Albert Wilson, F.L.S.**

Showing the comparative Rarity or Frequency of each  
Species and Variety by means of a Census, indicating its  
distribution through the 112 Watsonian Vice-County  
Divisions of Great Britain, and R. Lloyd Praeger's  
40 County Divisions of Ireland, also the  
Channel Islands.

**Price 1/6, (or 2/- interleaved), post free.**

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**Berwick-on-Tweed:**

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

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1930 Hepatic Cat., 3rd Ed., BBS, Wilson, A.

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## Preface and Explanatory Notes.

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SIXTEEN years have elapsed since the publication of the Second Edition of the *Census Catalogue of British Hepatics*. During this period several species have been added to our flora and about 1,400 new vice-county records have been noted, of which nearly 200 belong to Ireland. It might appear from these figures that the distribution of Hepatics in the British Isles is now fairly well known, but, unfortunately, investigation of the counties has been unevenly distributed, and much more field-work is required before our knowledge can be considered at all complete. Many of the counties which had previously been imperfectly explored, as regards Hepatics, still remain so, and the records credited to them do not adequately represent the number of species likely to occur. Since the publication of the last catalogue no additions have been made in the following English and Scottish vice-counties:—20, 53, 72, 73, 74, 78, 79, 83, 84, 85, 86, 91, 93, 94, 95, 101, 102, 103, 106, 107, 110, 112. Similarly, in Ireland there are no additions in the following divisions:—8, 11, 12, 13, 14, 15, 17, 22, 24, 26. On the other hand many new records have been made in the following English and Welsh vice-counties:—5, 6, 7, 36, 42, 43, 56, 64, 67, 68.

It may be well to give the names of the vice-counties where it would appear, after giving due consideration to the character of the surface and the suitability or otherwise of the climatic conditions for the growth of these plants, that the number of recorded species is unduly small, and where, presumably, further work is most required. These are Huntingdon, North Hants, South Lincoln, Montgomery, North Aberdeen, Banff, North Ebuades, Mid and East Cork, North Tipperary, Kilkenny, Westmeath, Longford, Roscommon, Monaghan, and Tyrone. Several other British and Irish counties are likely to yield numerous new records. Of the Irish divisions named above, we have no records at all for Kilkenny and Longford, whilst for Tipperary we have only three, for Monaghan and Roscommon only five, and for Tyrone seven.

This edition of the catalogue contains a number of old records which had been overlooked in previous editions. Many of these have recently been confirmed.

As in the last edition the system of classification and the delimitation of species, varieties and forms is that followed by Dr. S. M. Macvicar, in the second edition of his important work, "*The Student's Handbook of British Hepatics*." The sequence and

numbering of the species is also the same as in the Handbook. Notwithstanding the discovery of several species new to the British Isles, the total number described in the second edition of the Handbook is almost the same as in the first edition, some of the species having been reduced to the status of varieties. A few of the varieties now take the rank of forms.

Brackets thus (73), as in the last edition, indicate that a certain amount of doubt attaches to the record, and that it is desirable to have it confirmed. Square brackets, thus [73] in the case of a few rare species, indicate that the record is an old one, and has not been confirmed for many years, and the plant is presumably extinct.

The letter C. stands for the Channel Islands, and I. for Ireland.

Every effort has been made to ensure accuracy. Difficult or critical plants have been submitted to the Referees of the Society and to other competent bryologists. It is earnestly desired that any errors may be pointed out, and the information sent to the Editor.

Since the publication of the last edition of the catalogue, several well-known workers at British Hepatics have passed away. We mourn the loss, amongst others, of William Ingham, H. W. Lett, W. H. Pearson, C. H. Waddell and J. A. Wheldon. We owe much to the labours of the first-named. Mr. Ingham, who died in 1923, was a very keen bryologist. He did most of the work connected with compiling and editing the last edition of this catalogue, and also collected information for the present one.

The thanks of the Editor are due to all those who have supplied particulars and given kind assistance in the preparation of the catalogue. Some helpers have been at considerable trouble in drawing attention to and copying out old records.

ALBERT WILSON.

Roe Wen,  
near Conway,  
North Wales.  
*December, 1929.*

COUNTY and VICE-COUNTY DIVISIONS of the  
BRITISH ISLES  
(FOR BIOLOGICAL PURPOSES).

Hewett C. Watson's 112 Divisions of Great Britain (1852)  
[See Introduction to "Topographical Botany," Edition II.  
(Baker & Newbould), 1883.]

ENGLAND AND WALES.

C. CHANNEL ISLANDS.

I. Peninsula Province.

- 1 West Cornwall with Scilly.
- 2 East Cornwall.
- 3 South Devon.
- 4 North Devon.
- 5 South Somerset.
- 6 North Somerset.

II. Channel Province.

- 7 North Wilts.
- 8 South Wilts.
- 9 Dorset.
- 10 Isle of Wight.
- 11 South Hants.
- 12 North Hants.
- 13 West Sussex.
- 14 East Sussex.

III. Thames Province.

- 15 East Kent.
- 16 West Kent.
- 17 Surrey.
- 18 South Essex.
- 19 North Essex.
- 20 Herts.
- 21 Middlesex.
- 22 Berks.
- 23 Oxford.
- 24 Bucks.

IV. Ouse Province.

- 25 East Suffolk.
- 26 West Suffolk.
- 27 East Norfolk.
- 28 West Norfolk.
- 29 Cambridge.
- 30 Bedford.
- 31 Hunts.
- 32 Northampton.

V. Severn Province.

- 33 East Gloucester.
- 34 West Gloucester.
- 35 Monmouth.
- 36 Hereford.
- 37 Worcester.
- 38 Warwick.
- 39 Stafford.
- 40 Shropshire.

VI. South Wales Province.

- 41 Glamorgan.
- 42 Brecon.
- 43 Radnor.
- 44 Carmarthen.
- 45 Pembroke.
- 46 Cardigan.

VII North Wales Province.

- 47 Montgomery.
- 48 Merioneth.
- 49 Carnarvon.
- 50 Denbigh.
- 51 Flint.
- 52 Anglesey.

VIII. Trent Province.

- 53 South Lincoln.
- 54 North Lincoln.
- 55 Leicester with Rutland.
- 56 Nottingham.
- 57 Derby.

IX. Mersey Province.

- 58 Cheshire.
- 59 South Lancashire.
- 60 West (*i.e.* Mid.) Lancashire.

X. Humber Province.

- 61 South-east York.
- 62 North-east York.
- 63 South-west York.
- 64 Mid.-west York.
- 65 North-west York.

**R. Lloyd Praeger's 40 County Divisions of Ireland**

(IRISH TOP. BOTANY, 1901.)

(See "*Journal of Botany*" and "*Irish Naturalist*" of February, 1896, and "*Irish Topographical Botany*," 1901.)

**IRELAND.**

- |                             |                       |                  |
|-----------------------------|-----------------------|------------------|
| 1 South Kerry.              | 14 Queen's County.    | 27 West Mayo.    |
| 2 North Kerry.              | 15 South-East Galway. | 28 Sligo.        |
| 3 West Cork.                | 16 West Galway.       | 29 Leitrim.      |
| 4 Mid Cork.                 | 17 North-east Galway. | 30 Cavan.        |
| 5 East Cork.                | 18 King's County.     | 31 Louth.        |
| 6 Waterford.                | 19 Kildare.           | 32 Monaghan.     |
| 7 South Tipperary.          | 20 Wicklow.           | 33 Fermanagh.    |
| 8 Limerick.                 | 21 Dublin.            | 34 East Donegal. |
| 9 Clare with Aran<br>Isles. | 22 Meath.             | 35 West Donegal. |
| 10 North Tipperary.         | 23 Westmeath.         | 36 Tyrone.       |
| 11 Kilkenny.                | 24 Longford.          | 37 Armagh.       |
| 12 Wexford.                 | 25 Roscommon.         | 38 Down.         |
| 13 Carlow.                  | 26 East Mayo.         | 39 Antrim.       |
|                             |                       | 40 Derry.        |

## Particulars of Division of the Larger Counties.

The following are particulars of the lines of separation which are taken to divide the Larger Counties into two or more Vice-Counties. These particulars are, in the case of Great Britain, taken from the fourth volume, pp. 139-142, of the late Hewett C. Watson's "Cybele Britannica" (1859). In the case of Ireland, they are taken (1) partly from a paper by the late Charles C. Babington, M.A., F.R.S., read before the Dublin University Zoological and Botanical Association, in February, 1859, entitled "Hints towards a 'Cybele Hibernica'" (see Nat. Hist. Review, vi. part 2, Dublin, 1859), and (2) partly from a paper by R. Lloyd Praeger, B.A., B.E., M.R.I.A., entitled "On the Botanical Sub-division of Ireland," published simultaneously in the "Journal of Botany" (p. 57) and in the "Irish Naturalist" (p. 29) of February, 1896, and again in "Irish Topographical Botany," 1901.

### ENGLAND AND WALES.

*West Cornwall* (1) is separated from *East Cornwall* (2) by a line traced along the high road from Truro, through St. Columb to the inland extremity of Padstow Creek, the salt water at the two ends of this line completing the division; *South Devon* (3) from *North Devon* (4) by a line following the watershed that separates the streams flowing to the English Channel, from those flowing to the Bristol Channel; *South Somerset* (5) from *North Somerset* (6) by a line along the river Parret from Bridgwater to Ilchester, thence curving round to the northern extremity of Dorset; *North Wilts* (7) from *South Wilts* (8) by a line drawn along the Kennet and Avon Canal; *South Hants* (11) from *North Hants* (12) by a line traced along the high roads from Winchester, westward to Stockbridge, eastward to Petersfield, and continued thence to the borders of Wilts and Sussex; *West Sussex* (13) from *East Sussex* (14) by a line traced along the high road from Brighton to Cuckfield, thence by Crawley to the borders of Surrey; *East Kent* (15) from *West Kent* (16) by the river Medway and its tributaries, nearly up to Staplehurst, thence by the high road through Cranbrook to the border of Sussex near Hawkhurst; *South Essex* (18) from *North Essex* (19) by the high road from Walton and Epping to Chelmsford, thence by the Blackwater river to the coast; *East Suffolk* (25) from *West Suffolk* (26), and *East Norfolk* (27) from *West Norfolk* (28) by the meridian of 1 deg. east longitude; *East Gloucester* (33) from *West Gloucester* (34) by the Thames and Severn Canal, and by the river Severn from the point of junction up to Tewkesbury; *South Lincoln* (53) from *North Lincoln* (54) by the Witham river from Boston to Lincoln, thence by the Foss Dyke to the border of Nottingham; *South Lancashire* (59) from *West (i.e., Mid) Lancashire* (60) by the river Ribble; that more northerly (and detached) portion of the county situate to the north-west of Morecambe Bay, is taken with the Lakes Province and treated as a part of Westmorland.

The great county of York is first divided into the two sub-provinces of East and West Humber, by the rivers Humber, Ouse and Wiske. *South-east York* (61) is separated from *North-east York* (62) by the political line which divides the East Riding from the rest of the county; *South-west York* (63) is separated from *Mid-west York* (64) by the Leeds and Liverpool Canal, and by the river Aire below Leeds. *Mid-west York* (64) is separated from *North-west York* (65) by the political boundary between the North and West Ridings, that boundary being deflected westward so as to pass over Whernside to the south-eastern angle of Westmorland. *Cheviotland* (68) is cut off from the more southern part of Northumberland by the river Coquet, and a line continued to Carter Fell from the Linn Bridge.

*Note.*—The boundaries of the several counties are those employed previous to the re-adjustment completed in some in 1889.



## SCOTLAND.

*East Perth* (89) is cut off from *Mid Perth* (88) by the rivers Garry and Tay. *Mid Perth* (88) is separated from *West Perth* (87) by a line traced over the high ground or water-shed so as to divide the tributaries of the Tay from those of the Forth; the little county of Clackmannan and a small detached portion of Stirling being taken as parts of West Perth; [When Perthshire or Stirlingshire material has been gathered in the Loch Lomond drainage area, it would be well to state this]. *South Aberdeen* (92) is separated from *North Aberdeen* (93) by lines traced along the water-sheds eastward and westward of Inverurie. Inverness is divided by the line of water-shed between the eastern and western sides of Scotland continued along Loch Erich to the border of Perthshire. The easterly portion of the county, with the addition of Nairnshire, forms the large vice-county of *Easternness* (96). The remainder of Inverness, the waters of which drain to the western coast, along with the detached portion of Argyll situated to the north-west of Loch Linnhe, make up the vice-county of *Westernness* (97); [In "Top. Bot." this definition of *Westernness* is adhered to in the text, but the map, unfortunately, includes in *Westernness* the portion of Argyll, south of Loch Linnhe, that lies between Loch Etive and Loch Leven, and has led to some erroneous records in past years]. *(Main) Argyll* (98) and *Cantyre* (101) are separated by the Crinan Canal. The *Clyde Isles* (100) include Bute, Arran, the Cumbræes and the islets Inchmarnock, Holy Isle, and Pladda; (Ailsa Craig goes with Ayrshire). *South Ebudes* (102) include Islay, Jura, and Colonsay with adjacent islets. *Mid Ebudes* (103) consist of Mull, Coll, and Tiree, with their adjacent islets. *North Ebudes* (104) include Skye, Rum, Eigg, and Canna, with their adjacent islets. *East Ross* (106) is separated from *West Ross* (105) by a line traced along the water-shed between the eastern and western coasts. The fragmentary county of Cromarty belongs to East Ross or West Ross according to the geographical position of its detached fragments. *East Sutherland* (107) is separated from *West Sutherland* (108) by the line of water-shed, this being so traced as to divide the south-eastern portion of the county from that draining to the west and north; [As "*West Sutherland*" includes two well-defined areas, one draining to the north, the other to the west, it should be indicated, in all new records, to which of these they refer]. The three groups of North Isles, viz., the *Outer Hebrides* (110), *Orkneys* (111), and *Shetlands* (112) are treated as counties and numbered accordingly.

*Note.*—The boundaries of the several counties are those employed previous to the re-adjustment completed in some in 1892.

## IRELAND.

*South Kerry* (1) is separated from *North Kerry* (2) by a line following the southern and western boundaries of the baronies of Magunihy and Trughanacmy (R. Ll. Praeger); *West Cork* (3) from *Mid Cork* (4) by a line drawn from Millstreet through Macroom to Bandon, the boundary being completed by the Killarney Railway in the north, and the Bandon River in the south (Rev. Thos. Allin, 1883); *Mid Cork* (4) from *East Cork* (5) by the Great Southern and Western Railway from Charleville to Cork, thence by the western shore of Cork Harbour to the ocean (R. A. Phillips and R. Ll. Praeger); *South Tipperary* (7) from *North Tipperary* (10) by the Great Southern and Western Railway (C. C. Babington); *West Galway* (Connemara) (16) from *North-east Galway* (17) by Lough Corrib and the River Corrib (C. C. Babington); *South-east Galway* (15) from *North-east Galway* (17) by the Midland Great Western from Oranmore to Ballinasloe (R. Ll. Praeger); *East Mayo* (26) from *West Mayo* (27) by Lough Mask and the course of the river Ayle, thence to Castlebar by the Tuam road, and down the Clydagh River, Lough Conn, and the Moy River to the sea (C. C. Babington); *East Donegal* (34) from *West Donegal* (35) by a line dividing the baronies of Raphoe and Boyleagh and those of Inishowen and Kilmacrennan (R. Ll. Praeger).

## Sources of Records.

(Additional to those given in Editions 1 and 2).

### GENERAL.

- Student's Handbook of British Hepatics*, 1926, S. M. Macvicar.  
*Moss Exchange Club Reports*, 1913-1922.  
*British Bryological Society's Reports*, 1923-1928.  
*Census Report of Mosses of Ireland*, Proc. R.I.A., 1915, H. W. Lett.

### V.C. RECORDS—ENGLAND & WALES.

**v.c. 1 and 2, Cornwall.** *Mosses of Cornwall*, J. of Bot., 1919, F. Rilstone—*Cornish Mosses and Hepatics*, J. of Bot., 1926, F. Rilstone—*Add.* (v.c. 1) L. J. Cocks—W. E. Nicholson and H. H. Knight—W. Watson—*Add.* (v.c. 1 and 2) R. W. Smitham.

**v.c. 3 and 4 Devon.** *Add.* (v.c. 3) H. Beesley—H. N. Dixon—J. B. Duncan—D. A. Jones—H. H. Knight—St. John Marriott—W. E. Nicholson—*Add.* (v.c. 3 and 4) W. Watson—*Add.* (v.c. 4) Miss Armitage—C. P. Hurst—F. E. Milsom.

**v.c. 5 and 6, Somerset.** *Add.* (v.c. 5) E. J. Salisbury—*Add.* (v.c. 5 and 6) *The Liverworts of Somerset*, Proc. Somerset Arch. and Nat. Hist. Soc., 1920, W. Watson—Also further *add* W. Watson—*Add.* (v.c. 6) H. H. Knight—F. E. Milsom—P. G. M. Rhodes.

**v.c. 7 and 8, Wiltshire.** *Mosses of E. Wiltshire*, J. of Bot., 1918, C. P. Hurst—*East Wiltshire Mosses*, Wilts. Arch. and Nat. Hist. Magazine, Vol. 39-41, C. P. Hurst—*Add.* (v.c. 8) Saunders—W. Watson.

**v.c. 9, Dorset.** *Add.* H. H. Knight and W. E. Nicholson—F. E. Milsom—H. W. Monckton—D. Powell—D. A. Jones and H. H. Knight.

**v.c. 10, Isle of Wight.** *Add* H. H. Knight, in Proc. of the Isle of Wight Nat. Hist. Soc., 1926—*Add.* and corrections, J. Groves—H. H. Knight.

**v.c. 11 and 12, Hampshire.** *Add.* (v.c. 11) *Studies of the Vegetation of the English Chalk*, J. of Ecology, 1922, pp. 113-219; 1925, pp. 177-223 and 1926, pp. 1-32, A. G. Tansley and R. S. Adamson—*Add.* R. S. Adamson—P. G. M. Rhodes—W. R. Sherrin—W. Watson—*Add.* (v.c. 11 and 12) St. J. Marriott—*Add.* (v.c. 12) C. P. Hurst—H. W. Monckton—P. W. M. Richards.

**v.c. 13 and 14, Sussex.** *Add.* W. E. Nicholson.

**v.c. 15 and 16, Kent.** *Add.* (v.c. 15) P. W. M. Richards—*Add.* (v.c. 16) St. J. Marriott—H. W. Monckton—W. E. Nicholson.

**v.c. 17, Surrey.** *Add.* Miss Armitage—L. J. Cocks—C. P. Hurst—P. W. M. Richards—W. Watson.

**v.c. 18 and 19, Essex.** *Notes on the Bryophyta of Essex*, S. E. Union of Scientific Societies' Survey of Essex, pp. 56-62, 1926, and MS., St. J. Marriott—*Add.* (v.c. 18) J. Ross—*Add.* (v.c. 19) Miss Armitage.

**v.c. 21, Middlesex.** *Flora of Middlesex*, 1869, Hind—*Add.* P. W. M. Richards.

**v.c. 22, Berks.** *Add.* Miss Armitage—H. W. Monckton.

**v.c. 23, Oxford.** *Add.* C. H. Binstead—P. W. M. Richards.

**v.c. 24, Bucks.** *Add.* D. G. Catcheside—F. E. Milsom—P. W. M. Richards.

**v.c. 25 and 26, Suffolk.** *Mosses of a Boulder Clay area*, Ipswich and District Field Club Rep., 1913, A. Mayfield.

**v.c. 27 and 28, Norfolk.** Records by W. H. Burrell in Norfolk and Norwich Nat. Soc. Trans., and in W. A. Nicholson's *Flora of Norfolk*, 1914, and MS.—*Add.* (v.c. 27) H. H. Knight—H. W. Monckton—*Add.* (v.c. 28) J. L. O'Loughlin.

**v.c. 29, Cambridge.** *Add.* P. G. M. Rhodes.

**v.c. 30, Bedford.** *Add.* F. E. Milsom.

**v.c. 31, Hunts.** *Add.* P. W. M. Richards.

**v.c. 32, Northampton.** *Add.* H. N. Dixon—G. H. Goude—P. G. M. Rhodes.

**v.c. 33 and 34, Gloucester.** *Many add.*, H. H. Knight—*Add.* (v.c. 34) Miss E. Armitage—D. A. Jones and H. H. Knight.

**v.c. 35, Monmouth.** *Add.*, Miss Armitage—H. H. Knight—A. Ley.

**v.c. 36, Hereford.** *The Hepatics of Herefordshire*, J. of Bot., 1924, Eleonora Armitage—*Many add.*, Miss Armitage—*Add.* C. H. Binstead—H. H. Knight.

**v.c. 37, Worcester.** *Add.* H. H. Knight—J. B. Duncan.

**v.c. 38, Warwick.** *Add.*, J. B. Duncan.

**v.c. 39, Stafford.** *Add.*, W. Watson.

**v.c. 40, Shropshire.** *Add.*, Miss Armitage—J. B. Duncan.

**v.c. 41, Glamorgan.** *Add.*, Miss Armitage—E. J. Salisbury.

**v.c. 42, Brecon.** *Add.*, Miss Armitage—H. H. Knight—P. W. M. Richards.

**v.c. 43, Radnor.** *Add.*, Miss Armitage—*Numerous add.*, H. Bendorf—W. Watson.

**v.c. 44, Carmarthen.** *Add.*, H. H. Knight.

**v.c. 45, Pembroke.** *Add.*, R. Jackett—P. G. M. Rhodes.

**v.c. 46, Cardigan.** *Add.*, R. Jackett—C. V. B. Marquand—W. Watson.

**v.c. 47, Montgomery.** *Add.*, Miss Armitage—D. A. Jones.

**v.c. 48, Merioneth.** *Numerous add.*, D. A. Jones—*Add.*, Miss Armitage—H. H. Knight—W. H. Pearson—W. E. Nicholson—P. G. M. Rhodes—W. Watson—J. C. Wilson.

v.c. 49, Carnarvon. *Add.*, Miss Armitage—H. C. Broome—R. Jackett—D. A. Jones—W. H. Pearson—P. G. M. Rhodes—W. G. Travis—W. Watson.

v.c. 50, Denbigh. *Mosses and Hepatics of Denbighshire*, Naturalist, 1917, D. A. Jones—*Add.*, J. B. Duncan—A. Wilson.

v.c. 51, Flint. *Add.*, D. A. Jones.

v.c. 52, Anglesey. *Mosses and Hepatics, S.W. of Anglesey*, Lancashire and Cheshire Naturalist, 1917, D. A. Jones.

v.c. 53 and 54, Lincoln. *Add.* (v.c. 54) G. H. Allison—J. J. Marshall.

v.c. 55, Leicester and Rutland. *Add.*, A. R. Horwood.

v.c. 56, Nottingham. Victoria Co. Hist., 1907, J. W. Carr—*Add.*, H. Fisher—F. Crossland—A. A. Dallman and A. Wilson.

v.c. 57, Derby. *Add.*, H. C. Broome—F. Crossland—J. B. Duncan—H. H. Knight—W. Watson.

v.c. 58, Cheshire. *Muscineae of the Wirral*, Lancashire and Cheshire Nat., 1921, W. A. Lee and W. G. Travis—*Add.*, Miss Armitage—H. C. Broome—F. H. and H. E. Green—W. H. Pearson—W. Watson.

v.c. 59 and 60, Lancashire. *Add.* (v.c. 59) H. C. Broome—W. H. Pearson—W. G. Travis—*Add.* (v.c. 60) A. Wilson.

v.c. 61, 62, 63, 64, 65, Yorkshire. *Add.* (v.c. 61 and 62) W. Ingham—*Add.* (v.c. 61, 63 and 65) W. Watson—*Add.* (v.c. 62) W. E. Nicholson—M. B. Slater—*Add.* (v.c. 62, 63, 64 and 65) R. Barnes—*Add.* (v.c. 62, 63, 64 and 65) F. E. Milsom—*Add.* (v.c. 63) W. G. Town—D. A. Jones—*Add.* (v.c. 63 and 64) H. C. Broome—*Add.* (v.c. 64) L. J. Cocks—Miss Armitage—H. H. Knight—*Add.* (v.c. 63, 64 and 65) W. H. Burrell—C. A. Cheetham—*Add.* (v.c. 65) W. H. Pearson—N. Temperley—A. Wilson.

v.c. 66, Durham. *Winch's Flora of Northumberland and Durham*, Trans. of Nat. Hist. Soc. of Northumberland, Durham and Newcastle, Vol. II, 1838. *New Records, Moss Flora of Durham*, Naturalist, 1915, R. Barnes—*Add.*, N. Temperley.

v.c. 67 and 68, Northumberland. *Mosses and Hepatics of North Northumberland and Berwickshire*, Hist. Berwickshire Nat. Club, 1924-1927, J. B. Duncan—*MS.*, J. B. Duncan—*Add.* (v.c. 67) W. H. Pearson—E. H. Stevens—*Add.* (v.c. 68) Hardy—J. E. Hull.

v.c. 69, Westmorland. *Add.* Miss E. Armitage—C. H. Binstead—H. Beesley—H. C. Broome—L. J. Cocks—W. H. Pearsall—W. H. Pearson—W. G. Travis—W. Watson—J. A. Wheldon and A. Wilson.

v.c. 70, Cumberland. *Add.*, J. B. Duncan—H. H. Knight—*Hepaticae of Carlisle District*, Naturalist, May, 1924, J. Murray—W. H. Pearson.

v.c. 71, Isle of Man. *Some Hepaticae from the Isle of Man*, J. of Bot., 1914, J. B. Farmer—*Add.*, H. Beesley—J. Hunter.

## SCOTLAND.

- Miss E. Armitage—v.c. 75.  
 C. H. Binstead—v.c. 104, 105.  
 J. C. Bond—v.c. 97.  
 D. B. Bradshaw—v.c. 87, 88.  
 R. H. Corstophine—v.c. 88, 90.  
 J. B. Duncan—v.c. 80, 81, 82, 97.  
 J. Hunter—v.c. 88.  
 D. A. Jones—v.c. 88, 98.  
 H. H. Knight—v.c. 88, 92, 96, 97, 98, 108.  
 J. R. Lee—v.c. 75, 76, 77, 87, 88, 99.  
 D. Lillie—v.c. 109, 111.  
 S. M. Macvicar—v.c. 88, 92, 96, 97.  
 R. H. Meldrum—v.c. 88.  
 W. G. Travis—v.c. 100.  
 W. E. Nicholson—v.c. 88, 89, 92, 96, 97, 98, 108.  
 W. H. Pearson—v.c. 88, 92, 97, 98, 103, 105.  
 W. Watson—v.c. 87, 88, 98.  
 W. West—v.c. 98.

## IRELAND.

- T. J. Anderson—v.c. 28.  
 C. H. Binstead—v.c. 3.  
 D. B. Bradshaw—v.c. 3, 4, 5.  
 Miss M. Buchanan—v.c. 20, 21, 36. *Also records in the  
 Irish Herbarium, Dublin, from v.c. 5, 9, 10, 19, 20,  
 28, 32.*  
 J. B. Duncan—v.c. 2, 16.  
 J. Glover—v.c. 30, 31, 34, 38, 39.  
 J. D. Houston—v.c. 25, 37, 39, 40.  
 J. Hunter—v.c. 29, 38.  
 D. A. Jones—v.c. 1, 2.  
 H. H. Knight—v.c. 2, 3, 16, 27.  
 Miss M. C. Knowles—v.c. 9, 21.  
 H. W. Lett—v.c. 6, 31, 35, 37, 49.  
 D. McArdle—v.c. 17, 18, 19, 21, 23, 28, 33.  
 W. E. Nicholson—v.c. 2, 16.  
 W. H. Pearson—v.c. 1, 2, 35.  
 R. A. Philips—v.c. 25.  
 P. G. M. Rhodes—v.c. 7.  
 Miss A. M. Saunders—v.c. 29.  
 W. N. Tetley—v.c. 28, 29, 30, 33.  
 W. G. Travis—v.c. 39.  
 C. H. Waddell—v.c. 31, 39, 40.



# British Hepatics.

## Order I.—Sphærocarpales.

### Family I.—SPHÆROCARPACEÆ.

#### 1. Sphærocarpos *Ludwig*

- 1 *Michelii Bellardi* 3, 15, (18), 19, 20, 25—28, 34, 36, 37, 55, 61. C.
- 2 *texanus Aust.* 16, 17, 27, 34, 36, 37.

## Order II.—Marchantiales.

### Family II.—RICCIACEÆ.

#### 2. Riccia *L.*

SUB-GEN. EURICCIA (*Lindb.*) *Boulay*

- 3 *ciliata Hoffm.* 1, (3).
- 4 *Crozalsii Levier* 1, 2, 42, 43, 48, 49.
- 5 *Michelii Raddi* (1, 2), 14.
- 6 *Beyrichiana Hampe* 1, 38, 42, 43, 46, 48, 49, 59, 60, 64, 69, 73—76, 82—85, 90, 99. I. 20, 35, 39.
- 7 *bifurca Hoffm.* 1, 7, 8, 14, 36, 48, 52, 59, 69, 75, 88. I. 16.  
var. *subinermis Heeg* 14.
- 8 *Warnstorffii Limpr. in Warnst.* 13, 14, 34, 36, 37, 45.  
var. *subinermis Warnst.* 13.
- 9 *commutata Jack* 4, 7, 14, 16, 17, 19, 34, 36, 37, 40.
- 10 *glauca L.* 1, 3—8, 10, 13—17, 19, 23, 25—27, 33, 34, 36—40, 42—45, 48, 49, 52, 54—64, 68—70, 72, 73, 76, 78, 81, 83—87, 97. I. 1, 20, 21, 34, 35, 38—40. C.  
var. *major Lindenb.* 5, 14.  
var. *minor Lindenb.* 5, 16, 59, 76, 83, 97, 99. C.  
var. *subinermis (Lindb.) Warnst.* 5, 14, 36.
- 11 *sorocarpa Bisch.* 1, 2, 4—8, 10, 13, 14, 16, 17, 19, 23, 25—27, 33, 34, 36, 37, 39, 40, 42—46, 48—50, 52, 58—61, 64, 65, 68, 69, 72, 73, 75, 77, 78, 80, 82—85, 88—90, 96, 97, 99, 101, 103. I. 1, 27, 39, 40. C.

12 *nigrella* *D.C.* 1, 37, 48, 49.

SUB-GEN. *RICCIELLA* (*Braun*) *Boulay*

13 *crystallina* *L.* 4, 6, (14), 16, 20, 26—28, 32, 33, 36, 38, 39, 44, 48—50, 52, 55, 59, 61, 64, 67, 83, 85, 90. I. 39.

var. *angustior* *Nees* 4, 6, 44.

14 *Huebeneriana* *Lindenb.* 14, 17.

15 *fluitans* *L.* 3, 5, 6, 12—18, 20, 21, 25—29, 34, 36, 38, 40, 44, 50, 52, 54—64, 83, 85, 87. I. 8, 21, 29, 32, 37, 38.

### 3. *Ricciocarpus* *Corda*

16 *natans* (*L.*) *Corda* 6, 12—15, 18—20, 26—29, [36], 38, 40, 50, 54, 55, 58, 61—64, 66. I. 8, 15, 19, 21, 22, 31.

## Family III.—*MARCHANTIACEÆ*.

### SUB-FAMILY *TARGIONIOIDEÆ*.

#### 4. *Targionia* *L.*

17 *hypophylla* *L.* 3, 4, 6, 12, 26, 37, 39, 40, 43, 44, 48, 49, 52, 57, 63—65, 83, 85—87, 98, 101, 104. I. 1, 2, 4, 39. C.

### SUB-FAMILY *MARCHANTIOIDEÆ*.

*Marchantioideæ-Operculatæ*.

#### 5. *Reboulia* *Raddi*

18 *hemisphærica* (*L.*) *Raddi* 1—6, 8—14, 16, 17, 20, 27, 34, 36—44, 46—50, 52, 55, 57—62, 64—69, 73, 75, 80—83, 85, 87, 88, 90, 97, 99, 100, 103—105, 109. I. 1, 2, 4, 5, 9, 16, 17, 21, 27, 28, 35, 38—40. C.

*Marchantioideæ-Compositæ*.

#### 6. *Conocephalum* *Wigg.*

19 *conicum* (*L.*) *Dum.* 1—6, 8—10, 13—20, 23, 25—30, 32—69, 71—91, 95—112. I. 1—3, 6, 7, 12—16, 18—22, 25—31, 33—36, 38, 39. C.

#### 7. *Lunularia* *Adans.*

20 *cruciata* (*L.*) *Dum.* 1—10, 12—21, 23—28, 33—42, 44—46, 48—65, 67—69, 71—91, 97—102, 109. I. 1, 2, 5—7, 9, 12, 16, 18, 20—22, 28, 30, 32, 34, 36, 38, 39. C.



8. *Dumortiera Reinw. Bl. et Nees*

- 21 *hirsuta* (*Sw.*) *Reinw. Bl. et Nees* 3, 4, 14. I. 1—4, 20, 29.

9. *Preissia Corda*

- 22 *quadrata* (*Scop.*) *Nees* 3, 4, 6, 41—44, 46, 48—50, 52, 54, 57—60, 62—76, 78, 79, 82—92, 96—105, 107—110, 112. I. 1, 2, 6, 8, 16, 19, 21, 26—29, 34, 35, 38, 39.

10. *Marchantia L.*

- 23 *polymorpha L.* 1—9, 13—18, 20—28, 30, 32—34, 36—42, 44—50, 52, 54—70, 72—92, 97—101, 103, 106, 109, 110, 112. I. 1, 5, 8—10, 17—21, 27, 28, 30, 31, 35, 37—39.

forma *aquatica Nees* 5, 13, 14, 34, 36, 51, 52, 58, 59, 64, 71, 88.

forma *alpestris Nees* 88, 90, 92.

## Order III.—Jungermanniales.

## Family IV.—JUNGERMANNIACEÆ ANACROGYNÆ.

## SUB-FAMILY METZGERIOIDEÆ.

11. *Aneura Dum.*

- 24 *pinguis (L.) Dum.* 1—6, 8—10, 13—15, 17, 20—23, 25, 27, 28, 30, 32—34, 36—42, 44—46, 48—52, 54—112. I. 1, 2, 6—9, 13, 14, 18—21, 27—29, 33, 35, 37—40. C.

forma *angustior Hook.* 2, 8, 11, 14, 15, 17, 26, 33, 35, 36, 48, 49, 52, 59, 60, 66, 87, 88, 96—98, 100.

var. *denticulata Nees* 61, 88, 97—100, 105.

- 25 *incurvata (Lindb.) Steph.* 4—6, 14, 48, 49, 52, 81.

- 26 *multifida (L.) Dum.* 1, 3—6, 8—10, 13, 14, 16—18, 20, 21, 23—28, 30, 33, 34, 36—42, 44—46, 48—52, 54—92, 95—112. I. 1, 2, 5, 6, 17—21, 23, 27, 29, 31, 33, 35, 37—39. C.

- 27 *sinuata (Dicks.) Dum.* 1, 3—6, 10, 14, 34—39, 44, 48, 49, 52, 56—60, 62—64, 69—71. I. 1, 2, 5, 7, 20, 21, 27, 30, 35, 38. C.

var. *major* (*Lindb.*) 1, 2, 4—6, 8, 9, 13, 14, 17, 18, 21, 24, 25, 33, 34, 36, 44, 45, 48—52, 54, 56, 58—60, 63, 64, 68, 81, 88, 97, 100. I. 21, 27, 28, 38, 39.

\*28 *latifrons* *Lindb.* 2, 4, (5), 13, 14, 36, 46, 48, 49, 52, 58—64, 71—74, 77, 78, 80, 83—86, 88, 91—93, 95—101, 103—112. I. 1—3, 6, 14, 17, 18, 20, 21, 27, 30, 35, 38.

29 *palmata* (*Hedw.*) *Dum.* 48, 58, 59, 63, 68, 69, 72, 73, 85—88, 91, 92, 95—98, 101, 105, 109—112. I. 1—3, 16, 18, 20, 27, 29, 30.

## 12. *Metzgeria* *Raddi*

30 *furcata* (*L.*) *Dum.* 1—11, 13—29, 33—93, 96—105, 107—112. I. 1—3, 5—7, 9, 12—14, 16—23, 25—30, 33—35, 37—39. C.

var. *fruticulosa* (*Dicks.*) *Lindb.* 1—3, 5, 6, 8, 13, 14, 23, 24, 28, 33, 34, 45, 46, 48, 58, 62, 65, 68, 73—75, 78, 81, 85—88, 90, 107, 109. I. 1, 2, 13, 14, 18, 20, 21, 27—30, 34, 36, 38.

var. *ulvula* *Nees* 1, 5, 97.

31 *conjugata* *Lindb.* 3—6, 13, 14, 33—37, 40, 42—46, 48, 49, 57, 60, 62—65, 68—78, 81, 83, 85—92, 95—106, 108—111. I. 1—3, 6—9, 12, 17, 18, 20—22, 27, 28, 30, 33, 35, 38, 39.

32 *hamata* *Lindb.* 46, 48, 49, 64, 69, 70, 73, 75, 76, 85, 87, 88, 97—100, 102, 103, 105, 111. I. 1, 2, 16, 27, 35, 39.

33 *pubescens* (*Schrank*) *Raddi* 3, 10, 34, 36, 39, 48—50, 56, 57, 60, 62, 64—70, 72, 81, 83, 85, 86, 88—94, 96, 98, 106, 108, 109. I. 39.

SUB-FAMILY DILÆNOIDEÆ.

## 13. *Pallavicinia* *S. F. Gray*

34 *Lyellii* (*Hook.*) *Gray* 3, 4, 11, 13, 14, 16, 48, 52, 62, 65, 69. I. 1, 2, 19—21.

## 14. *Moerckia* *Gottsche*

35 *hibernica* (*Hook.*) *Gottsche* 90, 112. I. 20.

\* Some of these may be the var. *major* of 27 above.

- 36 *Flotowiana* (*Nees*) *Schiffn.* 1, 4, 27, 28, 44, 48—50, 52, 57, 59, 62, 64, 68, 82, 85, 90. I. 21, 27, 35, 38, 39.

- 37 *Blyttii* (*Moerck*) *Brockm.* 88—90, 92, 94, 96—98, 106.

## SUB-FAMILY CODONIOIDEÆ.

15. *Pellia Raddi*

- 38 *epiphylla* (*L.*) *Corda* 1—6, 8, 10, 13—18, 20—30, 32—34, 36—93, 95—112. I. 1—3, 6—9, 12—23, 26—30, 34, 35, 38, 39. C.

forma *undulata* *Nees* 5, 48, 62, 88.

- ~~39 *Neesiana* (*Gottsche*) *Limpr.* 1, 13, 14, 34, 36, 37, 42, 48, 49, 57, 59, 60, 62, 76—79, 83, 85—90, 95—100, 102, 105—107, 109, 111, 112. I. 1, 3.~~  
 1, 2, 14, 17, 34, 36, 42, 46, 48, 49, 57, 59, 60, 62, 76—79, 83, 85—90, 95—100, 102, 105—107, 109, 111, 112. I. 1, 3.  
 99, 97—99, 104, 107, 112. H. 1, 3, 6.  
 forma *undulata* *Jack* 88, 97.

- 40 *Fabbroniana Raddi* (*J. calycina* *Tayl.*) 1—11, 13—16, 18—23, 26—28, 30, 32—42, 44—52, 54—65, 68—92, 97—106, 109, 111. I. 1, 2, 9, 12, 14, 18—23, 27—29, 33, 35, 38, 39. C.

var. *lorea* *Nees* 5, 6, 14, 26, 33, 34, 36, 37, 42, 46, 48, 50, 58, 62, 64, 68, 73, 75, 76, 81, 97, 98. I. 21.

16. *Blasia L.*

- 41 *pusilla* *L.* 1, 3—5, 7, 8, 10, 13, 14, 16—18, 21, 23, 30, 32—34, 36, 37, 39, 40, 42—46, 48—50, 54, 55, 57—62, 64, 65, 67—79, 81, 83—85, 87—92, 95—101, 105—110, 112. I. 1, 2, 7, 12, 18—22, 27—31, 33, 35, 37—39.

17. *Petalophyllum Gottsche*

- 42 *Ralfsii* (*Wils.*) *Gottsche* 1, 4, 6, 41, 44, 48, 49, 52, 59, 62, 68. I. 1, 21, 27, 39, 40.

18. *Fossombronia Raddi*

- 43 *pusilla* (*L.*) *Dum.* 1—8, 10, 11, 13, 14, 16—18, 21, ~~25~~, 25, 27, 33, 34, 36—40, 42—45, 48—51, 55—75, 77, 81, 84, 90, 97, 99, 102, 109. I. 1, 2, 3, 21, 35, 38, 39. C.

var. *decipiens* *Corb.* 13, 14, 58, 59, 102, 103.

- 44 *Wondraczeki* (*Corda*) *Dum.* (*F. cristata* *Lindb.*) 1, 4, 5, 7, 10, 11, 13, 14, 16, 17, 33, 34, 36, 37, 39, 40, 42, 44, 46, 48, 49, 56, 61, 78, 81, 83, 84, 88, 90, 97, 102, 103, 109. I. 38.

- 44\* *Loitlesbergeri* Schiffn. 1.  
 45 *cæspitiformis* De Not. 1, 2, 13, 14, 16, 34, 40, 44, 48,  
 52, 54, 58—60, 69. I. 34.  
 46 *Mittenii* Tindall 4.  
 47 *Husnoti* Corb.  
 var. *anglica* Nicholson 3, 7, 44.  
 48 *Dumortieri* (Hüb. et Genth.) Lindb. 1, 13, 14, 17, 48,  
 49, 58, 59, 61, 62, 70, 74, 87, 88, 96, 97, 99, 108.  
 I. 2.  
 49 *Crozalsii* Corb. 1, 7.  
 50 *angulosa* (Dicks.) Raddi 1, 48, 49. I. 1, 2, 3, 27,  
 34. C.

## SUB-FAMILY HAPLOMITRIOIDEÆ.

19. *Haplomitrium* Nees

- 51 *Hookeri* (Sm.) Nees 1, 3, 11, 13, 61, 90, 97. I. 1, 21.

## Family V.—JUNGERMANNIACEÆ ACROGYNÆ.

## SUB-FAMILY LOPHOZIOIDEÆ.

20. *Gymnomitrium* Corda

## SUB-GEN. EUGYMNOMITRIUM K. Müll.

- 52 *concinatum* (Lightf.) Corda 48, 49, 64—~~67~~, 68—70,  
 72, 73, 87—92, 94, 96—100, 106, 108—110, 112.  
 var. *intermedium* Limpr. 88, 92, 96, 106, 112.  
 53 *obtusum* (Lindb.) Pears. 48—50, 65, 68—70, 73, 85—  
 92, 94, 96—99, 104—106, 108—110. I. 27, 38.  
 54 *corallioides* Nees 49, 88, 89, 92, 97, 108, 109.  
 55 *crenulatum* Gottsche 3, 45, 46, 48, 49, 52, 69, 70, 73,  
 88, 90, 92, 97—100, 103—105, 108—111. I. 1,  
 2, 3, 7, 16, 20, 21, 27, 31, 38—40.

## SUB-GEN. HOMOCRASPIS (Lindb.) K. Müll.

- 56 *adustum* Nees 48, 49, 69, 70, 77, 88, 89, 92, 96—99.  
 57 *varians* (Lindb.) Schiffn. 88, 90, 92, 94, 96—98.  
 58 *alpinum* (Gottsche) Schiffn. 48, 49, 69, 70, 73, 88, 89,  
 91, 92, 94, 96—98.  
 var. *heterophyllum* Bernet 97, 98, 108.

21. *Marsupella* Dum.

- 59 *apiculata* Schiffn. 92, 96, 97.

- 60 *condensata* (*Angstr.*) *Kaal.* 88, 92, 97.  
 61 *nevicensis* (*Carr.*) *Kaal.* 97.  
 62 *Stableri* *Spruce* (*M. Boeckii* (*Aust.*) *Lindb.*) 48, 49, 69, 70, 88, 92, 94, 97, 98.  
 63 *sparsifolia* (*Lindb.*) *Dum.* 92.  
 64 *Sprucei* (*Limpr.*) *Bernet* 48, 49, 88, 92, 97, 98.  
 65 *ustulata* *Spruce* 13, 42, 44, 48, 49, 62, 69, 70, 87, 88, 90, 92, 96—98, 101, 108. I. 2.  
 66 *Funcckii* (*Web. et Mohr*) *Dum.* 1, 2, 7, 14, 37, 40, 42—44, 46, 48, 49, 58, 68—70, 73, 79, 86, 88—92, 96—103, 105, 108. I. 16, 27, 35, 37—39. C.  
 67 *emarginata* (*Ehrh.*) *Dum.* 1—6, 13, 14, 16, 34, 36, 37, 40—42, 44—50, 52, [55] 57—79, 81—92, 94—112. I. 1, 2, 6, 7, 9, 12—14, 16, 18, 20, 21, 27, 28, 30, 31, 34, 35, 37—40.  
 68 *Pearsoni* *Schiffn.* 3, 42, 47—49, 65, 69, 70, 88, 92, 96—99, 103, 108, 112. I. 2, 20, 27, 31.  
 69 *aquatica* (*Lindenb.*) *Schiffn.* 3, 36, 42, 44, 45, 48, 49, 59, 60, 62, 65, 68—71, 73, 74, 76, 78, 83, 86—92, 94, 96—100, 102—104, 106, 108—112. I. 2, 20, 27, 38.  
 70 *sphacelata* (*Gies.*) *Lindb.* 49, 92, 94, 96.  
 71 *Sullivantii* (*De Not.*) *Evans* (*M. erythrorhiza* (*Limpr.*) *Schiffn.*) 88, 92, 96—98, 108, 110, 112. I. 20.  
 72 *Jörgensenii* *Schiffn.* 42, 49, 73, 88, 96—98. I. 20, 27, 35.

## 22. *Alicularia* *Corda* (*Nardia* S. F. Gray)

- 73 *compressa* (*Hook.*) *Nees* 1, 3, 4, 42, 44, 46, 48, 49, 57—60, 62—67, 69—71, 73, 88, 90, 92, 94, 96—100, 104, 105, 111, 112. I. 1, 2, 3, 16, 20, 21, 27, 35, 38, 39.  
 var. *rigida* *Lindb.* 3, 48, 49, 63, 69, 73, 88, 98. I. 20, 27.  
 var. *gigantea* *Macv.* 69.  
 74 *scalaris* (*Schrad.*) *Corda* 1—8, 10, 13, 14, 16—18, 20—25, 27, 33—112. I. 1—3, 6—9, 12—14, 16—21, 26—30, 33—35, 37—39. C.  
 var. *procerior* *Schiffn.* 1, 3, 5, 41, 42, 48, 49, 57, 58, 63, 69, 75, 87, 97, 98, 103.  
 var. *distans* *Carr.* 48, 49, 69, 75, 88, 96, 98. I. 1.

var. *rivularis* *Lindb.* I. 20.

- 75 **Geoscyphus** *De Not.* (*Nardia minor* (Nees) Arnell) 3—5, 10, 13, 14, 17, 34, 48, 58, 59, 61—65, 77, 88—90, 92, 97, 98, 104, 105, 109.

forma *suberecta* *Lindb.* 5, 16, 57—59, 61—64, 77, 88, 89, 97, 105.

- 76 **Breidleri** *Limpr.* 88, 90, 92, 96, 97.

### 23. *Southbya* *Spruce*

- 77 **nigrella** (*De Not.*) *Spruce* 9.

### 24. *Gongylanthus* *Nees*

- 77\* **ericetorum** (*Raddi*) *Nees* 1.

### 25. *Eucalyx* *Breidl.* (*Nardia* S. F. Gray)

- 78 **obovatus** (*Nees*) *Breidl.* (3), 42, 45, 46, 48—50, 57—60, 62—66, 68—79, 83, 86—92, 94—110, 112. I. 1, 2, 6, 7, 9, 16, 20, 27, 30, 35, 38.

var. *rivularis* *Schiffn.* 48, 49, 88, 98. I. 27.

forma *elongatus* *Nees* 97.

forma *laxa* *Schiffn.* 49, 75.

- 79 **subellipticus** (*Lindb.*) *Breidl.* [71], 88.

- 80 **paroicus** (*Schiffn.*) *Macv.* 42, 44, 48, 59, 62, 64, 65, 68, 70, 73, 90, 92, 97, 108.

- \*81 **hyalinus** (*Lyell*) *Breidl.* 1, 3—6, 10, 14, 20, 33, 34, 36—42, 44—46, 48—50, 57, 59, 60, 62—79, 82—92, 94—112. I. 1, 2, 13, 16, 20, 21, 27, 30, 31, 35, 37—39.

### 26. *Aplozia* *Dum.*

SUB-GEN. *EUAPLOZIA* *Schiffn.*

Section *Typicæ* *Schiffn.*

- 82 **crenulata** (*Sm.*) *Dum.* 1—11, 13, 14, 16—18, 20—28, 33—37, 39, 40, 42—50, 52, 55, 57—64, 66, 68—73, 75, 77—86, 88—92, 95—98, 100, 102—107, 109, 110, 112. I. 1—3, 7, 9, 12, 14, 16, 20, 21, 27, 28, 30, 31, 35, 37—39. C.

var. *gracillima* (*Sm.*) *Heeg* 1—6, 11, 13, 14, 16—18, 21, 23, 25, 27, 33, 34, 36—50, 52, 57—65, 68, 69, 71—103, 105—112. I. 1, 2, 7, 12, 20, 21, 27, 28, 30, 31, 33, 35, 38.

\*81 Some of these may be 80 above.

forma tuberculata *Schiffn.* 5, 73, 97, 98.

var. cristulata (*Dum.*) *Massal.* 83, 97.

var. inundata (*Schiffn.*) *Macv.* 2, 6, 46, 49, 58, 62, 69.

83 *cæspiticia* (*Lindenb.*) *Dum.* 10, 17, 33, 63.

\*84 *sphærocarpa* (*Hook.*) *Dum.* (2), 3, (5), (11), (16), (21), (22), (23), (40), 42, 46, 48—50, 55, 57—60, 62—65, 68, 70—72, 75, 83, 86—91, 96, 98, 107—109. I. 1, 2, 6, 20, 21, 27, 29, 31, 37—40.

var. nana *K. Müll.* (v. *lurida* *Pears.*) (3), (4), 14, 48, 49, 57, 58, 62, 64, 88, 89. I. 1, 3, 20, 21.

Section *Luridæ* *Spruce*

85 *cordifolia* (*Hook.*) *Dum.* 42, 44, 48—50, 57, 59, 60, 62, 64—66, 68—73, 76—78, 83, 85—92, 94, 96—99, 102, 105, 108. I. 1, 2, 38—40.

86 *riparia* (*Tayl.*) *Dum.* 1, 3—6, 13, 14, 33, 34—37, 39—51, 56—92, 94—109, 111, 112. I. 1, 2, 4, 5, 16, 20, 27—30, 35, 38—40.

var. *rivularis* *Bern.* 33, 37, 48, 50, 57, 59, 63, 64, 68—70, 74, 78, 87, 88, 90.

forma *potamophila* *Bern.* 5, 51, 57, 59, 63, 64, 71, 79, 82, 83, 88, 97—99.

87 *atrovirens* (*Schleich.*) *Dum.*

var. *sphærocarpoidea* (*De Not.*) *Massal.* 36, 57, 76, 88, 90, 92, 100, 101, 107, 112.

88 *pumila* (*With.*) *Dum.* 1, 3—5, 14, 16, 23, 34, 36, 37, 39—46, 48—50, 52, 57, 59, 62—65, 69—81, 83—92, 94—100, 102—106, 108—111. I. 1—3, 20, 21, 27, 29, 30, 37—40.

var. *rivularis* *Schiffn.* 39, 57, 59, 74, 92.

89 *Schiffneri* *Loitlesb.* 88, 89.

SUB-GEN. *LIOCHLÆNA* (*Nees*) *Schiffn.*

90 *lanceolata* (*Schrad.*) *Dum.* 3, 14, 62, 64, 69.

27. *Jamesoniella* (*Spruce*) *Schiffn.*

91 *autumnalis* (*D.C.*) *Steph.* 14, 34, 37, 40, 48—50, 64, 69, 70, 73, 86—88, 90, 91, 97—99.

\*84 Records from the Southern counties may be 86 below.

- 92 *Schraderi* (Mart.) Schiffn. 34, 69, 98.  
 93 *Carringtoni* (Balf.) Schiffn. 88, 92, 94, 97—99, 102, 105, 108, 111.

### 28. *Anastrophyllum* (Spruce) Steph.

- 94 *Donianum* (Hook.) Steph. 88, 90, 92, 94, 96—98, 106, 108.  
 95 *Jörgensenii* Schiffn. 108.

### 29. *Gymnocolea* Dum.

- 96 *inflata* (Huds.) Dum. 1—7, 9—14, 16—18, 21, 26—28, 33—46, 48—52, 54—78, 81—101, 103—112.  
 I. 1, 3, 7, 16, 18, 20, 21, 27, 30, 35, 37—40.  
 var. *heterostipa* (Carr. et Spruce) K. Müll. ✱ 49, 57, 60, 73, 88, 92, 97—99. I. 35.  
 97 *acutiloba* (Kaal.) K. Müll. 48.

### 30. *Lophozia* Dum.

SUB-GEN. LEIOCOLEA K. Müll.

- 98 *turbinata* (Raddi) Steph. 1, 3—7, 9—18, 20, 22, 29, 30, 33—42, 44, 48—50, 52, 56—65, 67—71, (72), 73, (75—78), 81—85, 87—89, (90), 98, (106), 107—109, 111. I. 1, 2, 6, 13, 14, 17—21, 28, 29, 34, 35, 38, 39.  
 99 *badensis* (Gottsche) Schiffn. 1, 4, 5, 8, 13, 14, 17, 18, 24, 25, 32—36, 38, 41, 44, 48, 50, 52, 59, 60, 62—65, 68, 72, 75, 78, 81—85, 88—90, 106, 108—110. I. 27, 28, 39.  
 var. *obtusiloba* (Bern.) Schiffn. 4, 17, 32, 59, 81, 83, 110.  
 100 *Muelleri* (Nees) Dum. 24, 25, 34, 36, 39, 42, 44, 48, 49, 57, 60, 62—65, 69—73, 75, 76, 78—80, 82, 83, 85—90, 92, 95—97, 99, 100, 102—109, 111, 112. I. 27—29, 39.  
 var. *Libertæ* (Hüben.) Schiffn. 64, 88, 111. I. 28.  
 101 *bantriensis* (Hook.) Steph. 4, (27), 36, 40, 42, 44, 48, 49, 57, 59, 60, 62, 64—66, 68, 69, 73, 75, (77), 78, 81, (82), 83, (84), 85, 88—90, 97—99, 107, 109. I. 1—3, 14, 16, 20, 27, 28, 38, 39.  
 var. *sub-compressa* (Limpr.) Schiffn. 88.  
 102 *heterocolpa* (Thed.) Howe 42, 88, 92.  
 103 *Kaurini* (Limpr.) Steph. 88, 109.



- 104 **Schultzii** (*Nees*) *Schiffn.*  
var. *laxa* *Schiffn.* 27.
- SUB-GEN. DILOPHOZIA *K. Müll.*
- 105 **longidens** (*Lindb.*) *Macoun* 48, 88, 92, 96—98, 108.
- 106 **ventricosa** (*Dicks.*) *Dum.* 1—6, 10, 11, 13, 14, 16—18, 20, 22, 23, ~~25—27, 34—52, 54—112.~~ I. 1—3, 6, 7, 16, 17, 20, 21, 27, 28, 30, 31, 35, 37—39. C.
- 107 **porphyroleuca** (*Nees*) *Schiffn.* 27, 38, 39, 48, 57, 60—62, 64, 66, 69, 70, 72—78, 85—92, 96—98, 100—102, 105, 107—109, 111, 112. I. 20, 27, 31, 35, 37—39.
- 108 **guttulata** (*Lindb. et Arn.*) *Evans* 92.
- 109 **longiflora** (*Nees*) *Schiffn.* 39, 88.
- 110 **confertifolia** *Schiffn.* 14, 48. I. 35.
- 111 **alpestris** (*Schleich.*) *Evans* 42, 43, 46, 48, 49, 57, 64, 65, 68—70, 72, 73, 87—90, 92, 94, 96—98, 105—109, 112. I. 1, 2, 9, 13, 20, 21, 27, 28, 30, 38, 39.  
var. *gelida* (*Tayl.*) *Macv.* 49, 88—90, 92, 96—98, 109, 110.  
var. *litoralis* (*Arnell*) *Schiffn.* 48.
- 112 **Wenzelii** (*Nees*) *Steph.* 88, 89, 92, 97.
- 113 **bicrenata** (*Schmid.*) *Dum.* 1, 5—7, 10, 13, 14, 16, 17, 20, 27, 30, 33, 34, 36—40, 42, 44, 47—50, 55, 57—64, 68—70, 73, 74, 78, 80—85, 88—92, 96—99, 101, 105, 106, 109, 112. I. 1, 4, 7, 16, 20, 21, 38, 39.
- 114 **excisa** (*Dicks.*) *Dum.* 2—5, 7, 8, 10, 11, 13, 14, 16, 17, 20, 26, 27, 33, 34, 36—42, 44—46, 48—50, 52, 56—64, 66, 68, 69, 73, 76—85, 91, 96, 97, 100, 103, 106, 109. I. 1, 3, 7, 16, 27, 28, 35, 37—39.  
forma *cylindracea* (*Dum.*) *K. Müll.* (*L. cylindracea* *Dum.*) 5, 48, 89, 92, 96, 108.  
forma *Limprichtii* (*Lindb.*) *Massal.* 3, 14, 48, 77, 78.  
forma *arenaria* (*Nees*) *Schiffn.* 48, 49.
- 115 **incisa** (*Schrad.*) *Dum.* 3, 5, 13, 14, 16, 17, 20, 25—27, 37, 39, 41—44, 48—50, 52, 55, 57—66, 68—83, 85—92, 94—101, 103—106, 108—112. I. 1—3, 14, 16—18, 20, 21, 27, 28, 35, 37—40.

SUB-GEN. BARBILOPHOZIA (*Loeske*) *K. Müll.*

- 116 **quinquedentata** (*Huds.*) *Cogn.* 1, 3—6, 35—37, (39), 40, 42, 44, 46, 48—52, 57, 60, 62—65, 67—70, 72—92, 94, 96—101, 103—112. I. 1, 6, 20, 27—29, 31, 33, 38, 39.
- 117 **lycopodioides** (*Wallr.*) *Cogn.* 88, (89), 90, (96), 97, 106, 107, (108).
- 118 **Hatcheri** (*Evans*) *Steph.* (*L. Floerkii* var. *Baueriana* *Schiffn.*) 48, 49, 59, 60, 68, 70, 71, 81, 83—86, 88—93, 95—97, 107—109.
- 119 **Floerkii** (*Web. et Mohr*) *Schiffn.* 4, 5, 39, 40, 42, 44—52, 55, 57—60, 62—102, 105—112. I. 27, 35.  
var. *Naumanniana* *Nees* 48, 50, 60, 63, 69, 70, 72, 98, 99, 104, 109.
- 120 **atlantica** (*Kaal.*) *Schiffn.* 48, 49, 57—60, 63, 69—71, 100, 108, 109.  
var. *asperrima* *Arnell* 49, 63.
- 121 **attenuata** (*Mart.*) *Dum.* (*Lophozia gracilis* *Steph.*) 1, 2, 4, 5, 14, 16, 23, 24, 27, 34—37, 39, 40, 42, 44—46, 48—52, 55, 57—65, 67—76, 81—92, 95—101, 106, (107), 108, 109. I. 1, 7, 21, 27, 35, 37, 38. C.
- 122 **barbata** (*Schmid.*) *Dum.* 1, (3), 4, 13, 14, 37, (39), 40, 42, 44, 48—50, 52, 54, 55, 60, 62—70, 72—74, 77—79, 81—92, 95—99, 104—107, 109, 112. I. 1, 6, 20, 21, 27, 30, 35, 37, 40.
- 123 **quadriloba** (*Lindb.*) *Evans* 88.
- 124 **Kunzeana** (*Hüb.*) *Evans* 71, 88, 92, (96), 97. I. 28.
- 125 **obtusa** (*Lindb.*) *Evans* 48, 49, 71, 88, 97, 99.

31. **Sphenolobus** (*Lindb.*) *Steph.*SUB-GEN. EUSPHENLOBUS *K. Müll.*

- 126 **saxicolus** (*Schrad.*) *Steph.* 92, 96.
- 127 **minutus** (*Crantz*) *Steph.* 14, 44, 48, 49, 51, 57, 58, 60, 62—64, 69, 70, 73, 78, 83, 85—92, 96—102, 105—109, 111, 112. I. 1—3, 6, 7, 20, 21, 27, 38.  
var. *cuspidatus* *Kaal.* 87, 88, 98.
- 128 **ovatus** (*Dicks.*) *Schiffn.* (*J. Dicksoni* *Hook.*) 2—4, 42, 44, 48, 49, 57, 65, 69—71, 73, 86—92, 96—99, 104—106, 108, 109. I. 1, 20, 21, 27, 29, 31, 35, 38.

129 **Hellerianus** (*Nees*) *Steph.* 48, 69, 88, 92.

SUB-GEN. CEPHALOZIOPSIS (*Spruce*) *Macv.*

130 **Pearsoni** (*Spruce*) *Steph.* 48, 49, 73, 97, 98, 103. I. 27.

SUB-GEN. TRITOMARIA (*Schiffn.*) *K. Müll.*

131 **politus** (*Nees*) *Steph.* 88, 92, 98, 99.

var. *medelpadicus* *Arnell* 88, 92.

132 **exsectus** (*Schmid.*) *Steph.* 48, 49, 62, 86, 97—99. I. 27.

133 **exsectiformis** (*Breidl.*) *Steph.* 1, 3, 5, 7, 10, 13, 14, 16, 17, 25—27, 34, 36, 37, 40, 48—51, 57—59, 61, 62, 64, 68, 69, 73, 74, 78, 80, 81, 85—93, 96—98, 100, 104, 105, 107—109, 112. I. 1—4, 6, 17, 20, 27, 29, 35, 38, 39.

### 32. *Acrobolbus* *Nees*

134 **Wilsoni** (*Tayl.*) *Nees* 97. I. 1—3, 27.

### 33. *Anastrepta* (*Lindb.*) *Schiffn.*

135 **orcadensis** (*Hook.*) *Schiffn.* 48, 49, 64, 65, 69, 70, 75, 78, 85, 87, 88, 90, 92, 94, 96—99, 101, 103—109, 111. I. 1, 6, 16, 27.

### 34. *Plagiochila* *Dum.* *Need confirming from 18, 21, 25-28, 30, 31, 53, 54, 61*

136 **asplenioides** (*L.*) *Dum.* 1—8, 10, 11, 13—18, 20, 21, 23—27, (28), ~~29~~—112. I. 1—3, 5—9, 13—16, 18—22, 26—31, 33—35, 37—40. C.

var. *minor* *Lindenb.* (*P. Dillenii* *Tayl.*) 1, 3—6, 10, 13, 14, 24, 34, 36, 37, 39, 40, 43, 45—52, 57, 59, 60, 62—66, 68—75, 78, 81—84, 86—88, 90, 95—99, 103, 105. I. 1, 2, 13, 27—29, 38.

forma *laxa* *Matouschek* 5, 6, 36, 50, 64, 69, 88.

var. *devexa* *Carr.* I. 1.

var. *humilis* *Lindenb.* 3, 5, 6, 13, 14, 38, 39, 44, 45, 48—50, 56, 57, 59, 60, 64, 66, 68, 69, 73, 76, 81—85, 90, 97, 112. I. 2, 27, 37, 39.

forma *laxa* *Schiffn.* 5, 14, 36, 48, 50, 64, 66.

var. *major* *Nees* 3, 5, 6, 10, 11, 13, 14, 16, 32—38, 40, 42, 44—50, 57, 58, 60, 62, 64—70, 72—75, 77, 79—91, 95—106, 109, 110. I. 5, 28, 29, 33, 38, 39.

forma *subintegerrima* *Schiffn.* 4—6, ~~7~~, 34—36, 40.

137 *spinulosa* (*Dicks.*) *Dum.* 1—6, 11, 14, 34, 37, 40, 42, 44—46, 48—50, 52, 57, 59, 60, 63—65, 67, 69—76, 78, 83, 85—91, 96—105, 108—112. I. 1—3, 6—9, 12—14, 16, 18, 20—22, 26—30, 33—35, 37—40. C.

var. *killarniensis* (*Pears.*) *Macv.* I. 2.

var. *inermis* *Carr.* 48, 60, 69, 86, 99, 101, 103, 110, 111. I. 1, 2, 27.

138 *ambagiosa* *Mitt.* I. 3.

139 *punctata* *Tayl.* 1, 3, 4, 43—46, 48, 49, 65, 69—71, 73, 75, 86—88, 97—105, 108, 110. I. 1—3, 6, 13, 20, 27, 29, 35, 39.

var. *Owenii* (*Steph.*) *Macv.* I. 2.

var. *minuta* *Bréb.* 48, 70, 97.

140 *tridenticulata* *Tayl.* 48, 49, 64, 69, 70, 75, 97—99, 103, 105, 108. I. 1—3, 27, 28, 35, 39.

[141 *Stableri* *Pears.* 69.]

### 35. *Pedinophyllum* *Lindb.*

142 *interruptum* (*Nees*) *Pears.* (3), 56, 57, 62—65, 69, 98. I. 1, 9, 27—29, 35.

var. *pyrenaicum* (*Spruce*) *Kaal.* 64, 65. I. 28, 29.

### 36. *Leptoscyphus* *Mitt.* (*Mylia* *S. F. Gray*)

143 *Taylori* (*Hook.*) *Mitt.* (*Mylia Taylori* *Gray*) 7, 27, 28, 39, 40, 44, 46, 48—50, 53, 57—71, 73, 74, 76—78, 82—92, 94, 96—112. I. 1—3, 6, 16, 20, 21, 27, 31, 33—35, 37—40.

144 *anomalus* (*Hook.*) *Mitt.* (*Mylia anomala* *Gray*) 3, 4, 9, 11, 13, 14, 16, 17, 24—27, 28, 35, 39, 46, 48, 55, 57—64, 67—70, 72—79, 81—93, 95—101, 103—109, 111, 112. I. 1—3, 20, 27, 37—39.

145 *cuneifolius* (*Hook.*) *Mitt.* (*Clasmatocolea cuneifolia* *Spruce*) 88, 97—99, 108. I. 1—3, 16, 27.

### 37. *Lophocolea* *Dum.*

146 *bidentata* (*L.*) *Dum.* 1—8, 10, 11, 13—30, 32—34, 36—40, 42—103, 105—112. I. 1—3, 5—9, 12—16, 20—23, 26—30, 33—36, 38. C.

forma *latifolia* *Nees* 3, 5, 6, 36, 49, 63, 65.

147 *cuspidata* *Limpr.* 1—11, 13—18, 21—23, 27, 28, 33—52, 54—92, 94—103, 105—112. I. 1, 2, 7, 16, 19, 27—29, 35, 36, 39.

- 148 *alata* *Mitt. ex Larter* 1, 4, 6, 10, (11), 13, 14, 16, 17, 33, 34, 36, 37, (40), 41, 45, 59, 60, (81).  
 149 *heterophylla* (*Schrad.*) *Dum.* 1—11, 13—30, 32—41, 44—46, 48—51, 53—66, 68—73, 76, 77, 79—91, 96—98, 100, 101, 105. I. 2, 5, 7, 16, 20, 21, 27, 30, 34, 35, 38. C.  
 150 *fragrans* *Moris et de Not. (L. spicata Tayl.)* 1, 4, 9, 40, 43—45, 48, 49, 57, 74, 81, 97, 100, 103. I. 1—3, 5, 6, 13, 20, 27. C.

38. *Chiloscyphus* *Corda.*

- 151 *polyanthus* (*L.*) *Corda* 1—6, 13, 14, 16—18, 20, 26, 27, 29, 32—40, 42, 44—52, 54—92, 95—105, 107—112. I. 1—3, 6, 14, 20, 21, 27, 30, 31, 35, 38—40. C.  
 var. *rivularis* (*Schrad.*) *Nees* 1, 3, 5, 10, 14, 37—40, 42, 48, 49, 57, 60, 62, 64, 69, 70, 73, 75—78, 82, 83, 87, 88, 97, 99, 102. I. 1—4, 9, 27, 36, 39.  
 var. *fragilis* (*Roth.*) *K. Müll.* 5, 14, 27, 34, 40, 42, 48, 49, 62—65, 68, 69, 88—96, 108.  
 \*152 *pallescens* (*Ehrh.*) *Dum.* 3—8, 10, 11, 14, 16, ~~32~~, 32—37, 40—42, 44, 45, 47, 48, 50, 51, 56, 58—65, 68, 69, 82—90, 96—100, 102, 103, 105, 111, 112. I. 1, 2, 5.

39. *Harpanthus* *Nees*

- 153 *Flotowianus* *Nees* (62), 73, 88—90, 92, 97, 98, 106, 109, 112.  
 154 *scutatus* (*Web. et Mohr*) *Spruce* 14, 16, 36, 46, 48, 49, 62, 64, 72, 97, 98, 100, 105. I. 1—3, 20, 27, 35.

40. *Geocalyx* *Nees*

- 155 *graveolens* (*Schrad.*) *Nees* 105.

41. *Saccogyna* *Dum.*

- 156 *viticulosa* (*Sm.*) *Dum.* 1—6, 34, 37, 39—46, 48, 49, 52, 59, 60, 63—67, 69—76, 85—91, 97—106, 108, 110—112. I. 1—3, 6, 7, 9, 12—14, 16, 18, 20, 21, 27, 28, 30, 31, 35, 38, 39. C.

\* Some of these records may be var. *fragilis* above. Further examination is necessary.

## SUB-FAMILY CEPHALOZIOIDEÆ.

42. *Cephalozia* Dum.

## SUB-GEN. EUCEPHALOZIA Spruce.

- 157 **bicuspidata** (L.) Dum. 1—19, 21—28, 32—46, 48—112. I. 1—3, 5—10, 12—16, 18—23, 26—31, 33—35, 37—39. C.  
 forma *grandiflora* Spruce 5, 48, 62, 67.  
 forma *setulosa* Spruce 14, 36, 62, 69. I. 3 17, 18, 30.  
 forma *conferta* Hüb. 3, 5, 6, 36, 37, 40, 48, 57, 58, 61—63, 65, 68, 78, 88, 92, 96—98.  
 var. *Lammersiana* (Hüb.) Breidl. 5, 13, 14, 16, 17, 27, 36, 38, 39, 44—46, 48, 50, 53, 54, 57—65, 69, 70, 72—78, 81, 83—86, 88, 91, 92, 95—99, 101, 103—105, 108—112. I. 1—3, 6, 7, 9, 12, 14, 16—18, 20, 21, 27, 30, 35, 37, 38.  
 forma *serratiflora* Schiffn. (? var. *grandifolia* Spruce MS.) 59, 62.
- 158 **ambigua** Massal. 88, 89, 92.
- 159 **pleniceps** (Aust.) Lindb. 88—90, 92, 94, 108.  
 var. *macrantha* (Kaal. et Nichols.) 14, 27, 34, 49, 88, 92.
- 160 **connivens** (Dicks.) Lindb. 1, 3, 5, 9—11, 13, 14, 16, 17, 22, 24—28, 34, 38—40, 42, 43, 46, 48, 49, 57—70, 72—79, 81, 83—86, 88—93, 96—112. I. 1—3, 7, 8, 16—18, 20, 21, 27, 28, 35, 37—40. C.  
 var. *compacta* (Warnst.) Nichols. 62.
- 161 **hibernica** Spruce MS. Pears. I. 1, 2, 40.
- 162 **Loitlesbergeri** Schiffn. 4, 48, 60, 64, 88, 92, 96, 108.
- 163 **media** Lindb. (*C. lunulaefolia* Dum.) 2\*, 3, 5, 9, 13, 14, 16, 17, 34, 36—40, 43, 44, 46, 48—51, 57—62, 64, 65, 67—75, 77—103, 105, 106, 108—111, I. 1, 2, 6, 7, 16, 18, 21, 27, 35, 37, 38.  
 forma *pallida* (Spruce) Massal. 48, 58, 61, 62, 72, 73, 83. I. 1, 2, 20, 21, 27, 35.  
 forma *laxa* Schiffn. 97.
- 164 **macrostachya** Kaal. 9, 13, 14, 24, 48, 62, 64, 68, 69, 80, 81, 89, 90.  
 var. *spiniflora* (Schiffn.) K. Müll. 13.

165 *catenulata* (Hüben) Spruce 13, 14, 28, 42, 44, 48, 58, 59, 62—64, 68—71, (73), 84, 88, 90, 92, 97, 98, (109). I. 1—3, 7, 9, 13, 16—18, 20, 21, 27, 29, 30, 35, 38.

166 *leucantha* Spruce 48, 72—74, 77, 78, 81—83, 87—89, 91—93, 96—98, 100, 101, 103—105, 107—112. I. 2, 16, 27.

SUB-GEN. CLADOPUS Spruce

167 *Francisci* (Hook.) Dum. 1, 2, 9, 11, 13, 14, 16, 17, 25—27, 34, 35, 45, 48, 58, 61, 62, 64, 71, 88, 90—92, 98, 100, 105. I. 1, 3, 6, 21, 27, 35, 38, 39.

168 *fluitans* (Nees) Spruce 9, 11, 13—17, 27, 28, 43, 44, 48, 49, 58—60, 62, 64—66, 69—71, 73, 83, 88, 92, 97, 105, 106, 108, 109. I. 2, 16, 20, 21, 23, 27, 37—39.

var. *gigantea* Lindb. 58.

43. *Nowellia* Mitt. (*Cephalozia* Dum. 1835)

169 *curvifolia* (Dicks.) Mitt. (*Cephalozia curvifolia* Dum.) (14), 48—50, ~~51~~, 62—64, ~~65~~, 68—81, 83—92, 96—101, 103, 105, 106, 108, 110—112. I. 1—3, 7, 16, 20, 21, 27, 29, 33—35, 38—40.

44. *Cephaloziella* (Spruce) Schiffn.

SUB-GEN. EUCEPHALOZIELLA (Douin) K. Müll.

170 *Starkii* (Funck) Schiffn. 1—11, 13, 14, 16—19, 21, 26—28, 30, 32—34, 36—45, 48—53, 55—70, 72—75, 77—92, 95—101, 104—110, 112. I. 1—3, 9, 21, 31, 35, 37—39. C.

var. *asperifolia* (Jens.) Macv. 16, 17, 50, 82, 89, 98.

\*171 *Hampeana* (Nees) Schiffn. (1), (3), (5), 6, 10, (13), (14), (16—19), 24, (25), (26), (32), 34, (36), (38), (39), (41), (45), 48—50, (57—59), (61), 62, (63), (69), (72), (74), (76), (78), (79), (82—85), 88, (90), (91), (96), (97), (100), (106), (107), (109), (110), (112). I. (1—3), (9), (12), (17), (18), (20), (21), (27), (30), (35), 39.

var. *subtilis* (Velen).

var. *pulchella* (Jensen) K. Müll. 32, 61.

\* Some of these may be 172 below. The numbers in brackets refer to records for *C. bifida* (Schreb) Schiffn.

- 172 *rubella* (Nees.) Warnst. 92.  
 173 *Baumgartneri* Schiffn. 9, 13, 14, 34.  
 174 *stellulifera* (Tayl. MS.) Schiffn. 1, 7, 13, 14, 26, 34, 44,  
 45, 50, 57, 61, 69, 80, 97, 103. I. 27.  
 var. *Limprichtii* Warnst. 6—8, 10, 13, 14, 33, 34, 37,  
 45, 50, 77.  
 175 *myriantha* (Lindb.) Schiffn. 1, 33, 34, 37, 39, 50, 51,  
 58, 64, 69, 72, 74, 76, 80, 85, 89, 92, 98, 111.  
 176 *elachista* (Jack) Schiffn. 14. I. 20, 21.  
 var. *spinigera* (Lindb.) K. Müll. 14.

SUB-GEN. PRINOLOBUS (*Spruce*) K. Müll.

- 177 *striatula* (Jens.) Douin 13, 14, 34, 48, 77, 88, 92, 108.  
 I. 27.  
 178 *Massalongi* (*Spruce*) K. Müll. 1, 48, 49, 91.  
 var. *aeraria* (*Pears.*) K. Müll. 48, 49, 50.  
 178\* *Nicholsoni* Douin et Schiffn. 1, 49.  
 179 *Turneri* (Hook.) K. Müll. 1, 3, 10, 13, 14, 33, 34, 36,  
 38, 44, 45, 48. I. 2, 3. C.  
 179\* *dentata* (*Raddi*) K. Müll. 1.

SUB-GEN. LOPHOZIELLA (*Douin*) K. Müll.

- 180 *integerrima* (Lindb.) Warnst. 7, 13, 14.

SUB-GEN. DICHITON (*Mont.*) K. Müll.

- 181 *calyculata* (*Dur. et Mont.*) K. Müll. 1.

45. *Eremonotus* Kaal. in Pears.

- 182 *myriocarpus* (*Carr.*) Pears. 49, 69, 87, 88, 90, 97, 98,  
 104, 106, 111.

46. *Hygrobiella* Spruce

- 183 *laxifolia* (Hook.) Spruce 14, 21, 46, 48, 49, 57, 62, 64—  
 70, 72, 73, 75, 77, 86—92, 94—100, 103—106,  
 108, 112. I. 1—3, 16, 20, 21, 39.

47. *Pleuroclada* Spruce

- 184 *albescens* (Hook.) Spruce 88—90, 92, 94, 97, 98, 106.  
 var. *islandica* (Nees) Spruce 91, 92, 97, 100.



48. *Odontoschisma* Dum.

- 185 *Sphagni* (Dicks.) Dum. 1—3, 5, 9, 11, 13—17, 20—22, 24, 25, 27, 28, 34, 35, 37, 39, 40, 42, 44, 46, 48, 49, 51, 52, 54, 55, [56], 57—66, 68—70, 72—81, 83—93, 96—112. I. 1—3, 7, 9, 12—16, 18—23, 25—31, 34, 35, 37—39.

forma erectum Macv. 62, 73.

- 186 *denudatum* (Nees) Dum. 13, 14, 17, 48, 57—62, 64, 66—69, 71—74, 78, 81, 83—85, 87, 88, 97—99, 103, 105, 107, 109, 111, 112. I. 1, 21, 27, 34, 38.

- 187 *elongatum* (Lindb.) Evans. 88, 99, 108, 111.

- 188 *Macounii* (Aust.) Underw. 88.

49. *Adelanthus* Mitt.

- 189 *decipiens* (Hook.) Mitt. 4, 48, 49, 70, 97—101. I. 1—3, 27—30, 35, 39.

- 190 *dugortiensis* Douin et Lett I. 27.

50. *Calypogeia Raddi* (Kantia S. F. Gray)

- 191 *Trichomanis* (L.) Corda 1—6, 9—11, 13—21, 23, 25—28, 36—46, 48—93, 95—112. I. 1—3, 6—10, 13—23, 26—30, 34, 35, 37—40. C.

- 192 *Neesiana* (Carest et Massal.) Massal. 5, 14, 17, 39, 58, 62—64, 68, 84, 88, 97, 103.

- 193 *fissa* (L.) Raddi (*Kantia Sprengelii* Pears.) 1—19, 21—24, 27, 31—37, 39—50, 52, 55—64, 68—70, 72—93, 95—100, 102—112. I. 5, 26, 27, 29, 37.

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- 194 *sphagnicola* (Arnell et Perss.) Warnst. et Loeske 13, 14, 17, 96.

- 195 *submersa* (Arnell) Warnst. 60, 62.

- 196 *suecica* (Arnell et Perss.) K. Müll. 97.

- 197 *arguta* Nees et Mont. 1—6, 10, 11, 13, 14, 16—19, 23, 27, 33—37, 39, 40, 42—50, 52, 54, 55, 57—65, 68—72, 74—79, 81—84, 86, 96—100, 102—106, 108—112. I. 1, 2, 6, 7, 9, 12—14, 16, 18, 20, 21, 27—29, 35, 38, 39. C.

51. *Bazzania* S. F. Gray

- 198 *trilobata* (L.) Gray 1—5, 14, 16, 34, 36, 37, 39, 40, 42—46, 48—50, 57, 59, 60, 62—74, 81, 85—90, 92, 96—102, 105, 111. I. 1—3, 13, 16, 20, 21, 27—29, 33, 35, 38—40. C.

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- 199 *tricrenata* (*Wahl.*) *Pears.* 48, 49, 64, 65, 69, 70, 73, 75, 76, 78, 88, 92, 94, 97—101, 103—106, 108—111. I. 1, 2, 16, 27, 33.
- 200 *triangularis* (*Lindb.*) *Pears.* 42, 44, 48, 49, 60, 65, 69, 70, 86—88, 90, 97—102, 105, 108, 110—112. I. 1, 2, 6, 27—29.
- 201 *Pearsoni* (*Steph.*) *Pears.* 97, 98, 108. I. 2, 27.

52. *Lepidozia* *Dum.*SUB-GEN. EULEPIDOZIA *Spruce*

- 202 *pinnata* (*Hook.*) *Dum.* 1, 3, 34, 44, 45, 48, 49, 58, 60, 63, 64, 67, 68, 70, 71, 75, 97, 98, 100—102, 105, 112. I. 1—3, 8, 16, 20, 21, 27, 29, 30, 33—35.  
var. *minor* *Macv.* 60, 71.
- 203 *reptans* (*L.*) *Dum.* 1—7, 11, 13, 14, 16—18, [19], 21, 22, 24, 27, 30, 32—52, 54—78, 80—93, 96—112. I. 1—3, 7—9, 12, 13, 15, 18—23, 26—31, 33, 35, 36, 38—40. C.  
var. *tenera* (*Hüb.*) *Nees* 16, 36, 48, 59, 63, 64, 69, 75, 87, 97.  
var. *julacea* *Nees* 16, 34, 36, 50, 64, 67, 68, 76, 83.
- 204 *Pearsoni* *Spruce* 46, 48—50, 57, 59, 60, 63—65, 70, 71, 73—76, 78, 87, 90, 97—105, 108, 109, 111. I. 1, 27.

SUB-GEN. MICROLEPIDOZIA *Spruce*

- 205 *trichoclados* *K. Müll.* 1, 5, ~~1~~, ~~2~~, 46, 48, 58, 60—65, 70, 73, 75, 83—91, 93, 96—98, 100, 103, 105, 107—111. I. 1, 2, 9, 16, 20, 21, 27, 28, 33.
- 206 *sylvatica* *Evans* 13, 14, 42, 48, 62.
- 207 *setacea* (*Web.*) *Mitt.* 1—6, 9, 10, 13, 14, 16, 17, 24, 25, 27, 28, 34, 35, 37, 39—44, 46, 48—50, 52, [55], 57—79, 81—83, 85, 87—92, 96—112. I. 1—3, 6, 7, 9, 14, 17, 18, 20, 21, 27, 28, 31, 35, 38, 39.  
var. *sertularioides* (*Hüb.*) *Cooke* 27, 48, 59, 60, 63, 64, 72, 74, 77, 78, 81, 83, 85, 87, 92, 97, 102, 103, 107—112. I. 1, 27, 35.

## SUB-FAMILY PTILIDIOIDEÆ.

53. *Blepharostoma* *Dum.*

- 208 *trichophyllum* (L.) Dum. 1, 3, 4, 14, 16, 34, 36, 37, 39, 40, 42—44, 48, 49, 54, 57, 59, 60, 62—74, 76—79, 83, 85—92, 96—105, 107—109, 112. I. 1—3, 6, 16, 20, 27, 28, 31, 33, 38, 39.

#### 54. *Chandonanthus* Mitt.

- 209 *setiformis* (Ehrh.) Lindb. 88—92, 96, 97, 108, 109.  
var. *alpinus* (Hook.) Kaal. 68, 89—92, 94, 96, 97, 109.  
var. *nemoides* Kaal. (89), 92, 96.

#### 55. *Anthelia* Dum.

- 210 *julacea* (L.) Dum. (3), 42, 46, 48, 49, 64, 65, 69—71, 73, 75, 85—90, 92, 94—101, 103—108, 110—112.  
I. 1, 2, 16, 20, 27, 34, 35, 38, 40.  
forma *gracilis* Hook. 48, 49, 88—90, 92, 96—98, 108, 109. I. 1.  
211 *Juratzkana* (Limp.) Trevis. 48, 49, 88—90, 92, 96—98, 108, 109.

#### 56. *Herberta* S. F. Gray

- 212 *adunca* (Dicks.) Gray 49, 88, 90, 92, 97, 98, 103, 105, 108.  
var. *alpina* Macv. 88, 112.  
213 *Hutchinsiae* (Gottsche) Evans 48, 49, 69, 70, 88, 90, 97, 98, 108. I. 1—3, 16, 27, 35.

#### 57. *Mastigophora* Nees

- 214 *Woodsii* (Hook.) Nees ~~X~~; 88, 97—99, 104, 105, 108.  
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#### 58. *Ptilidium* Nees

- 215 *ciliare* (L.) Hampe 2—5, 13, 15, 17, [19], 21, 25—28, 34, 36, 37, 39, 40, 42—50, 52, 54—66, 68—73, 75—78, 80—92, 94—100, 104, 106—109, 111, 112. I. 1, 2, 27, 39.  
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216 *pulcherrimum* (Web.) Hampe 5, 8, 18, 50, 51, 54, 57, 61, 62, 64, 65, 68, 75, 78, 81, 83—85, 88, 92, 99, 108.

59. *Trichocolea* Dum.

- 217 *tomentella* (Ehrh.) Dum. 1, 3—6, 8, 11, 13, 14, 16 [19],  
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60. *Diplophyllum* Dum.

- 218 *albicans* (L.) Dum. 1—11, 13, 14, 16—18, 20—24, 27,  
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- 219 *taxifolium* (Wahlenb.) Dum. 49, 69, 88—90, 92, 94,  
97, 106.
- 220 *obtusifolium* (Hook.) Dum. 3, 4, 13, 14, 17, 48, 58, 61,  
67, 77, 85, 88—91, 93, 97, 108, 112. I. 1, 3,  
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- 221 *gymnostomophilum* Kaaq. 89.

61. *Scapania* Dum.

- 222 *compacta* (Roth) Dum. 1—5, 10, 13, 14, 16, 17, 22,  
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- 223 *subalpina* (Nees) Dum. 1, 3, 43, 44, 48—51, 63—65,  
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- 224 *cuspiduligera* (Nees) K. Müll. 35, 44, 57, 64—66, 69,  
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- 225 *æquiloba* (Schwaegr.) Dum. 3, 6, (39), 48, 49, 57, 59,  
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- 227 *gracilis* (Lindb.) Kaal. 1—7, 11, 14, 20, (27), 34—36,  
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- 233 **ornithopodioides** (*With.*) *Pears.* 49, 70, 88, 92, 94, 97—99, 102, 104, 106, 108. I. 1, 27.
- 234 **dentata** *Dum.* (*S. purpurascens* *Pears.*) 1—8, 11, 14, 34, 36, 37, 39—46, 48—52, 57—60, 62—112. I. 1, 2, 6, 12, 20, 21, 27, 29—31, 35, 38, 39.
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- 236 **undulata** (*L.*) *Dum.* 1—6, 13, 14, 16, 17, 20, 21, 23—25, 27, 34, 36—42, 44—52, 55, 57—60, 62—92, 94, 96—112. I. 1—3, 6, 7, 9, 13—23, 26—30, 33—35, 37, 38.
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- 237 **uliginosa** (*Swartz*) *Dum.* 1, 3, 48, 49, 60, 62, 64, 88—90, 92, 94, 96—98, 103, 104, (109). I. 1, 2, 12, 20, 27, 31, 35.

- 238 *obliqua* (Arnell) Schiffn. 48, 49, 69, 88, 92, 94, 96—99.
- 239 *paludosa* K. Müll. 88, 90, 92, 106.  
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- 241 var. *geniculata* (C. Massal.) K. Müll. 92.
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## SUB-FAMILY RADULOIDEÆ.

62. *Radula* Dum.

- 244 *complanata* (L.) Dum. 1—11, 13—21, 23—28, 30—40, 44—111. I. 1—3, 6—9, 12—22, 26—30, 33—40. C.
- 245 *Lindbergiana* Gottsche 1, 11, 40, 48, 49, 52, 65, 69, 70, 72, 73, (74), 76, 77, 85—90, 92, 97—101, 103, 105, 108, 109, 111. I. 2, 27, 28.  
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- 246 *Carringtoni* Jack 97. I. 1, 2, 27.
- 247 *aquilegia* Tayl. 48, 49, 69, 70, 73, 86, 97—100, 103—105, 108, 112. I. 1—3, 6, 7, 16, 27, 34 or 35, 38.
- 248 *Holtii* Spruce (4), I. 2, 27.
- 249 *voluta* Tayl. 48—50, 70, 75. I. 1, 2, 6, 27, 30.

## SUB-FAMILY PLEUROZIOIDEÆ.

63. *Pleurozia* Dum.

- 250 *purpurea* (Lightf.) Lindb. 73—75, 86—88, 90, 92, 96—111. I. 1, 2, 16, 17, 20, 21, 27, 33—35, 38—40.

## SUB-FAMILY MADOTHECOIDEÆ.

64. *Madotheca* Dum. 1822 (*Porella* Lindb. 1869)

- 251 *lævigata* (*Schrad.*) Dum. 1, 3—6, 10, 17, 33—37, 39, 40, 42—46, 48, 49, 52, 60, 62, 64—66, 69, 70, 72, 73, ~~74~~ 75, 77, 82, 83, 85—90, 96—101, 103, 105, 108. I. 1—3, 20, 28, 29, 36, 39. C.
- var. *killarniensis* Pears. I. 2.
- var. *obscura* Nees 40, 48, 49, 82, 83, 85. C.
- var. *Thuja* Nees 1, 3, 13, 14, 17, 36, 40, 43, 83, 85.
- 252 *Thuja* (*Dicks.*) Dum. 1—5, 45, 46, 48—50, 52, 74, 81, 82, 85, 91, 96, 98, 100, 101, 103, 110. I. 1—3, 6, 20, 39. C.
- 253 *platyphylla* (*L.*) Dum. 1—11, 13—45, 47—57, 59, 60, 62—73, 75, 76, 80, 81, 83, 85—88, 90—92, 95, 98, 101, 108. I. 1, 2, 6—9, 12, 19—22, 27—30, 33, 38, 39. C.
- 254 *Cordeana* (*Hüb.*) Dum. ~~33~~ 5, 13, 16, 40, 42—44, 49—51, 57, 64—73, 75—93, 95, 96, 98, 99, 101, 109. I. 5, 32, 33, 38, 39.
- var. *simplicior* (*Zett.*) K. Müll. 36, 77, 83, 87, 88. I. 32, 38, 39.
- var. *faeroensis* C. Jens. 112.
- 255 *Porella* (*Dicks.*) Nees 2, 3, 5, 48—50. I. 1, 2, 5, 20.

## SUB-FAMILY JUBULOIDEÆ.

## Tribe Lejeuneæ.

65. *Colura* Dum.

- 256 *calyptrifolia* (*Hook.*) Dum. 1, 14, 48, 49, 70, 86, 97, 98, 100, 104, 105, 108. I. 1—3, 6, 7, 16, 21, 27, 38, 39.

66. *Cololejeunea* (*Spruce*) Schiffn.

- 257 *calcareo* (*Lib.*) Schiffn. (3), 4, 34—36, 48—50, 57, 59, 60, 64—66, 69, 70, 86, 88—90, 92, 96—99, 105, 108, 109. I. 1, 2, 21, 28, 31, 38—40.
- 258 *Rossettiana* (*Massal.*) Schiffn. 3, 6, 10, 34—36, 40, 57, 60, 64—66, 81. I. 2, 21.

259 *minutissima* (Sm.) Schiffn. 1, 3, 4, 8, 10, 11, 13, 14, 16, 17, 45, 48, 52, 63, 65, 70, 97, 103. I. 1—3, 21, 27. C.

260 *microscopica* (Tayl.) Schiffn. 1, 48, 49, 69, 73, 86, 88, 97—100, 103—105, 108. I. 1, 2, 9, 27, 39.

### 67. *Lejeunea* Lib.

261 *flava* (Swartz) Nees I. 1—3.

262 *Holtii* Spruce I. 1, 2.

263 *cavifolia* (Ehrh.) Lindb. 1—6, 10, 11, 13, 14, 16, 17, 20, 24, 33—46, 48—50, 52—55, 57—60, 62—66, 68—92, 94—112. I. 1—4, 6—9, 12—16, 18, 20—22, 26—30, 34, 38, 39. C.

var. *planiuscula* Lindb. 2, 5, 6, 14, 48, 49, 64—66, 71—73, 75, 78, 79, 81, 82, 84, 90, 97. I. 1.

var. *heterophylla* Carr. 1—4, 10, 19, 36, 40, 42, 43, 45, 46, 48—50, 52, 64, 68, 73—75, 81, 90, 108, 110. I. 1, 2, 6, 20, 27, 35, 38, 39.

264 *patens* Lindb. 4, 43, 45, 46, 48, 49, 62, 64, 66, 68—70, 73—76, 83, 85—90, 97—105, 108—112. I. 1—3, 6, 7 or 10, 9, 13, 14, 16, 20, 21, 27—29, 31, 33—35, 38, 39.

265 *Macvicari* Pears. 97.

266 *diversiloba* Spruce I. 1, 2.

### 68. *Microlejeunea* (Spruce) Jack et Steph.

267 *ulfcina* (Tayl.) Evans 1—14, 16, 17, 23, 24, 33, 34, 40, 48—50, 59, 60, 62, 64, 65, 69, 70, 73—75, 87, 88, 97—103, 105, 110. I. 1, 2, 4, 6, 7, 12, 14, 16, 18, 20, 21, 27, 29, 35, 38, 39.

### 69. *Drepanolejeunea* (Spruce) Schiffn.

268 *hamatifolia* (Hook.) Schiffn. (4), 48, 49, 64, 65, 69, 70, 86, 89, 97—99, 103—105, 108, 110. I. 1—3, 9, 14, 16, 17, 20, 21, 27, 29, 31, 34, 35, 38, 39.

### 70. *Harpalejeunea* (Spruce) Schiffn.

269 *ovata* (Hook.) Schiffn. 1, (4), 48, 49, 64, 65, 69, 70, 73, 86, 97—100, 103—105, 110. I. 1—3, 6, 9, 16, 27, 29, 35, 38, 39.



71. *Marchesinia S. F. Gray*

- 270 *Mackaii* (*Hook.*) *Gray* 1, 3, 4, 6, 9, 34, 36, 39, 41, 43—46, 48—50, 60, 64, 69, 70, 74, 97, 100, 102—104.  
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Tribe Frullanieæ.

72. *Jubula Dum.*

- 271 *Hutchinsiae* (*Hook.*) *Dum.* 1, 3—5, 44, 46, 48, 49, 63, 64, 70, 71, 97, 98, 100—102. I. 1—4, 16, 20, 27, 38, 39.

73. *Frullania Raddi*

SUB-GEN. THYOPSIELLA *Spruce*

- 272 *germana* *Tayl.* 1, 43, 45, 48, 70, 71, 74, 85, 97—105, 108, 110, 112. I. 1—3, 9, 16, 20, 27, 30, 33, 35, 38, 39.

- 273 *Tamarisci* (*L.*) *Dum.* 1—11, 13—15, 17, 20, 24, 26, 33—40, 42—52, 54—60, 62—93, 95—112. I. 1—3, 6—9, 12—16, 18—20, 22, 26—30, 34, 37—40. C.

var. *robusta* *Lindb.* 1, 5, 6, 42, 48, 49, 97, 100, 104, 105, 111. I. 1, 2, 20.

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var. *atrovirens* *Carr.* 3. I. 1, 2.

- 274 *microphylla* (*Gottsche*) *Pears.* 1, 4, 42, 45, 48, 49, 64, 69, 71, 74, 86, 97, 103. I. 1—3, 7, 27, 34, 35.

- 275 *fragilifolia* *Tayl.* 1, 3, 4, 40, 43, 45, 48—50, 60, 64, 65, 69, 71, 73—75, 81, 83, 85, 86, 88—92, 95—103, 105, 107—110, 112. I. 1—3, 7, 20, 27, 35, 38, 39. C.

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SUB-GEN. TRACHYCOLEA *Spruce*

- 276 *dilatata* (*L.*) *Dum.* 1—11, 13—31, 33—93, 96—112. I. 1—3, 5—9, 12—16, 18—23, 26—30, 33, 34, 36—39. C.

var. *microphylla* *Nees* 10, 40, 87, 88, 111.

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## Family VI.—ANTHOCEROTACEÆ.

74. *Anthoceros* L.

277 *punctatus* (L.) 1—5, 9—11, 13, 14, 16, 17, 20, [21], 23,  
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278 *crispulus* (Mont.) Douin 5, 13, 14, 17, 33, 34, 36, 40,  
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279 *Husnoti* Steph. 1, 5, 13, 14, 34, 48, 49, 52.

280 *lævis* L. 1—6, 10, 11, 13, 14, 16, 17, 33, 34, 36, 38, 40,  
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281 *dichotomus* Raddi 3.

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