

A checklist of the myxomycetes of Arkansas

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Abstract: An updated checklist of myxomycetes is provided for the state of Arkansas based on all previously published records, records from MycoPortal, and more than 3000 specimens collected during the period of 2003 to 2023 by the author and colleagues, undergraduate students, and graduate students. A total of 184 species are now known from Arkansas. This total includes 33 species reported for the first time from the state.

Keywords: biota, field collections, moist chamber cultures, slime molds, University of Arkansas

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Introduction

Eliasson et al. (1988) published a checklist of myxomycetes from Arkansas in which 88 taxa, including one species described as new to science from material collected in the state, were reported. The 88 taxa included 83 identified to the level of species and five that could be identified only to genus but were considered as possible new species. The authors indicated that they could not locate any previous records of myxomycetes from Arkansas. The purposes of this paper are to update this earlier checklist with other taxa now known to occur in the state, to update the nomenclature of these taxa, and to provide data on the relative abundance of particular species of myxomycetes in Arkansas.

The state of Arkansas extends from 33°00' to 36°30' N latitude and 89°39' to 94°37' W longitude, with a total area of 137 732 km². Elevations in the state range from 17 m to 939 m on the summit of Mt. Magazine. The climate of Arkansas is classified as humid subtropical (Cfa in the Köppen climate classification) with hot and humid summers and mild to cool winters. However, peak precipitation typically occurs in May (annual mean of 12.4 cm), but by July (annual mean of 7.1 cm) and August (annual mean of 7.4 cm) conditions are quite dry and not particularly suitable for myxomycetes. During the latter part of some summers, based on the experience of the author, few fruiting bodies of myxomycetes can be found in the field.

During the twenty years (2003 to 2023) the author was on the faculty at the University of Arkansas, he along with his students and several colleagues carried out a series of projects involving surveys of the myxomycetes associated with particular localities or microhabitats (Tucker et al. 2011, Goad and Stephenson 2013, Massingill and Stephenson 2013, Clayton et al. 2014, dela Cruz et al. 2014, Fischer and Stephenson 2014, Stephenson et al. 2020, Rojas et al. 2020, Stephenson and Rojas 2020, Stephenson and Novozhilov 2021). These surveys yielded a database of 3276 specimens of myxomycetes collected in the

state. One hundred and four (3% of the total) of these could be identified only to genus, and two could be identified only as being some type of myxomycete. The 3276 specimens included those that had developed under natural conditions in the field as well as those appearing in moist chamber cultures.

Annotated List of Species

In the list that follows, all species of myxomycetes known to have been collected within the state of Arkansas are arranged alphabetically by genus and then species. Information is provided on the source(s) of the record and the number of specimens represented in the Arkansas database. The nomenclature used follows Lado (2005-2025) except where noted. Recent molecular studies have resulted in a number of taxonomic rearrangements in the myxomycetes. As a result, some familiar species now have names that would not be immediately recognized by many of the people who collect and study myxomycetes.

Angioridium sinuosum (Bull.) Grev.

First reported by Eliasson et al. (1988) and represented by 18 specimens in the Arkansas database. In all but the most recent literature, this species is listed as *Physarum bivalve* Pers.

Arcyria afroalpina Rammeloo

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Arcyria cinerea (Bull.) Pers.

First reported by Eliasson et al. (1988) and represented by 364 specimens (11% of all specimens!) in the Arkansas database. This is one of the most common of all myxomycetes and appears both in the field as well as on all types of substrates in moist chamber cultures.

Arcyria denudata (L.) Wettst.

First reported by Eliasson et al. (1988) and represented by 47 specimens in the Arkansas database. This is one of the more common myxomycetes. Most specimens fruited under natural conditions in the field., but this species sometimes occurs in moist chamber cultures.

Arcyria helvetica (Meyl.) H. Neubert, Nowotny & K. Baumann

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Arcyria incarnata (Pers. ex. J.F. Gmel.) Pers.

First reported by Eliasson et al. (1988) and represented by 16 specimens in the Arkansas database. This species is similar in appearance to *A. denudata* but differs in the attachment of the capillitium.

Arcyria magna Rex

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Arcyria marginoundulata Nann.-Bremek. & Y. Yamam.

First reported by dela Cruz et al. (2014) and represented by four specimens in the Arkansas database.

Arcyria stipata (Schwein.) Lister

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Badhamia affinis Rostaf.

First reported by Massingill and Stephenson (2013) and represented by 10 specimens in the Arkansas database.

Badhamia capsulifer (Bull.) Berk.

First reported by Massingill and Stephenson (2013) and represented by one specimen in the Arkansas database.

Badhamia dubia Nann.-Bremek.

First reported by dela Cruz et al. (2014) and represented by five specimens in the Arkansas database.

Badhamia melanospora Speg.

First reported by Eliasson et al. (1988) and represented by four specimens in the Arkansas database. In the older literature, this species is listed as *Badhamia gracilis* (T. Macbr.) T. Macbr.

Badhamia nitens Berk.

First reported by Stephenson and Novozhilov (2021) and represented by two specimens in the Arkansas database.

Badhamia polycephala (Schwein.) J.M. García-Martín, J.C. Zamora & Lado

First reported by Eliasson et al. (1988) and represented by one specimen in the Arkansas database. In all but the most recent literature, this species is listed as *Physarum polycephalum* Schwein.

Badhamia rugulosa T.E. Brooks & H.W. Keller`

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Badhamia utricularis (Bull.) Berk.

Represented by three specimens in the Arkansas database. Not previously reported from Arkansas.

Badhamia versicolor Lister

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Badhamiopsis ainoae (Yamash.) T.E. Brooks & H.W. Keller

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Calomyxa metallica (Berk.) Nieuwl.

First reported by Eliasson et al. (1988) and represented by one specimen in the Arkansas database.

Calonema aureum Morgan

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Ceratiomyxa fruticulosa (O.F. Müll.) T. Macbr.

First reported by Eliasson et al. (1988) and represented by 20 specimens in the Arkansas database. *Ceratiomyxa fruticulosa* is not a “true” myxomycete and actually belongs to a sister group of eumycetozoans (Fiore-Donno et al. 2010). *Ceratiomyxa fruticulosa* is much more common than the number of specimens indicated. During rainy periods in the summer, it sometime appears to be present on virtually every large piece of coarse woody debris

Clastoderma debaryanum A. Blytt

First reported by Clayton et al. (2014) and represented by 15 specimens in the Arkansas database.

Clastoderma microcarpum (Meyl.) Kowalski

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Clastoderma pachypus Nann.-Bremek.

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Claustria didermoides (Pers.) Fr.

First reported by Eliasson et al. (1988) and represented by three specimens in the Arkansas database. In all but the most recent literature, this species is listed as *Physarum didermoides* (Pers.) Rostaf.

Collaria arcyronema (Rostaf.) Nann.-Bremek. ex Lado

First reported by Massingill and Stephenson (2013) and represented by 78 specimens in the Arkansas database. Not previously reported from Arkansas. In all but the most recent literature, this species is listed as *Lamproderma arcyronema* Rostaf.

Collaria biasperospora (Kowalski) Dhillon & Nann.-Bremek. ex Ing

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database. In all but the most recent literature, this species is listed as *Lamproderma biasperosporum* Kowalski.

Collaria lurida (Lister) Nann.-Bremek.

First reported by Massingill and Stephenson (2013) and represented by two specimens in the Arkansas database.

Collaria rigidireta (Nann.-Bremek.) Nann.-Bremek.

Represented by three specimens in the Arkansas database. Not previously reported from Arkansas.

Comatricha elegans (Racib.) G. Lister

First reported by dela Cruz (2014) and represented by 11 specimens in the Arkansas database.

Comatricha laxa Rostaf.

First reported by Massingill and Stephenson (2013) and represented by 20 specimens in the Arkansas database.

Comatricha nigra (Pers. ex J.F. Gmel.) J. Schröt.

First reported by Massingill and Stephenson (2013) and represented by 17 specimens in the Arkansas database.

Comatricha pulchella (C. Bab.) Rostaf.

First reported by Goad and Stephenson (2013) and represented by 57 specimens in the Arkansas database.

Comatricha tenerrima (M.A. Curtis) G. Lister

First reported by Massingill and Stephenson (2013) and represented by 30 specimens in the Arkansas database.

Craterium aureum (Schumach.) Rostaf.

First reported by Clayton et al. (2014) and represented by two specimens in the Arkansas database.

Craterium concinnum Rex

First reported by dela Cruz et al. (2014) and represented by one specimen in the Arkansas database.

Craterium leucocephalum (Pers. ex J.F. Gmel.) Ditmar

First reported by Eliasson et al. (1988) and represented by one specimen in the Arkansas database.

Craterium minutum (Leers) Fr.

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Craterium roseum (Berk. & Broome) J.M. García-Martín & Lado

First reported by Eliasson et al. (1988) and represented by one specimen in the Arkansas database. In all but the most recent literature, this species is listed as *Physarum roseum* Berk. & Broome.

Cribraria aurantiaca Schrad.

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Cribraria cancellata (Batsch) Nann.-Bremek.

First reported by Eliasson et al. (1988) and represented by four specimens in the Arkansas database. In the older literature, this species is listed as *Dictydium cancellatum* (Batsch) T. Macbr.

Cribraria confusa Nann.-Bremek. & Y. Yamam.

First reported by Stephenson et al. (2020) and represented by nine specimens in the Arkansas database.

Cribraria intricata Schrad.

Represented by five specimens in the Arkansas database. Not previously reported from Arkansas.

Cribraria microcarpa (Schrad.) Pers.

First reported by Massingill and Stephenson (2013) and represented by 62 specimens in the Arkansas database.

Cribraria minutissima Schwein.

First reported by Stephenson et al. (2020) and represented by nine specimens in the Arkansas database.

Cribraria violacea Rex

First reported by Eliasson et al. (1988) and represented by 150 specimens in the Arkansas database.

Cribraria vulgaris Schrad.

Represented by two specimens in the Arkansas database. Not previously reported from Arkansas.

Diachea leucopodia (Bull.) Rostaf.

First reported by Tucker et al. (2011) and not represented by any specimens in the Arkansas database.

Diachea obovata (Peck) J.M. García-Martín, J.C. Zamora & Lado

Represented by seven specimens in the Arkansas database. Not previously reported from Arkansas. In all but the most recent literature, this species is listed *Craterium ovovatum* Peck.

Dictydiaethalium plumbeum (Schumach.) Rostaf.

First reported by Eliasson et al. (1988) and represented by four specimens in the Arkansas database.

Diderma chondrioderma (de Bary & Rostaf.) Kuntze

First reported by Eliasson et al. (1988) and represented by 10 specimens in the Arkansas database.

Diderma effusum (Schwein.) Morgan

First reported by Tucker et al. (2011) and represented by 110 specimens in the Arkansas database.

Diderma floriforme (Bull.) Pers.

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Diderma hemisphaericum (Bull.) Hornem.

First reported by Tucker et al. (2011) and represented by 97 specimens in the Arkansas database.

Diderma miniatum Nann.-Bremek.

Represented by two specimens in the Arkansas database. Not previously reported from Arkansas.

Diderma saundersii (Berk. & Broome ex Masee) E. Sheld.

First reported by dela Cruz et al. (2014) and represented by six specimens in the Arkansas database.

Diderma testaceum (Schrad.) Pers.

First reported by Goad and Stephenson (2013) and represented by 10 specimens in the Arkansas database.

Didymium anellus Morgan

First reported by Goad and Stephenson (2013) and represented by three specimens in the Arkansas database.

Didymium bahiense Gottsb.

Represented by two specimens in the Arkansas database. Not previously reported from Arkansas.

Didymium clavus (Alb. & Schwein.) Rabenh.

First reported by dela Cruz et al. (2014) and represented by 21 specimens in the Arkansas database.

Didymium difforme (Pers.) Gray

First reported by dela Cruz et al. (2014) and represented by eight specimens in the Arkansas database.

Didymium iridis (Ditmar) Fr.

First reported Tucker et al. (2011) and represented by 21 specimens in the Arkansas database.

Didymium megalosporum Berk. & M.A. Curtis

First reported by Eliasson et al. (1988) and not represented in the Arkansas database.

Didymium melanospermum (Pers.) T. Macbr.

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Didymium minus (Lister) Morgan

First reported by Eliasson et al. (1988) and represented by 35 specimens in the Arkansas database.

Didymium nigripes (Link) Fr.

First reported by dela Cruz et al. (2014) and represented by 57 specimens in the Arkansas database.

Didymium ochroideum G. Lister

First reported by Goad and Stephenson (2013) and represented by 12 specimens in the Arkansas database.

Didymium pertusum Berk.

First reported by Tucker et al. (2011) and represented by two specimens in the Arkansas database.

Didymium proximum Berk. & M.A. Curtis

First reported by Eliasson et al. (1998) and not represented by any specimens in the Arkansas database. In all but the most recent literature, this species is listed as *Didymium ovoideum* Nann.-Bremek.

Didymium serpula Fr.

First reported by dela Cruz et al. (2014) and represented by one specimen in the Arkansas database.

Didymium spongiosum (Leyss.) J.M. García-Martín, J.C. Zamora & Lado

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database. In all but the most recent literature, this species is listed as *Mucilago crustacea* P. Micheli ex F.H. Wigg.

Didymium squamulosum (Alb. & Schwein.) Fr. & Palmquist

First reported by Tucker et al. (2011) and represented by 26 specimens in the Arkansas database.

Didymium sturgisii Hagelst.

First reported by Clayton et al. (2014) and represented by two specimens in the Arkansas database.

Didymium synsporon T.E. Brooks & H.W. Keller

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Echinostelium apitectum K.D. Whitney

First reported by Stephenson et al. (2020) and represented by three specimens in the Arkansas database.

Echinostelium bisporum (L.S. Olive & Stoian.) K.D. Whitney & L.S. Olive

Observed in laboratory culture but because of its extremely small size (it is the smallest of all myxomycetes) essentially impossible to preserve as a specimen. Not previously reported from Arkansas.

Echinostelium coelocephalum T.E. Brooks & H.W. Keller

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Echinostelium elachiston Alexop.

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Echinostelium fragile Nann.-Bremek.

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Echinostelium minutum de Bary

First reported by Eliasson et al. (1988) and represented by 40 specimens in the Arkansas database. The fruiting bodies of this tiny myxomycete are often abundant in the moist chamber cultures in which it occurs.

Enerthenema papillatum (Pers.) Rostaf.

First reported by Eliasson et al. (1988) and represented by five specimens in the Arkansas database.

Fuligo cinerea (Schwein.) Morga

First reported by Eliasson et al. (1988) and represented by two specimens in the Arkansas database.

Fuligo septica (L.) F.H. Wigg.

First reported by Eliasson et al. (1988) and represented by five specimens in the Arkansas database.

Gulielmina vermicularis (Schwein.) García-Cunch., J.C. Zamora & Lado

First reported by Massingill and Stephenson (2013) and represented by 25 specimens in the Arkansas database. In all but the most recent literature, this species is listed as *Perichaena vermicularis* (Schwein.) Rostaf.

Hemitrichia abietina (Wigand) G. Lister

Represented by two specimens in the Arkansas database. Not previously reported from Arkansas.

Hemitrichia calyculata (Speg.) M.L. Farr

First reported by Eliasson et al. (1988) and represented by 42 specimens in the Arkansas database.

Hemitrichia clavata (Pers.) Rostaf.

First reported by Eliasson et al. (1988) and represented by three specimens in the Arkansas database.

Heterotrichia insignis (Kalchbr. & Cooke) Yatsiuk, Leontyev & Schnittler

First reported by dela Cruz et al. (2014) and represented by one specimen in the Arkansas database. In all but the most recent literature, this species is listed as *Arcyria insignis* Kalchbr. & Cooke.

Hemitrichia lutescens (Lister) García-Cunch., J.C. Zamora & Lado

First reported by Massingill and Stephenson (2013) and represented by two specimens in the Arkansas database. Not previously reported from Arkansas.

Hemitrichia minor G. Lister

First reported by Massingill and Stephenson (2013) and represented by eight specimens in the Arkansas database.

Hemitrichia pardina (Minakata) Ing

First reported by Massingill and Stephenson (2013) and represented by eight specimens in the Arkansas database.

Hemitrichia serpula (Scop.) Rostaf. ex Lister

First reported by Eliasson et al. (1988) and represented by 22 specimens in the Arkansas database.

Heterotrichia obvelata (Oeder) Yatsiuk, Leontyev & Schnittler

First reported by Eliasson et al. (1988) and represented by one specimen in the Arkansas database. In all but the most recent literature, this species is listed as *Arcyria obvelata* (Oeder) Onsberg.

Heterotrichia pomiformis (Leers) Yatsiuk, Leontyev & Schnittler

First reported by Massingill and Stephenson (2013) and represented by six specimens in the Arkansas database. In all but the most recent literature, this species is listed as *Arcyria pomiformis* (Leers) Rostaf.

Lamproderma arcyrioides (Sommerf.) Rostaf.

First reported by Clayton et al. (2014) and represented by three specimens in the Arkansas database.

Lamproderma scintillans (Berk. & Broome) Morgan

First reported by Tucker et al. (2011) and represented by 123 specimens in the Arkansas database.

Leocarpus fragilis (Dicks.) Rostaf.

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Licea belmontiana Nann.-Bremek.

First reported by Massingill and Stephenson (2013) and represented by four specimens in the Arkansas database.

Licea biforis Morgan

First reported by Eliasson et al. (1988) and represented by 15 specimens in the Arkansas database.

Licea castanea G. Lister

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Licea chelonoides Nann.-Bremek

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Licea denudescens H.W. Keller & T.E. Brooks

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Licea inconspicua T.E. Brooks & H.W. Keller

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Licea kleistobolus G.W. Martin

First reported by Eliasson et al. (1988) and represented by four specimens in the Arkansas database.

Licea minima Fr.

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Licea operculata (Wingate) G.W. Martin

First reported by Eliasson et al. (1988) and represented by 14 specimens in the Arkansas database.

Licea parasitica (Zukal) G.W. Martin

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Licea pedicellata (H.C. Gilbert) H.C. Gilbert

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Licea perexigua T.E. Brooks & H.W. Keller

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Licea rufocuprea Nann.-Bremek. & Y. Yamam.

First reported by dela Cruz et al. (2014) and represented by one specimen in the Arkansas database.

Licea rugosa Nann.-Bremek. & Y. Yamam.

First reported by Stephenson and Novozhilov (2021) and not represented by any specimens in the Arkansas database.

Licea scyphoides T.E. Brooks & H.W. Keller

First reported by Eliasson et al. (1988) and represented by one specimen in the Arkansas database.

Lycogala epidendrum (L.) Fr.

First reported by Eliasson et al. (1988) and represented by 35 specimens in the Arkansas database. It is now known that what has been recognized as the *Lycogala epidendrum* morphospecies actually consists of at least 60 biological species.

Lycogala exiguum Morgan

First reported by Eliasson et al. (1988) and represented by one specimen in the Arkansas database.

Macbrideola cornea (G. Lister & Cran) Alexop.

First reported by Eliasson et al. (1988) and represented by 16 specimens in the Arkansas database.

Macbrideola decapillata H.C. Gilbert

First reported by Eliasson et al. (1988) and represented by five specimens in the Arkansas database.

Macbrideola declinata T.E. Brooks & H.W. Keller

Described as a species new to science by Eliasson et al. (1988) based on material collected in Arkansas and not represented by any specimens in the Arkansas database.

Macbrideola scintillans H.C. Gilbert

First reported by Eliasson et al. (1988) and represented by 25 specimens in the Arkansas database.

Metatrachia vesparia (Batsch) Nann.-Bremek. ex G.W. Martin & Alexop.

First reported by Eliasson et al. (1988) and represented by 145 specimens in the Arkansas database. The vast majority of specimens were collected in the field, but this species occasionally appears in moist chamber cultures.

Nannengaella globulifera (Bull.) J.M. García-Martin, J.C. Zamora & Lado

First reported by Eliasson et al. (1988) and represented by 11 specimens in the Arkansas database. In all but the most recent literature, this species is listed as *Physarum globuliferum* (Bull.) Pers.

Nannengaella leucopus (Link) J.M. García-Martín, J.C. Zamora & Lado

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database. In all but the most recent literature, this species is listed as *Physarum leucopus* Link.

Nannengaella mellea (Berk. & Broome) J.M. García-Martín, J.C. Zamora & Lado

First reported by Clayton et al. (2014) and represented by 26 specimens in Arkansas database. In all but the most recent literature, this species is listed as *Physarum melleum* (Berk. & Broome) Masee.

Oligonema favogineum (Batsch) García-Cunch., J.C. Zamora & Lado

First reported by Eliasson et al. (1988) and represented by 90 specimens in the Arkansas database. In all but the most recent literature, this species is listed as *Trichia favoginea* (Batsch) Pers.

Oligonema flavidum (Peck) Peck

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Oligonema schweinitzii (Berk.) G.W. Martin

First reported by Eliasson et al. (1988) and represented by one specimen in the Arkansas database.

Ophiotheca chrysosperma Curr.

First reported by Eliasson et al. (1988) and represented by 370 specimens in the Arkansas database. In all but the most recent literature, this species is listed as *Perichaena chrysosperma* (Curr.) Lister.

Ophiotheca pedata (Lister & G. Lister) García-Cunch., J.C. Zamora & Lado

First reported by Eliasson et al. (1988) and represented by 20 specimens in the Arkansas database. In all but the most recent literature, this species is listed as *Perichaena pedata* (Lister & G. Lister) G. Lister ex E. Jahn.

Paradiacheopsis fimbriata (G. Lister & Cran) Hertel ex Nann.-Bremek.

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Paradiacheopsis solitaria (Nann.-Bremek.) Nann.-Bremek.

First reported Stephenson et al. (2020) and represented by one specimen in the Arkansas database.

Perichaena corticalis (Batsch) Rostaf.

First reported by Clayton et al. (2014) and represented by two specimens in Arkansas database.

Perichaena depressa Lib.

First reported by Eliasson et al. (1988) and represented by 42 specimens in the Arkansas database.

Perichaena dictyonema Rammeloo

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Perichaena longipes L.M. Walker, Leontyev & S.L. Stephenson

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Perichaena microspora Penz. & Lister

First reported by Eliasson et al. (1988) and represented by one specimen in the Arkansas database.

Perichaena quadrata T. Macbr.

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Physarum aeneum (Lister) R.E. Fr.

First reported by Clayton et al. (2014) and represented by six specimens in the Arkansas database.

Physarum album (Bull.) Chevall.

First reported by Eliasson et al. (1988) and represented by 46 specimens in the Arkansas database. In the older literature, this species is listed as *Physarum nutans* Pers.

Physarum auriscalpium Cooke

First reported by Eliasson et al. (1988) and represented by two specimens in the Arkansas database.

Physarum bogoriense Racib.

First reported by Clayton et al. (2014) and represented by three specimens in the Arkansas database.

Physarum cinereum (Batsch) Pers.

First reported by Tucker et al. (2011) and represented by 46 specimens in the Arkansas database.

Physarum citrinum Schumach.

First reported by Fischer and Stephenson (2014) and represented by one specimen in the Arkansas database.

Physarum compressum Alb. & Schwein.

First reported by Tucker et al. (2011) and represented by nine specimens in the Arkansas database.

Physarum crateriforme Petch

First reported by Eliasson et al. (1988) and represented by 119 specimens in the Arkansas database.

Physarum decipiens M.A. Curtis

First reported by Massingill and Stephenson (2013) and represented by 24 specimens in the Arkansas database.

Physarum flavicomum Berk.

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Physarum galbeum Wingate

First reported by Stephenson et al. (2020) and represented by seven specimens in the Arkansas database.

Physarum hongkongense Chao H. Chung

First reported by Clayton et al. (2014) and represented by 21 specimens in the Arkansas database.

Physarum lateritium (Berk. & Ravenel) Morgan

First reported by dela Cruz et al. (2014) and represented by one specimen in the Arkansas database.

Physarum murinum Lister

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Physarum notabile T. Macbr.

Represented by four specimens in the Arkansas database. Not previously reported from Arkansas.

Physarum nudum T. Macbr.

First reported by Massingill and Stephenson (2013) and represented by one specimen in the Arkansas database.

Physarum oblatum T. Macbr.

First reported by dela Cruz et al. (2014) and represented by one specimen in the Arkansas database.

Physarum pusillum (Berk. & M.A. Curtis) G. Lister

First reported by Massingill and Stephenson (2013) and represented by 40 specimens in the Arkansas database.

Physarum rubiginosum Fr. & Palmquist

First reported by Goad and Stephenson (2013) and represented by one specimen in the Arkansas database.

Physarum serpula Morgan

First reported by Goad and Stephenson (2013) and represented by 16 specimens in the Arkansas database.

Physarum superbum Hagelst.

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Physarum stellatum (Masse) G.W. Martin

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Physarum superbum Hagelst.

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Physarum viride (Bull.) Pers.

First reported by dela Cruz et al. (2014) and represented by 21 specimens in the Arkansas database.

Reticularia intermedia Nann.-Bremek.

Not recorded in print as occurring in Arkansas but represented by a specimen (BPI827542) collected by T. E. Brooks in 1965 and deposited in the National Fungus Collections.

Reticularia jurana Meyl.

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Reticularia lycoperdon Bull.

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Reticularia splendens Morgan

Represented by five specimens in the Arkansas database. Not previously reported from Arkansas.

Stemonitis axifera (Bull.) T. Macbr.

First reported by Eliasson et al. (1988) and represented by eight specimens in the Arkansas database.

Stemonitis flavogenita E. Jahn

Represented by nine specimens in the Arkansas database. Not previously reported from Arkansas.

Stemonitis fusca Roth

First reported by Eliasson et al. (1988) and represented by ten specimens in the Arkansas database.

Stemonitis herbatica Peck

First reported by Goad and Stephenson (2013) and represented by 11 specimens in the Arkansas database.

Stemonitis mussooriensis G.W. Martin, K.S. Thind & Sohi

First reported by dela Cruz (2014) and represented by one specimen in the Arkansas database.

Stemonitis nigrescens Rex

First reported by Tucker et al. (2011) and represented by 137 specimens in the Arkansas database. *Stemonitis nigrescens* has not always been recognized as distinct from *S. fusca* Roth. Both Martin and Alexopoulos (1969) and Ing (1999) did recognize *S. nigrescens*. The latter author pointed out that the two species are biologically different, with *S. nigrescens* appearing in moist chamber cultures while this is not typically the case for *S. fusca*.

Stemonitis pallida Wingate

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database.

Stemonitis smithii T. Macbr.

First reported by Eliasson et al. (1988) and not represented by any specimens in the Arkansas database. Like *Stemonitis nigrescens*, *S. smithii* is not always regarded as distinct from another species—in this case *Stemonitis axifera* (Bull.) T. Macbr. However, *S. smithii* was recognized by both Martin and Alexopoulos (1969) and Ing (1999). In the experience of the author, this species is not common, but the small fruiting bodies, typically occurring in small clusters, distinguish *S. smithii* from *S. axifera*.

Stemonitis splendens Rostaf.

Represented by two specimens in the Arkansas database. Not previously reported from Arkansas.

Stemonitis uvifera T. Macbr.

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Stemonitopsis hyperopta (Meyl.) Nann.-Bremek.

First reported by Eliasson et al. (1988) and represented by 11 specimens in the Arkansas database. In all but the most recent literature this species is listed as *Stemonitis hyperopta* Meyl.

Stemonitopsis typhina (F.H. Wigg.) Nann.-Bremek.

First reported by Eliasson et al. (1988) and represented by four specimens in the Arkansas database. In all but the most recent literature this species is listed as *Comatricha typhoides* (Bull.) Rostaf.

Trichia botrytis (J.F. Gmel.) Pers.

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Trichia contorta (Ditmar) Rostaf.

First reported by Eliasson et al. (1988) and represented by two specimens in the Arkansas database.

Hemitrichia decipiens (Pers.) García-Cunch., J.C. Zamora & Lado

Represented by two specimens in the Arkansas database. In all but the most recent literature, this species is listed as *Trichia decipiens* (Pers.) T. Macbr.

Trichia scabra Rostaf.

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Trichia subfusca Rex

First reported by dela Cruz (2014) and represented by 47 specimens in the Arkansas database.

Trichia varia (Pers. ex J.F. Gmel.) Pers.

First reported by Eliasson et al. (1988) and represented by nine specimens in the Arkansas database.

Tubifera ferruginosa (Batsch) Gmel.

Represented by one specimen in the Arkansas database. Not previously reported from Arkansas.

Willkommlangea reticulata (Alb. & Schwein.) Kuntze

First reported by Clayton et al. (2014) and represented by 18 specimens in the Arkansas database.

Discussion

The vast majority of specimens in the Arkansas database were obtained with the use of moist chamber cultures and do not reflect the relative abundance of a particular species in nature. However, *Arcyria cinerea* (364 specimens) and *Metatrichia vesparia* (145 specimens) might represent exceptions. Based on the experience of the author, both are among most common myxomycetes encountered in the field in Arkansas. The former species frequently appears in moist chamber cultures, but this is rarely the case of the latter. Eight other species (*Cribraria violacea*, *Diderma effusum*, *Lamproderma scintillans*, *Ophiotheca chrysosperma*, *Physarum crateriforme*, and *Stemonitis nigrescens*) were represented by more than 100 specimens in the Arkansas database, and all of these are species commonly appearing in moist chamber cultures.

The general pattern of abundance, when the entire database is considered, is for a few species to be exceedingly abundant, others moderately abundant (>50 but <100 specimens), still others common (<50 but >10 specimens), and the majority of all species represented by only a few specimens (<10) or in some instance by only one or two specimens. This is consistent with what is typically observed in natural communities and also what was indicated in an analysis of a much larger database consisting of records of myxomycetes from all of the eastern United States (Stephenson et al. 2020).

The data presented in this paper provide additional evidence that in order to capture the diversity of myxomycetes in a given locality or for a particular microhabitat, it is imperative that both collecting specimens that develop under natural conditions in the field and processing samples of dead plant material in moist chamber cultures be part of the overall effort. The appreciable number of species (33) recorded as new to Arkansas also reflects the fact that collecting/culturing of myxomycetes extended over the period of twenty years. It is important to note that the 184 species now known for Arkansas certainly do not

represent all of the species that occur in the state. Additional collecting in habitats not yet investigated would surely yield more new records.

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