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## The Liverworts of Iowa

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## THE LIVERWORTS OF IOWA

HENRY S. CONARD

The collections of moss plants from the State of Iowa have been examined to such an extent that we feel warranted in making a statement of our present knowledge of the species of liverworts and their distribution in the State. While many collections of true mosses have not yet been examined, all of the packets known to contain liverworts have been studied, so far as known to us. It seems unlikely that any additional species will appear in the collections already made. Probably a few extensions of range will be found. This report will indicate the lacunæ in our knowledge of distribution and the places where extensions of range may be expected. Where a species is absent from one county, but is known from all of the surrounding counties it is reasonably certain that it will be found in suitable places within the county for which it is not yet reported.

In 1884 Professor C. E. Bessey listed some hepatics "within a radius of twenty miles of Ames, Iowa." Dr. Fitzpatrick in 1897 listed eleven species from southern Iowa. Professor Shimek in 1898 reported twenty-one species of "Iowa Liverworts." Occasional mention of species has been made in various other papers. In 1940 Conard distributed "Thirty Iowa Liverworts" to ten herbaria, as reported in the proceedings of the Iowa Academy. The present paper recognizes fifty-four species.

Some of the species referred to by former writers, we have been unable to find in the field or in the collections. These are disposed of as follows:

*Porella pinnata*, Jackson Co. (Shimek, 1898), is omitted. A specimen from Johnson Co. labeled *P. pinnata* proves to be *P. platyphylla*.

*Jungermannia ventricosa*, reported by Shimek (1898) for Johnson and Webster Counties, is omitted. Until found, we regard it as a mistaken identity. The specimen from Muscatine Co. "on *Anthoceros*" (Shimek, 1898) has been examined and is *Lophocolea heterophylla*.

*Cephalozia multiflora* reported by Fitzpatrick (1897a) is omitted.

*Cephaloziella divaricata* reported by Conard (Blagg, 1930) is probably *C. byssacea*.<sup>1</sup>

*Lejeunea serpyllifolia americana* reported by Fitzpatrick (1897b) for Johnson County is probably *Radula complanata*.

*Ptilidium ciliare*, Johnson Co. (Shimek, 1898), "not rare," is probably *P. pulcherrimum*.

*Riccia crystallina* reported by Fitzpatrick (1897b) from Johnson and Decatur Counties was probably *R. beyrichiana*.

*Riccia glauca* reported by Bessey (1884) is omitted.

In the following list, herbarium specimens are indicated by letters:

- a, specimens distributed in Thirty Iowa Liverworts.
- b, specimen in Grinnell College Herbarium.
- c, specimen in State University Herbarium.

Where no specimen is available, the report is cited in parentheses. The numbers following the names indicate the counties in which the species has been found. The counties are numbered according to the map, Fig. 1, for which I am indebted to Professor H. E. Jaques of Iowa Wesleyan College. The expression 2-4 means that the species has been found in counties 2, 3, and 4.

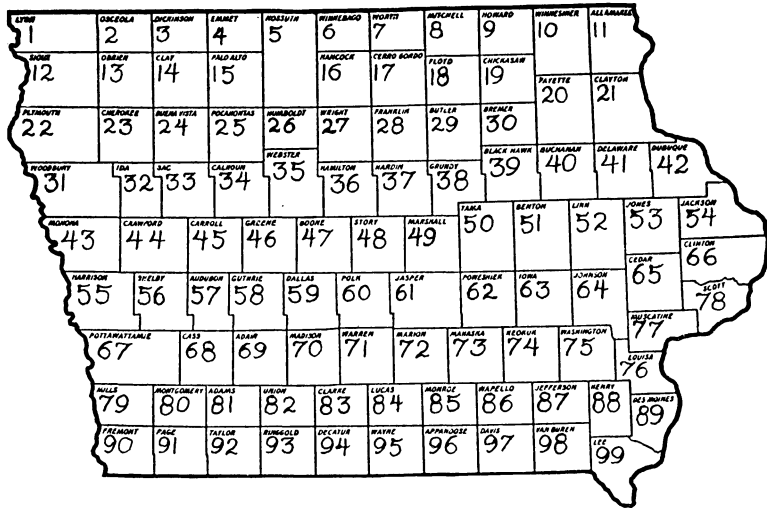


Fig. 1. County map of Iowa with numbers as used in the text.

In recording occurrences by counties, we recognize the inadequacy of the use of political areas for describing the distribution of plants. The county unit is used solely for convenience. When the plant associations of the State have been identified, described, and located, the distribution of all plants, and animals as well, can be adequately stated.

THE LIST

1. *Anthoceros laevis* L. abc, 4, 9, 10, 21, 37, 48 (Bessey, 1884), 52, 55, 61-63, 64 (Fitzpatrick, 1897), 65, 72-74, 77, 86, 99.
2. *A. punctatus* L. b, 10, 62, 63, 77 (Shimek, 1898), 86.
3. *A. punctatus crispulus* Mont. b, 62.

4. *Bazzania trilobata* (L.) S. F. Gray b, 21.
5. *Blasia pusilla* L. abc, 21, 30, 41, 52, 61-64, 71, 72, 77.
6. *Blepharostoma trichophyllum* (L.) Dumort. bc, 11, 21, 77.
7. *Calypogeia fissa* (L.) Raddi b, 99.
8. *C. Trichomanes* (L.) Corda bc, 72, 77.
9. *Cephalozia conivens* (Dicks.) Lindb. abc, 42, 52, 77.
10. *C. media* Lindb. bc, 53, 77.
11. *Cephaloziella byssacea* (Roth.) Warnst. b, 10, 11, 21, 61, 62, 77, 86.
12. *C. Hampeana* (Nees) Schiffn. b, 74.
13. *Chiloscyphus fragilis* (Roth) Schiffn. b, 10, 11, 39, 71, 73.
14. *C. pallescens* (Ehrh.) Dumort. bc, 20, 41.
15. *C. polyanthus* (L.) Corda abc, 3, 10, 11, 35, 37, 47, 50, 61, 64, 77 (Shimek, 1898).
16. *Cololejeunea Biddlecomiae* (Aust.) Evans abc, 8, 10, 11, 21, 42, 53.
17. *Conocephalum conicum* (L.) Dumort. abc, 3, 4, 10, 11, 17, 20-22, 31, 35-37, 42, 46, 47, 48 (Bessey), 52, 53, 63, 64 (Shimek), 65, 71-74, 76, 77, 86, 89, 90, 98.
18. *Frullania Bolanderi* Aust. Hb. Wolden. b, 4.
19. *F. eboraensis* Gottsch abc, 1, 4, 6, 8-11, 14, 17, 18, 20, 21, 28-30, 35, 37, 39-42, 47-49, 51-53, 58-68, 70-74, 76, 77, 80-87, 89, 91, 94-99.
20. *F. inflata* Gottsche ab, 3, 4, 6, 7, 11, 14, 15, 25, 53, 54, 60, 63, 67-71, 79-80, 90-92.
21. *F. riparia* Hampe abc, 10, 11, 20-22, 41, 42, 51, 53-54, 59, 64, 65, 70, 73, 74, 89, 94, 95, 98, 99.
22. *F. squarrosa* (R.Bl. & N.) Dumort. bc, 11, 26, 35 (Shimek, 1898), 42, 52-54, 62, 70, 77, 85, 98.
23. *Harpanthus, scutatus* (W. & M.) Spruce bc, 21.
24. *Jamesoniella autumnalis* (DC.) Steph. abc, 8, 10, 11, 20, 21, 37, 62, 72, 77, 86.
25. *Jungermannia lanceolata* L. bc, 21.
26. *Leiocolea badensis* (Gottsche) Joerg. a, 47, 98.
27. *Lepidozia reptans* (L.) Dumort. abc, 10, 11, 21, 37, 42, 52 (Drexler).
28. *Lophocolea heterophylla* (Schrad.) Dumort. abc, 4, 5, 8-11, 20, 21, 35, 37, 39-42, 47, 50, 52, 53, 61-64, 68, 71-74, 77, 78, 84, 86, 87, 90, 94, 96-99.
29. *L. minor* Nees. ab, 4, 8, 10, 11, 37, 40-42, 47, 51, 53, 61, 63, 72, 73, 77, 86, 87, 99.
30. *Lunularia cruciata* (L.) Dumort. 64 (Fitzpatrick, 1897).
31. *Mannia fragrans* (Balb.) F. & C. abc, 1, 3, 4, 10, 11, 18, 42, 52-54, 64 (Shimek, 1898), 72, 77.
32. *M. pilosa* (Hornem.) F. & C. b, 10.
33. *M. rupestris* (Nees) F. & C. ab, 10.
34. *Marchantia polymorpha* L. abc, 3, 4 (Shimek, 1898), 6, 9-11, 17, 18, 20, 21, 30, 31, 35-37, 41, 42, 46, 50, 52, 53, 62-65, 69, 72, 73, 77, 98.
35. *Notothylas orbicularis* (Schwein.) Sull. ab, 39, 61, 62.
36. *Nowellia curvifolia* (Dicks.) Mitt. b, 86.
37. *Plagiochila asplenioides* (L.) Dumort. abc, 4, 6, 8, 10, 11, 20, 21, 37, 41, 42, 47, 48, 50, 52 (Drexler), 61-63, 64, (Fitzpatrick, 1897), 65, 70-73, 77.
38. *Plectocolea crenulata gracillima* (Smith) (= *Jungermannia gracillima* Smith) c, 52.

39. *P. hyalina* (Lyell.) Mitt. abc, 11, 52, 61, 72, 73, 77, 86, 99.  
 40. *Porella platyphylla* (L.) Lindb. bc, 21, 64.  
 41. *P. platyphylloidea* (Schwein.) Lindb. abc, 4, 8-11, 17, 18, 20, 22, 37, 41, 42, 47, 48, 50-54, 58, 61, 63-65, 70, 72-74, 76, 89, 98, 99.  
 42. *Preissia quadrata* (Scop.) Nees abc, 10, 11, 20, 21, 35, 47, 42, 47, 52, 53, 77.  
 43. *Ptilidium pulcherrimum* (Web.) Hampe b, 11, 21, 42, 53.  
 44. *Radula complanata* (L.) Dummort. ab, 9, 11, 21, 42, 62.  
 45. *Reboulia hemisphaerica* (L.) Raddi abc, 1, 10, 11, 20, 21, 30, 35, 37, 41, 42, 46, 47, 50-54, 61, 62, 64-66, 68, 71-77, 89, 90, 96, 98, 99.  
 46. *Riccardia pinguis* (L.) S. F. Gray bc, 3, 4, 62.  
 47. *Riccia Beyrichiana* Hampe b, 39, 50, 60-62, 77, 96.  
 48. *R. fluitans* L. abc, 2, 3, 4, 6, 14, 17, 24, 36, 52, 61, 62, 64 (Fitzpatrick, 1897), 76, 78, 99.  
 49. *R. Frostii* Aust. abc, 1, 4, 39, 50, 60-63, 76.  
 50. *R. Sullivantii* Aust. abc, 43, 50, 60-62.  
 51. *Ricciolepus natans* (L.) Corda abc, 3, 4 (Wolden, 1919), 6, 7, 13, 14, 17, 24, 39, 40, 41, 45, 49, 52, 61-64, 70, 73, 76-78, 98.  
 52. *Scapania nemorosa* (L.) Dummort. abc, 21, 72, 77, 86.  
 53. *Tritomaria exsecia* (Schmid.) Schiffn. abc, 11, 21.  
 54. *Tritomaria exsectiformis* (Breidl.) Schiffn. b, 10, 21.

GRINNELL COLLEGE,  
 Grinnell, Iowa

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POSTSCRIPTS—Up to September 15, 1942 the following additions to the list and occurrence of Hepatics in Iowa have been discovered:

- Anthoceros laevis* 50, 76
- A. punctatus* 77 (specimen seen)
- Cephalozia bicuspidata* (L) Dumort. b, c, 64?\*, 77
- C. media* 64?\*
- Jamesoniella autumnalis* 35
- Marchantia polymorpha* 15
- Notothylas orbicularis* 15, 50
- Ricca Beyrichiana* 15
- R. Frostii* 14

\*This packet in Hb. S.U.I. is labeled Johnson Co. The specimen does not look like Iowa material and I suspect that the label is incorrect.