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One Hundred Iowa Mosses

Henry S. Conard
Grinnell College

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ONE HUNDRED IOWA MOSSES

HENRY S. CONARD

The mosses of Iowa are far from being adequately known. There are two large collections in which many packets are still unidentified. Outside of the State the Iowa mosses are very scantily represented even in the largest herbaria. It is proposed to distribute ten sets of the mosses and liverworts of the State, in order to place on record, and make available, the species and localities. Following is a list of one hundred Musci that are now ready for distribution.

Although there are over 200 species of Musci in Iowa, it is doubtful whether another hundred will ever be distributed in sets. Many of them are known in very small quantity and from only one station. There is not enough in the State to make ten sets! For such species, specialists can doubtless get fragments from their resting places in the herbaria of the State University, Grinnell College, or Iowa Wesleyan College. It is urgently recommended that all additions to the moss flora of the State be placed on record by depositing a specimen in one of the active moss herbaria: at Grinnell College or at the State University.

Of the species about to be distributed representative material will be retained in the herbarium of Grinnell College. The ten sets will be sent to:

1. Field Museum, Chicago, Ill.
2. A. J. Grout, Newfane, Vt.
3. Kew Gardens, London, Engl.
4. Missouri Botanical Garden, St. Louis, Mo.
5. New York Botanical Garden, New York, N. Y.
6. Sullivant Moss Society, Duke University, Durham, N. C.
7. United States National Museum, Washington, D.C.
8. University of Michigan, Ann Arbor, Mich.
9. University of Tennessee, Knoxville, Tenn.
10. University of Utah, Salt Lake City, Utah.

In the following list of mosses the name in capitals is from Grout's Moss Flora of North America. A name in italics is from Grout's Mosses with Handlens and Microscope. Only the latter name is used in genera not yet treated in the flora. For each species a note on habitat is added, and in many cases counties are listed

to indicate the known distribution, or limits of range. The letter in parenthesis following the name of a county indicates the person on whose authority the county is listed, no specimens being available. B, Blagg; S, Savage. In our herbarium the collections from the central and southeastern counties are mostly unidentified. When these have been studied, and those at the State University, a fairly adequate account of the distribution of mosses in the State can be had. But much more of critical collecting is needed in every county.

It must be remembered in reading of the habitats and occurrences of mosses that Iowa is a prairie State, and that there is no prairie moss: that is, there is no moss or liverwort that can survive in the *Andropogon* associations or the well developed *Stipa-Koeleria* association. In the grassland, mosses are confined to rocky or broken ground, or to springs, marshes, ponds and streams. Most of our species belong to the woodlands which traverse the prairies along the streams as galeria forests. Many mosses, however, settle in cultivated ground, in lawns, on road banks, and on masonry, concrete and roofs. These species are undoubtedly vastly more abundant today than they were before the State was settled up. Indeed one wonders whence they could have come in such abundance.

LIST OF MOSSES IN THE DISTRIBUTION

1. ANOMODON ATTENUATUS. Common and abundant on limestone rocks in shade; sometimes on earth.
2. ANOMODON MINOR. On trees in woods, everywhere.
3. ANOMODON ROSTRATUS. Common on limestone in shade; often on earth; sometimes on bases of trees.
4. ANOMODON VITICULOSUS. On limestone rocks, rare: Winneshiek, Allamakee, Fayette, Henry (B).
5. APHANORHEGMA SERRATUM. On muddy banks of Des Moines, Skunk, Iowa, Cedar and Wapsipinicon Rivers, to Emmet Co.
6. ATRICHUM ANGUSTATUM. (*Catharinea angustata*). Very common in partial shade, without competition.
7. ATRICHUM UNDULATUM. (*Catharinea undulata*). Frequent in rich woods.
8. AULACOMNIUM HETEROSTICHUM. Frequent on cool shaded hillsides, often with *Bartramia pomiformis*; central and eastern parts of State, to Boone Co.
9. BARTRAMIA POMIFORMIS. Frequent on cool shaded hillsides, often with *Aulacomnium heterostichum*.
10. BARBULA UNGUICULATA. Very common on freshly exposed earth, and on rocks.
11. BRACHYTHECIUM OXYCLADON. The most abundant moss in the State. Everywhere in partly shaded grassy places.

12. *BRACHYTHECIUM RIVULARE*. Frequent in springs and small stony streams, in eastern half of State; also Emmet Co.

13. *BRACHYTHECIUM SALEBROSUM*. Frequent but rarely fruiting and therefore of doubtful identity. We have a specimen with capsules of this, but with alar cells of *B. oxycladon*, and dioicous!

14. *BROTHERELLA RECURVANS*. (*Hypnum recurvans*). Cool shaded hillsides. One station each in Allamakee and Dubuque Counties.

15. *BRYHNNIA GRAMINICOLOR*. Frequent on moist shady banks or margins of streams.

16. *BRYUM ARGENTEUM*. Very common. On sunny soil, and on cinders.

17. *BRYUM CAESPITICUM*. Very common. On soil of road banks and fields, and on cinders.

18. *BRYUM PENDULUM*. In stony woodlands. Occasional in northern half of State, to Emmet and Carroll.

19. *BRYUM ULIGINOSUM*. On wet stones. Widespread, but rare: Dickinson, Emmet, Cass, Poweshiek, Tama, Winneshiek.

20. *CALLIERGONELLA SCHREBERI*. (*Calliergon Schreberi*). On cool shady banks: Marion, Jasper, Hardin, Emmet and eastward.

21. *CAMPYLUM HISPIDULUM*. Common in fields and woods, on soil, stones or rotten wood.

22. *CERATODON PURPUREUS*. Lawns, roadside banks, walls, roofs, and even in swamps; very common.

23. *CHAMBERLAINIA ACUMINATA*. (*Brachythecium acuminatum*). Common on bark of trees; mostly on oaks.

24. *CIRRIPHYLLUM BOSCHII*. Steep shaded glen in clay, near highway bridge s. of Keokuk, Lee Co. The only station.

25. *CLIMACIUM AMERICANUM*. Frequent in cool woods, eastern half of State, to Emmet, Boone and Marion.

26. *DESMATODON ARENACEUS*. Frequent on sides of rocks, preferably sandstone; eastern half of State, to Boone.

27. *DICRANELLA HETEROMALLA*. Common on wooded slopes without leaf-mold.

28. *DICRANELLA VARIA*. Rather rare. On freshly exposed earth, or on soft rocks.

29. *DICRANUM FLAGELLARE*. On rotten wood. Eastern half of State. Rare except in the northeast.

30. *DICRANUM FULVUM*. (*D. viride*). Stony woods, rare: Allamakee, Winneshiek, Clayton, Dubuque.

31. *DICRANUM MONTANUM*. On base of trees. Rare except in northeast. Known from Hardin Co.

32. *DICRANUM SCOPARIUM*. Rather rare; on shaded clayey slopes. West to Emmet, Boone, Jasper.

33. *DIDYMODON RUBELLUS*. On rocks and in stony woods; common northeast; to Dickinson, Greene, Hardin.

34. *DITRICHUM PALLIDUM*. Frequent on level clayey ridges.

35. *DREPANOCLADUS ADUNCUS POLYCARPUS GRACILESCENS*. Common in wet places about Lake Okoboji, Dickinson Co.; rare farther south: Hardin, Tama.

36. ENTODON CLADORRHIZANS. Common in woods, on rocks, trees or fallen logs.
37. ENTODON COMPRESSUS. Frequent on trees. Often sterile and not to be named with certainty.
38. ENTODON SEDUCTRIX. Common on bases of trees, old logs, soil or rocks, especially in southern two-thirds of State.
39. EPHEMERUM CRASSINERVIUM. Along Des Moines, Skunk, Iowa, and Cedar Rivers. Probably common on moist soil.
40. EURHYNCHIUM HIANIS. Common in rich woods.
41. EURHYNCHIUM SERRULATUM. Common in woods.
42. FISSIDENS CRISTATUS. Frequent in rich woods, on humic soil.
43. FISSIDENS OBTUSIFOLIUS. Rare. On damp sandstone or limestone: Jasper, Hardin, Fayette.
44. FISSIDENS VIRIDULUS. (*F. incurvus*). Common on moist soil or rocks.
45. FISSIDENS TAXIFOLIUS. Common in partial shade, on soil or rocks, in southeastern half of State.
46. FUNARIA HYGROMETRICA. Common. On old wood ashes, old lime or mortar, on soil or rocks, and in greenhouses.
47. GRIMMIA APOCARPA. Common on exposed rocks all over the State.
48. GYMNSTOMUM CALCAREUM. On vertical faces of limestone, in damp shady places, eastern part of State.
49. GYMNSTOMUM CALCAREUM winonense Holz. On cool faces of limestone, in shade; northeastern counties, to Hardin.
50. HEDWIGIA CILIATA. (*Hedwigia albicans*). Frequent on exposed rocks.
51. HETEROPHYLLIUM HALDANIANUM. (*Hypnum Haldanianum*). Frequent. On shaded sandstone or on fallen logs, in eastern half of State, to Hardin, Jasper, Appanoose.
52. HOMOMALLIUM ADNATUM. (*Amblystegiella adnata*). Common wherever there are rocks.
53. HYGROAMBLYSTEGIUM IRRIGUUM. (*Amblystegium irriguum*). Common all over State in wet, well-drained situations, with hard substratum.
54. HYGROAMBLYSTEGIUM NOTEROPHILUM. (*Amblystegium noterophilum*). In very large springs where underground streams come out from limestone caverns, and only near outlet: Allamakee, Winneshiek, Fayette, Clayton.
55. HYGROAMBLYSTEGIUM ORTHOCLADON. (*Amblystegium orthocladon*). Frequent in northern half of State. A modification of *H. irriguum*, in wet places.
56. HYLOCOMIUM SPLENDENS. (*H. proliferum*). Cool wooded banks with *Abies balsamea*. One station in Allamakee, two in Winneshiek.
57. HYPNUM CRISTA-CASTRENSIS. Cool wooded hillsides. One station each in Allamakee, Winneshiek, Dubuque.
58. HYPNUM CURVIFOLIUM. On dry shaded rocks, occasional: Davis, Madison, Hardin and eastward.
59. *Hypnum Patientiae*. Frequent on firm ground on shaded river banks, eastern half of State. The combination *H. arcuatum* proves to be untenable.
60. LEPTOBRYUM PYRIFORME. Common on freshly exposed soil or on faces of rocks.
61. LEPTODICTYUM RIPARIUM f. laxirete. (*Amblystegium riparium* f.).

Widespread in State. A plant of drier habitat than the type. Lawns, parkings, meadows.

62. *LEPTODICTYUM RIPARIUM* f. *LONGIFOLIUM*. (*Amblystegium riparium* f.). In a shallow pool, dry in autumn, near Clear Lake, Cerro Gordo Co. The only station.

63. *LESKEA GRACILESCENS*. Very common on bark of trees all over the State.

64. *LEUCOBRYUM GLAUCUM*. Shaded knolls, rare. Hardin, Marion, Lee, Johnson, Muscatine (S).

65. *LEUCODON JULACEUS*. On rocks or trees, rare: Jones, Dubuque, Winneshiek.

66. *MNIUM CUSPIDATUM*. Very common on moist shaded soil; second in abundance to *Brachythecium oxycladon*.

67. *MNIUM MARGINATUM*. Wooded slopes in the northeast. Also Marion, Emmet.

68. *MNIUM MEDIUM*. Frequent in wet shady places in northeastern quarter of State, to Story, Boone, Plymouth.

69. *MNIUM PUNCTATUM*. On moist rocks, rare: Marion, Hardin.

70. *MYURELLA CAREYANA*. Frequent on cool shaded rocks in the northeast: Allamakee, Winneshiek, Fayette, Clayton, Dubuque.

71. *NANOMITRIUM SYNOICUM*. On mud in river bottomland, Poweshiek Co. The only record.

72. *ORTHOTRICHUM STELLATUM*. (*O. strangulatum*). On bark, rare: Winneshiek, Muscatine (S).

73. *PHASCUM CUSPIDATUM*. In thin hilly pastures: Jasper, Poweshiek, Marion, Johnson (S). Probably frequent.

74. *PHYSCOMITRIUM IMMERSUM*. Moist soil near river: Des Moines, Skunk, Iowa and Cedar Rivers.

75. *PHYSCOMITRIUM TURBINATUM*. Very common. In gardens, on lawns; in woods and river bottomlands.

76. *PLAGIOPUS OEDERI* (*Bartramia Oederi*). On cool rocks in woods; from nine stations in eastern counties.

77. *PLAGIOTHECIUM DEPLANATUM*. Frequent in woods, on earth, rocks and bases of trees.

78. *PLAGIOTHECIUM ROESEANUM*. On wooded slopes: Hardin, Marion, Poweshiek, Winneshiek. Probably frequent in eastern half of State.

79. *PLATYGYRIUM REPENS*. Common on trees (especially oak), old logs and rocks.

80. *PLEURIDIUM SUBULATUM*. (*P. alternifolium*). Frequent in thin grassy pastures, eastern half of State.

81. *POHLIA ANNOTINA DECIPIENS*. (*P. proliger*). On moist sandstone, very rare: Winneshiek, Hardin.

82. *POHLIA CRUDA*. On one wooded hillside in Allamakee.

83. *POHLIA NUTANS*. Frequent in woods.

84. *POHLIA WAHLENBERGII*. (*Mniobryum albicans*). Common in wet springy places.

85. *POLYTRICHUM COMMUNE*. Frequent in dry woods in eastern part of State; west to Boone.

86. *POLYTRICHUM JUNIPERINUM*. Frequent all over the State, on dry ground, partly shaded.
87. *POLYTRICHUM PILIFERUM*. On flat silicious rocks, very rare: Winneshiek, Lyon.
88. *PYLAIASIA SELWYNII*. (*P. Schimperii*). Frequent on trees by rivers.
89. *RHODOBRYUM ROSEUM*. Frequent in woods, southeastern two-thirds of State, to Emmet, Guthrie and Ringgold.
90. *RHYTIDIADELPHUS TRIQUETRUS*. (*Hylocomium triquetrum*). On cool wooded hillsides. Known from ten counties, five of them in the northeast; to Henry, Madison, Hardin.
91. *RHYTIDIUM RUGOSUM*. On flat tops of rock "chimneys" and cliffs of limestone, rare. Allamakee, Winneshiek, Jones.
92. *SELIGERIA PUSILLA*. On small rock faces of limestone, often chilled with cold air from caverns: Allamakee, Winneshiek, Fayette, Dubuque.
93. *DISTICHIMUM CAPILLACEUM*. (*Swartzia montana*). Cold rocky hillsides, rare: Allamakee, Winneshiek, Dubuque.
94. *THELIA ASPRELLA*. Frequent on base of white oak trees (*Quercus alba*).
95. *THUIDIUM ABIETINUM*. Rare; on rocks; Lyon Co. and the northeast.
96. *THUIDIUM DELICATULUM*. Frequent on moist banks free from fallen leaves; eastern half of State, to Boone and Emmet.
97. *THUIDIUM PYGMAEUM*. On limestone in shaded ravine, Tama Co. The only station.
98. *TIMMIA MEGAPOLITANA*. (*T. cucullata*). Frequent in woods, on rocks or soil. About half of our collections are the f. *CUCULLATA* (Rich.) Sayre.
99. *Tortella caespitosa*. Frequent on rocky slopes in the northeast.
100. *Tortula mucronifolia*. Frequent on wooded banks in all but the southwestern quarter of the State.

DEPARTMENT OF BOTANY,
GRINNELL COLLEGE,
GRINNELL, IOWA.