

A CHECK-LIST OF ILLINOIS MYXOMYCETES

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INTRODUCTION

The Mycological Collections of the Department of Botany Herbarium, University of Illinois, contained, prior to the present study, only a small number of specimens of Myxomycetes from Illinois. Most of these had been collected late in the 19th century by Professor T. J. Burrill and his students, principally G. P. Clinton and A. B. Seymour. John Wolf, an early Illinois naturalist, collected actively in the 1870's in the region around Canton, Illinois, and a few of his specimens are now preserved in the collections of the University of Illinois.

The earliest published reference to Myxomycetes in Illinois appears to be that of Brendel (1887) who listed two specimens from the vicinity of Peoria. The first edition of Macbride's monograph of the slime-moulds (1899) cited about 20 species collected in Illinois. Many of the collections made by Burrill and his students were referred to Macbride for identification. An examination of the Myxomycetes collection in the Herbarium of the State University of Iowa, where Macbride's specimens are on deposit, has failed to reveal any specimens collected by him in Illinois. Monographs (Hagelstein, 1944; Lister, 1925; Macbride, 1922; Macbride and Martin, 1934; Martin, 1949) published since the first edition of Macbride (1899) add little specific information to a knowledge

of the occurrence of Myxomycetes in Illinois.

Stover (1941) published a checklist of 36 species of Myxomycetes collected in Coles and Clark counties. Unfortunately the specimens on which this paper was based have been partially destroyed through continued use as classroom material. Professor Stover kindly permitted the writer to examine his specimens, and a portion of several of these was given to the author. These specimens have been deposited in the University of Illinois Herbarium and are cited later.

The present study was begun during the spring of 1947 and continued through the spring of 1951 when weather conditions were favorable. Collecting was confined for the most part to Champaign County but also was pursued in a number of other localities in the state.

Extensive work with moist chamber cultures in the laboratory using the methods first suggested and employed successfully by Gilbert and Martin (1933) supplemented the collection of specimens in the field. Small samples of bark cut from living trees were placed in Petri dishes and kept moist for a period of days or weeks. In this manner several minute species including, for example, *Echinostelium minutum*, *Comatricha cornea*, *C. fimbriata*, *Macbrideola decapillata*, and *M. scintilans*, were obtained. Such species

are nearly impossible to observe in the field.

During the period of this study about 550 collections were studied. These include 125 species belonging to 33 genera of Myxomycetes collected by the author and, with the addition of species collected by students other than the writer, the enumeration given below includes 133 species in 35 genera. This represents 43% of all species and all but 9 of the genera of Myxomycetes which have been reported as occurring in North America (Alexopoulos and Beneke, 1954; Benjamin and Poitras, 1950; Martin, 1949; Welden, 1954). All specimens cited are on deposit in the Herbarium of the Department of Botany, University of Illinois.

In order to conserve space in the citation of specimens examined, the following code will identify those localities from which the majority of collections was obtained:

U=immediate vicinity of Champaign and Urbana, Champaign Co., Illinois.

BW=Brownfield Woods, a tract of woodland owned and maintained by the University of Illinois and located approximately three miles northeast of Urbana.

TW=Trelease Woods, also a tract of woodland owned by the University of Illinois, and located approximately four miles east of Urbana.

Collections made in other localities are cited in full in the text. Unless otherwise stated, all collections were made by the writer.

The system of classification of Martin (1949) is used in this paper, and only the name accepted as valid by Martin is cited here. The reader is referred to this readily available and indispensable work for synonymy, complete bibliography, references to illustrations, and data on the further distribution in North America of the species listed. Lister's monograph (1925) is especially useful to the student of the slime-moulds because of its numerous illustrations—many of them in color.

The greater portion of this paper is based on a thesis (Benjamin, 1949) presented by the writer to the faculty of the University of Illinois in partial fulfillment of the requirements for the degree of Master of Science in the Department of Botany.

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SYSTEMATIC ARRANGEMENT OF SPECIES COLLECTED

CERATIOMYXALES

Ceratiomyxaceae

1. *Ceratiomyxa fruticulosa* (Muell.) Macbr. U; BW; TW; Canton, Fulton Co., John Wolf; Grantsburg, Johnson Co.; Havana, Mason Co., T. J. Burrill.

LICEALES

Liceaceae

2. *Licea biforis* Morgan. BW.
3. *Licea kleistobolus* Martin. U; Wyandot, Bureau Co.
4. *Licea parasitica* (Zukal) Martin. Kickapoo State Park, Vermilion Co.
5. *Licea minima* Fries. U; BW.
6. *Licea tenera* Jahn. U.
7. *Tubifera ferruginosa* (Batsch) Gmelin. U; BW; Canton, Fulton Co., John Wolf.
8. *Tubifera microsperma* (Berk. and Curt.) Martin. U; BW.

Reticulariaceae

9. *Lycogala conicum* Pers. TW.
10. *Lycogala epidendrum* (L.) Fries. U; BW; Mahomet, Champaign Co.; Gale, Alexander Co.; Canton, Fulton Co., John Wolf; Belknap (A. B. Seymour) and Grantsburg, Johnson Co.; Yorkville, Kendall Co.; Havana, Mason Co., coll. unknown.
11. *Lycogala exiguum* Morgan. BW.; Starved Rock State Park, La Salle Co.
12. *Lycogala flavofuscum* (Ehrenb.) Rost. U; Gibbs and Clinton; BW; 5 mi. N.W. Kankakee, Kankakee Co.
13. *Dictydiaethalium plumbeum* (Schum.) Rost. U; BW; 2 mi. W. Fifer, McLean Co.
14. *Reticularia lycoperdon* Bull. U; BW; Mahomet, Champaign Co.; Yorkville, Kendall Co.; Havana, Mason Co., G. P. Clinton.
15. *Enteridium rozeanum* (Rost.) Wingate. U; Canton, Fulton Co., John Wolf.

Cribbrariaceae

16. *Cribbraria intricata* Schrad. BW; Starved Rock State Park, La Salle Co.

17. *Cribbraria microcarpa* (Schrad.) Pers. U; BW.
18. *Cribbraria minutissima* Schw. U.
19. *Cribbraria tenella* Schrad. BW; TW.
20. *Cribbraria violacea* Rex. BW; 2 mi. N.W. Monticello, Piatt Co.; Mount Pleasant, Union Co.
21. *Dictyidium cancellatum* (Batsch) Macbr. U; BW; 1 mi. S. Gale, Alexander Co.; 1 mi. E. Grantsburg, Johnson Co.; Havana, Mason Co., G. P. Clinton.

TRICHIALES

Trichiaceae

22. *Perichaena chrysosperma* (Curry) Lister. U; Apple River Canyon State Park, Jo Daviess Co.
23. *Perichaena corticalis* (Batsch) Rost. TW.
24. *Perichaena depressa* Libert. U; Oak Park, Cook Co.
25. *Perichaena vermicularis* (Schw.) Rost. U.
26. *Arcyria cinerea* (Bull.) Pers. U; 1 mi. S. Gale, Alexander Co.; Canton, Fulton Co., John Wolf; 1 mi. E. Grantsburg, Johnson Co.; Havana, Mason Co., Clinton and Yeakel; 10 mi. N.W. Metropolis, Massac Co.; Kickapoo State Park, Vermilion Co.
27. *Arcyria denudata* (L.) Wettst. U; BW; TW; Starved Rock State Park, La Salle Co.
28. *Arcyria incarnata* (Pers.) Pers. U; BW.
29. *Arcyria insignis* Kalchbr. and Cooke. U; TW.
30. *Arcyria nutans* (Bull.) Grev. U.
31. *Arcyria pomiformis* (Leers) Rost. U; BW.
32. *Oligonema flavidum* (Peck) Peck. 3 mi. N. Mahomet, Champaign Co.; BW; TW; 2 mi. N. Cache, Pulaski Co.; 4 mi. W. Karnak, Pulaski Co.
33. *Oligonema schweinitzii* (Berk.) Martin. U.
34. *Trichia affinis* de Bary. U; BW; TW; Winnebago Co. For. Pre., Winnebago Co.
35. *Trichia contorta* (Ditmar) Rost. U; BW.
36. *Trichia favaginea* (Batsch) Pers. BW; TW; Canton, Fulton Co., John Wolf; Apple River Canyon State Park, Jo Daviess Co.

37. *Trichia persimilis* P. Karst. U; BW; Apple River Canyon State Park, Jo Daviess Co.; Kickapoo State Park, Vermilion Co.
38. *Trichia scabra* Rost. BW; 4 mi. S. Hanover, Jo Daviess Co.; 4 mi. N.W. Eddyville, Polk Co.
39. *Trichia varia* (Pers.) Pers. BW; 2 mi. S. Wheeling, Cook Co.; 3 mi. S. Paxton, Ford Co.; Canton, Fulton Co., John Wolf; 3 mi. S. Morris, Grundy Co.; 4 mi. S. Hanover, Jo Daviess Co.; 5 mi. N.W. Kankakee, Kankakee Co.; Yorkville, Kendall Co.; 4 mi. N.W. Eddyville, Polk Co.
40. *Hemitrichia clavata* (Pers.) Rost. BW; Canton, Fulton Co., John Wolf; Apple River Canyon State Park, Jo Daviess Co.; Clarksville, Macoupin Co., coll. unknown; 4 mi. N.W. Eddyville, Polk Co.
41. *Hemitrichia intorta* (Lister) Lister. Apple River Canyon State Park, Jo Daviess Co.
42. *Hemitrichia serpula* (Scop.) Rost. 5 mi. N. Mahomet, Champaign Co.; BW; Starved Rock State Park, La Salle Co.
43. *Hemitrichia stipitata* (Massee) Macbr. Mahomet, Champaign Co.; U; BW; 1 mi. S. Gale, Alexander Co.; 3 mi. S. Paxton, Ford Co.; 1 mi. E. Grantsburg, Johnson Co.; 3 mi. S. Elburn, Kane Co.; 10 mi. N.W. Metropolis, Massac Co.; 2 mi. N. Cache, Pulaski Co.; 4 mi. W. Karnak, Pulaski Co.
44. *Hemitrichia vesparium* (Batsch) Macbr. U; BW; Canton, Fulton Co., John Wolf; 5 mi. S. Hanover, Jo Daviess Co.; 1 mi. E. Grantsburg, Johnson Co.; Starved Rock State Park, La Salle Co.; Carlinville, Macoupin Co., coll. unknown; Havana, Mason Co., G. P. Clinton; Winnebago Co. For. Pre., Winnebago Co.
45. *Calonema aureum* Morgan. BW; 1 mi. S. Gale, Alexander Co.; 4 mi. W. Karnak, Pulaski Co.

STEMONITALES

Echinosteliaceae

46. *Echinostelium minutum* de Bary. U; 12 mi. W. Geneseo, Henry Co.; 5 mi. W. Buncomb, Johnson Co.; 3 mi. W. Goreville, Johnson Co.; 2 mi. N.W. Monticello, Piatt Co.; Mount Pleasant, Union Co.; Kickapoo State Park, Vermilion Co.

Stemonitaceae

47. *Amaurochaete fuliginosa* (Sow.) Macbr. 8 mi. S.E. Charleston, Coles Co., W. Thomas.
48. *Brefeldia maxima* (Fries) Rost. U, Gibbs and Clinton.
49. *Diachea bulbillosa* (Berk. and Br.) Lister. TW.
50. *Diachea leucopodia* (Bull.) Rost. BW; Charleston, Coles Co., H. Ruck.
51. *Diachea subsessilis* Peck. U.
52. *Enerthenema papillatum* (Pers.) Rost. U; BW.
53. *Stemonitis axifera* (Bull.) Macbr. U; BW; TW; Canton, Fulton Co., John Wolf; 5 mi. W. Buncomb, Johnson Co.; Starved Rock State Park, La Salle Co.
54. *Stemonitis confluens* Cooke and Ellis. TW.
55. *Stemonitis flavogenita* Jahn. U; TW.
56. *Stemonitis fusca* Roth. U; BW; 1 mi. S. Gale, Alexander Co.; 1 mi. E. Grantsburg, Johnson Co.; Starved Rock State Park, La Salle Co.; Carlinville, Macoupin Co., coll. unknown; Havana, Mason Co., G. P. Clinton; Danville, Vermilion Co., coll. unknown.
57. *Stemonitis splendens* Rost. U; BW; Mineral, Bureau Co., A. B. Seymour; Mount Carroll, Carroll Co., H. Shriner; Havana, Mason Co., T. J. Burrill.
58. *Stemonitis virginiensis* Rex. BW; Charleston, Coles Co., H. Ruck.
59. *Comatricha aequalis* Peck. U.
60. *Comatricha cornea* G. Lister and Cran. U; Kickapoo State Park, Vermilion Co.
61. *Comatricha elegans* (Racib.) Lister. U; Wyanet, Bureau Co.
62. *Comatricha fimbriata* G. Lister and Cran. U; Marceilles, La Salle Co.
63. *Comatricha irregularis* Rex. BW.
64. *Comatricha laxa* Rost. U.
65. *Comatricha longa* Peck. U; BW.
66. *Comatricha mirabilis* Benjamin and Poitras. This species, collected on goat dung in moist chamber culture, is known only from type collection. Subsequent to its discovery (Benjamin and Poitras, 1950) it was grown in culture on sterile goat dung, and it produced sporangia identical to those originally encountered. U.
67. *Comatricha nigra* (Pers.) Schroet. U; BW.

68. *Comatricha pulchella* (C. Bab.) Rost. BW; TW; Charleston, Coles Co., H. Ruck.
69. *Comatricha rubens* Lister. TW.
70. *Comatricha typhoides* (Bull.) Rost. U; BW; Canton, Fulton Co., John Wolf; Havana, Mason Co., G. P. Clinton; Kickapoo State Park, Vermilion Co.
71. *Clastoderma debaryanum* Blytt. BW.
72. *Lamproderma arcyrioides* (Sommerf.) Rost. TW.
73. *Lamproderma arcyrionema* Rost. U; BW; Charleston, Coles Co., E. L. Stover; Starved Rock State Park, La Salle Co.
74. *Lamproderma scintillans* (Berk. and Br.) Morgan. U; BW; TW; 2 mi. N.W. Monticello, Piatt Co.
75. *Macbrideola decapillata* H. C. Gilbert. 5 mi. W. Buncomb, Union Co.; Kickapoo State Park, Vermilion Co.
76. *Macbrideola scintillans* H. C. Gilbert. Mount Pleasant, Union Co.
91. *Physarum contextum* (Pers.) Pers. U; BW; TW.
92. *Physarum didermoides* (Pers.) Rost. U; BW; TW; Apple River Canyon State Park, Jo Daviess Co.
93. *Physarum globuliferum* (Bull.) Pers. U; TW.
94. *Physarum gyrosum* Rost. U.
95. *Physarum lateritium* (Berk. and Rav.) Morgan. TW.
96. *Physarum leucophaeum* Fries. U.
97. *Physarum leucopus* Link. U.
98. *Physarum melleum* (Berk. and Br.) Massee. U; BW.
99. *Physarum notabile* Macbr. U; BW; TW.
100. *Physarum nutans* Pers. U; BW; Canton, Fulton Co., John Wolf; Starved Rock State Park, La Salle Co.
101. *Physarum nucleatum* Rex. U; BW.
102. *Physarum oblatum* Macbr. U.
103. *Physarum penetrale* Rex. BW; TW.
104. *Physarum pulcherrimum* Berk. and Rav. BW.
105. *Physarum pulcherripes* Peck. BW.
106. *Physarum stellatum* (Massee) Martin. BW; TW; Starved Rock State Park, La Salle Co.
107. *Physarum polycephalum* Schw. U; BW.
108. *Physarum pusillum* (Berk. and Curt.) G. Lister. 4 mi. E. Urbana, Champaign Co.
109. *Physarum tenerum* Rex. BW.
110. *Physarum virescens* Ditmar. BW.
111. *Physarum viride* (Bull.) Pers. U; BW; 1 mi. S. Gale, Alexander Co.; Starved Rock State Park, La Salle Co.
112. *Craterium aureum* (Schum.) Rost. BW; TW.
113. *Craterium leucocephalum* (Pers.) Ditmar. BW; Charleston, Coles Co., E. L. Stover; Starved Rock State Park, La Salle Co.
114. *Craterium minutum* (Leers) Fries. Charleston, Coles Co., E. L. Stover.
115. *Physarella oblonga* (Berk. and Curt.) Morgan. U; BW; 1 mi. S. Gale, Alexander Co.; 1 mi. E. Grantsburg, Johnson Co.; Kickapoo State Park, Vermilion Co.
116. *Cienkowskia reticulata* (Alb. and Schw.) Rost. U; BW.
117. *Leocarpus fragilis* (Dicks.) Rost. U; Canton, Fulton Co., John Wolf.

PHYSARALES

Physaraceae

77. *Fuligo cinerea* (Schw.) Morgan. U, T. J. Burrill.
78. *Fuligo intermedia* Macbr. U; Monticello, Piatt Co.
79. *Fuligo septica* (L.) Weber. U; BW; TW; Havana, Mason Co., T. J. Burrill.
80. *Badhamia affinis* Rost. U; TW; 4 mi. S. W. Mason City, Mason Co.
81. *Badhamia capsulifera* (Bull.) Berk. BW.
82. *Badhamia curtisi* (Berk.) Rost. Charleston, Coles Co., E. L. Stover.
83. *Badhamia foliicola* Lister. U; 1 mi. E. Grantsburg, Johnson Co.
84. *Badhamia gracilis* (Macbr.) Macbr. BW.
85. *Badhamia utricularis* (Bull.) Berk. U; TW.
86. *Physarum aeneum* (Lister) R. E. Fries. Starved Rock State Park, La Salle Co.
87. *Physarum auriscalpium* Cooke. U.
88. *Physarum bivalve* Pers. U; BW; 3 mi. S.W. Buncomb, Johnson Co.; Starved Rock State Park, La Salle Co.
89. *Physarum cinereum* (Batsch) Pers. U; Chicago, Cook Co., E. S. Bastin; Starved Rock State Park, La Salle Co.
90. *Physarum compressum* Alb. and Schw. U, W. Snow.

Didymiaceae

118. *Diderma effusum* (Schw.) Morgan. BW; TW; 1 mi. E. Grantsburg, Johnson Co.; Kickapoo State Park, Vermilion Co.
119. *Diderma floriforme* (Bull.) Pers. BW.
120. *Diderma globosum* Pers. BW; TW; Apple River Canyon State Park, Jo Daviess Co.
121. *Diderma hemisphaericum* (Bull.) Hornem. 4 mi. E. Urbana, Champaign Co.; BW.
122. *Diderma rugosum* (Rex) Macbr. BW.
123. *Diderma spumariooides* (Fries) Fries. BW.
124. *Diderma testaceum* (Schrad.) Pers. BW; TW; Kickapoo State Park, Vermilion Co.
125. *Mucilago spongiosa* (Leysser) Morgan. U; Apple River Canyon State Park, Jo Daviess Co.
126. *Didymium anellus* Morgan. U.
127. *Didymium clavus* (Alb. and Schw.) Rab. U; BW.
128. *Didymium dubium* Rost. U.
129. *Didymium iridis* (Ditmar) Fries. BW; TW.
130. *Didymium melanospermum* (Pers.) Macbr. U.
131. *Didymium minus* (Lister) Morgan. U; BW; TW; Canton, Fulton Co., John Wolf; 5 mi. W. Buncumb, Johnson Co.; Fort Massac State Park, Massac Co.; 2 mi. N.W. Monticello, Piatt Co.
132. *Didymium nigripes* (Link) Fries. Fort Massac State Park, Massac Co.
133. *Didymium squamulosum* (Alb. and Schw.) Fries. U; BW; TW; Chandlerville, Cass Co., A. B. Seymour; 5 mi. W. Buncumb, Johnson Co.; Starved Rock State Park, La Salle Co.; Danville, Vermilion Co., coll. unknown.

SUMMARY

A check-list of 133 species belonging to 35 genera of Myxomycetes collected in Illinois is given. This

collection, which represents 43% of all species and all but 9 genera of Myxomycetes known to occur in North America, is on deposit in the Department of Botany Herbarium, University of Illinois, Urbana.

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