

MOSS COLLECTIONS FROM SOUTHEASTERN OHIO¹

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Since the spring of 1953 bryophytes have been collected extensively in the region of Southeastern Ohio centering around Athens. The rich floras of Vinton, Morgan and Washington Counties were within the range of the collections; however, it is mostly with the poorly worked area of Athens County that the writer is concerned here. The recent study has been done with the close cooperation of Gustav W. Hall who undertook the study of the liverwort flora which he intends to present separately. Both recent collections and those of previous workers (McCleary, 1945) are considered in an effort to list all species known from the area at present.

The region studied consists of unglaciated hill country drained mostly by the Hocking River. The county is rather uniform in topography with slightly more dissection on the western edge. The factors affecting the distribution of species are primarily local. Areas visited included a wide variety of habitats, the most interesting of which were the moist ravines, wet pastures, and one forest in particular, a conifer planting located near Carbondale which contained many distinctive plants (Porter, 1956). Collections included mostly terrestrial and saxicolous forms with a very limited aquatic representation and epiphytic species usually restricted to very moist habitats.

At present the new inroads of strip mining are partly offset by the establishment of parks and preserves in numerous areas. However, none of the existing undisturbed areas appear to have been in development more than a few decades. As further development occurs invasion by other species is probable.

The number of species at present listed for Athens County equals 133. A review of available literature (Conard, 1945a; Emmitt, 1950; Henderson, 1927, 1929, 1930a, 1930b; Schnoberger and Wynne-Hillier, 1954; Walters, 1952; Wareham, 1941a, b), and a visit to the herbarium of The Ohio State University revealed no previous reports for the state of *Sphagnum fimbriatum*, *Bryum bicolor*, *Pohlia delicatula* and *Brachythecium starkei*. Except where stated specimens are deposited in the herbarium of Ohio University. Those other than the writer furnishing extensive collections were Gustav Hall and James A. McCleary. Additional specimens were contributed by many others including: W. G. Gambill, A. H. Blickle, S. G. Boyce, Walter Porter, R. T. Wareham. A number of publications (Andrews, 1913; Conard, 1944; Grout, 1903, 1928-40; Jennings, 1951; Welch, 1943-54) were used for identification, and numerous doubtful specimens were identified or verified by Dr. Henry S. Conard, Dr. A. J. Sharp and Dr. Winona H. Welch whose aid the writer wishes gratefully to acknowledge.

SPHAGNACEAE

Sphagnum capillaceum (Weiss) Schrank. Found in one hollow in Carbondale Forest and on an old pine covered slope in Waterloo Game Preserve.

Sphagnum fimbriatum Wils. Found once in another hollow in Carbondale Forest. Previously unreported for the state. Common to the north of Ohio and in the mountains to the east.

TETRAPHIDACEAE

Tetraphis pellucida Hedw. Common on moist shaded rock faces in ravines. Also occasionally on rotten wood.

¹Contribution from the Botanical Laboratory of the University of Tennessee, N. Ser. 175. Most of this work was done while the author was a student at Ohio University, Athens, Ohio.

POLYTRICHACEAE

- Atrichum angustatum* (Brid.) Bry. Eur. Common on soil of higher and more exposed slopes.
Atrichum undulatum (Hedw.) Beauv. Common on moist shaded lower slopes and in bottomlands.
Pogonatum pensilvanicum (Hedw.) Paris. Common on bare soil in moist shaded ravines.
Polytrichum commune Hedw. Scattered, in wet hollows and in patches on cinders along railroad tracks. In a roadside ditch at Lake Hope in Vinton County.
Polytrichum juniperinum Hedw. Scattered, on upper slopes and ridge tops.
Polytrichum ohioense Ren. & Card. Very common on wooded slopes.
Polytrichum piliferum Hedw. Collected once in Athens County on dry wooded south facing slope. Found also on exposed ledge near Moonville in Vinton County.

BUXBAUMIACEAE

- Diphyscium foliosum* (Hedw.) Mohr. Common on shaded slopes and in large patches on moist sandstone.

FISSIDENTACEAE

- Bryoxiphium norvegicum* (Brid.) Mitt. Rare, in a few very sheltered ravines on moist sandstone. Listed from many neighboring counties in southeastern Ohio (Steere, 1937).
Fissidens cristatus Wils. Not common, but in large mats on wet sandstone.
Fissidens minutulus Sull. Common on moist shaded sandstone in ravines. Often hidden by overstory of larger mosses.
Fissidens osmundioides Hedw. Common on soil and rock in moist shaded ravines.
Fissidens taxifolius Hedw. Less common than the last but in similar locations.

DITRICHACEAE

- Ceratodon purpureus* (Hedw.) Brid. Not common but growing on a wide variety of substrates.
Ditrichum lineare (Sw.) Lindb. On shaded soil. Collected in previous study by McCleary.
Ditrichum pallidum (Hedw.) Hampe. In Athens County on shaded soil and uncommon. Wide spread in central Vinton County.
Pleuroidium subulatum (Hedw.) Lindb. Common on moist exposed soil in early spring.

DICRANACEAE

- Brothera leana* (Sull.) C. Mull. Rare, collected once on rotten wood in Carbondale forest.
Dicranella heteromalla (Hedw.) Schimp. Common on shaded soil and moist rock surfaces.
Dicranella varia (Hedw.) Schimp. Collected twice at widely separated stations, both times on soil on roadside bank.
Dicranum condensatum Hedw. In extensive patches on shaded slopes near western edge of Athens County.
Dicranum flagellare Hedw. Scattered, on shaded rocks and rotten wood.
Dicranum fulvum Hook. Very common on shaded rocks on north facing slopes and in ravines.
 Var. *viride* (Sull. & Lesq.) Grout. Scattered, on tree bases in moist woods.
Dicranum montanum Hedw. Common on moist tree bark.
Dicranum scoparium Hedw. Very common on wooded slopes.
Dicranum spurium Hedw. On shaded slopes in central Athens County.
Leucobryum albidum (Brid.) Lindb. Collected once on rocky, oak covered, south facing slope.
Leucobryum glaucum (Hedw.) Schimp. Very common on shaded slopes.
Rhabdoweisia denticulata (Brid.) Bry. Eur. On moist sandstone in shaded ravines.

GRIMMIACEAE

- Grimmia apocarpa* Hedw. Very common on rock.
Hedwigia ciliata Hedw. Very common on rock.
Ptychomitrium incurvum (Muhlenb.) Sull. Collected many times on partially exposed rock.

POTTIACEAE

- Acaulon rufescens* Jaeg. Collected once on patch of bare soil on grazed slope in early spring.
Astomum muhlenbergianum (Sw.) Grout. Common in early spring in pastures.
Barbula unguiculata Hedw. Very common on roadside banks, preferring more basic soil.
Desmatodon porteri James. Common on walls in Athens.
Gymnostomum aeruginosum Smith. Found in many moist shaded ravines near Athens. Also found near Cutler in Washington County.
Phascum cuspidatum Hedw. Widely distributed in early spring in fields and at roadsides.
Tortella humilis (Hedw.) Jennings. On shaded walls and on tree bases. Not common.
Weissia controversa Hedw. On rocks, soil and some on rotten wood. Common.

EPHEMERACEAE

- Ephemerum spinulosum* Schimp. One collection from a bottomland pasture in October. Probably more common.

FUNARIACEAE

- Aphanorhagma serratum* (Hook. & Wils.) Sull. Widely distributed in bottomland fields in late fall.
Funaria flavicans Mx. Scattered. When immature hard to distinguish from next.
Funaria hygrometrica Hedw. Common on walls and in burned areas.
Physcomitrium turbinatum (Mx.) Brid. Very common on wet soil in fields.

ORTHOTRICHACEAE

- Drummondia prorepens* (Hedw.) Jennings. Collected once on bark of an isolated tree.
Orthotrichum stellatum Brid. Common on fallen logs in moist hollows.
Orthotrichum strangulatum Schwaegr. Found only on cement walls.
Ulota crispa (Hedw.) Brid. On fallen logs in moist ravines. Not common.

AULACOMNIACEAE

- Aulacomnium heterostichum* (Hedw.) Bry. Eur. Common on moist shaded, usually north facing slopes.
Aulacomnium palustre (Web. & Mohr) Schwaegr. Scattered, in boggy places.

BARTRAMIACEAE

- Bartramia pomiformis* Hedw. Common in association with *Aulacomnium heterostichum*.
Philonotis longiseta (Rich.) E. G. B. Scattered, in crevices of rocks in streams.

BRYACEAE

- Bryum argenteum* Hedw. Very common on soil and rock and on overturned tree bases.
Bryum bicolor Dicks. Collected only on a wall on a shaded hillside of the Ohio University campus in Athens. More common southward and previously unreported from Ohio.
Bryum caespiticium Hedw. Common on moist shaded rocks.
Bryum capillare Hedw. Common in bottomland fields.
Bryum pseudotriquetrum (Hedw.) Schwaegr. Scattered, in wet places. Collected by McCleary.
Leptobryum pyriforme (Hedw.) Schimp. At bases of shaded, wet cliffs and collected once in fruit on a wall. Not common.
Pohlia delicatula (Hedw.) Grout. (*Pohlia carnea* Linb.) Collected once in a roadside ditch. Scattered in distribution in eastern North America with reports from Illinois and New York. (Grout, 1928-1940), Iowa (Conard, 1945b), Tennessee (Clebsch, 1947), Nova Scotia (Erskine, 1950) and New Jersey (Lawton, 1951). Not previously reported from Ohio.
Pohlia nutans (Hedw.) Lindb. Common on wooded slopes.
Pohlia wahlenbergii (Web. & Mohr) Andrews. On wet soil in shaded ravines. Scattered.
Rhodobryum roseum (Bry. Eur.) Limpr. In moist shaded ravines. Not common.

MNIACEAE

- Mnium affine* Bland. In moist shaded ravines. Not common.
Mnium cuspidatum Hedw. Very common in moist shaded places.
Mnium punctatum Hedw. Common in moist shaded ravines.
Mnium serratum Brid. Common on moist shaded rock surfaces in ravines.

HYPNACEAE

- Amblystegium serpens* (Hedw.) Bry. Eur. Collected once in crevices of a shaded wall.
Amblystegium varium (Hedw.) Lindb. Very common on stones and rotten wood.
Brachythecium flagellare (Hedw.) Jennings. On moist shaded rock in ravines. Not common.
Brachythecium flexicaule Ren. & Card. Collected once in a boggy hollow containing *Alnus* and *Cephalanthus*.
Brachythecium oxycladon (Brid.) J. & S. Very common in moist shaded locations. Mostly on rock.
Brachythecium rivulare Bry. Eur. Common on wet shaded rock in ravines.
Brachythecium rutabulum (Hedw.) Bry. Eur. On rotting wood in moist shaded ravines. Not common.
Brachythecium salebrosus (Web. & Mohr) Bry. Eur. Common in moist shaded locations, usually on rotting wood.
Brachythecium starkei (Brid.) Bry. Eur. One collection on soil in ravine. Not previously reported from Ohio.
Brotherella recurvans (Mx.) Fleisch. Collected only in Carbondale forest.
Bryhnia graminicolor (Brid.) Grout. On moist rock in ravines. Not common.
Bryhnia novae-angliae (Sull. & Lesq.) Grout. A collection located in the herbarium of Ohio State University.
Calliergonella schreberi (Bry. Eur.) Grout. Collected once on moist shaded roadside bank.
Campylium chrysophyllum (Brid.) Bryhn. Common on rather open slopes.
Campylium hispidulum (Brid.) Mitt. Collected once by shaded tree base.
Cirriphyllum boscii (Schwaegr.) Grout. Very common on moist soil and rock in fields and ravines.
Climacium americanum Brid. Common on moist shaded slopes.
Entodon cladorrhizans (Hedw.) C. Mull. On rotting wood in ravines. Not common.
Entodon seductrix (Hedw.) C. Mull. Very common on wood and rock in moist shaded places.
Eurhynchium hians (Hedw.) J. & S. Scattered on soil and litter in moist ravines and roadside ditches.
Eurhynchium pulchellum (Hedw.) Jennings. In moist shaded ravines. Not common.
Eurhynchium serrulatum (Hedw.) Kindb. Common on soil, usually by tree bases.
Heterophyllum haldanianum (Grev.) Kindb. Found once in moist shaded ravine.
Homomallium adnatum (Hedw.) Broth. Collected on moist shaded rocks. Probably common.
Hygroamblystegium tenax (Hedw.) Jennings. Common on rock in small streams.
Hylocomium brevirostre (Beauv.) Bry. Eur. Collected once in a moist shaded rocky hollow.
Hypnum curvifolium Hedw. Common on moist shaded rock.
Hypnum imponens Hedw. Very common on soil on slopes and rotting wood in ravines.
Hypnum molluscum Hedw. On moist soil and rock. Scattered.
Hypnum patientiae Lindb. Common in wet hollows and roadside ditches.
Leptodictyum riparium (Hedw.) Warnst. Collected in shaded stream.
Leptodictyum trichopodium (Schultz) Warnst. var. *kochii* (Bry. Eur.) Broth. Common on moist soil in fields.
Plagiothecium denticulatum (Hedw.) Bry. Eur. Common on moist shaded rocks in ravines.
Plagiothecium deplanatum (Sull.) Grout. On moist shaded rocks in ravines. Scattered.
Plagiothecium geophilum (Aust.) Grout. Collected by McCleary in previous study.
Plagiothecium muellerianum Schimp. On moist shaded rock surfaces in ravines. Not common.
Plagiothecium roeseanum (Hampe) Bry. Eur. On moist shaded rocky bluffs.
Plagiothecium sylvaticum (Brid.) Bry. Eur. Collected in previous study by McCleary.
Platygyrium repens (Brid.) Bry. Eur. Very common on moist tree trunks and fallen logs.

- Porotrichum alleghaniense* (C. Mull.) Grout. On wet shaded rock in ravines. Scattered.
Pylaisia selwynii Kindb. Collected once on tree in moist ravine.
Rhytidium rugosum (Hedw.) Kindb. In an extensive mat in a wet field. Destruction of the station by a new artificial lake is expected. Also collected on a wooded ridge near Moonville in Vinton County.
Sematophyllum carolinianum (C. Mull.) E. G. B. Common on moist shaded rocks in ravines.

LESKEACEAE

- Anomodon attenuatus* (Hedw.) Huben. Very common on moist shaded rocks and trees.
Anomodon minor (Beauv.) Lindb. Less common but in similar locations to the last.
Anomodon rostratus (Hedw.) Schimp. Very common on moist shaded rocks and trees.
Anomodon tristis (Cesati) Sull. On moist bark, usually on fallen logs in ravines. Scattered.
Leskea gracilescens Hedw. Common on stones and cement culverts.
Leskea obscura Hedw. Scattered, on fallen logs.
Leskea polycarpa Hedw. Growing on bases of willow trees periodically inundated by Hocking River.
Thelia asprella Sull. On tree bases and rotting wood. Common in the western part of Athens County and in Vinton County.
Thelia hirtella (Hedw.) Sull. Found in similar locations to the last but less common.
Thuidium delicatulum (Hedw.) Mitt. Very common on soil in open fields or wooded areas, tree bases, rotten wood or rock.
Thuidium microphyllum (Hedw.) Best. Specimen with many characters approaching those of *T. virginianum*. Collected once on rotting wood in moist ravine.
Thuidium pygmaeum Bry. Eur. Collected on moist shaded rocks in ravines.
Thuidium recognitum (Hedw.) Lindb. Collected once in a moist ravine. Also collected in Morgan County.
Thuidium virginianum (Brid.) Lindb. Collected on soil of dry wooded slopes.

HOOKERIACEAE

- Hookeria acutifolia* Hook. In moist cracks and pockets under sandstone overhangs. Not common.

LEUCODONTACEAE

- Leptodon trichomitrium* (Hedw.) Mohr. On trees in moist ravines. Not common and mostly in the western part of Athens County.
Leucodon sciuroides (Hedw.) Schwaegr. On trees in moist ravines. Scattered.

FABRONIACEAE

- Schwetschkeopsis denticulata* (Sull.) Broth. On trees in moist ravines. Not common.

FONTINALACEAE

- Fontinalis disticha* Hook. & Wils. Collected once in remnant of old Hocking Canal.
Fontinalis novae-angliae Sull. Collected once in western Athens County on rocks in stream above small falls. Common in areas of eastern and central Vinton County.

Additional species not reported from Athens County but collected recently in neighboring Vinton County include:

- Sphagnum recurvum* Beauv. Collected in a marshy valley between Moonville and the Athens County line.
Sphagnum subsecundum Nees. Found in extensive mats in bottomland near Zaleski.
Dicranum fuscescens Turn. Found in moist shaded ravine in Vinton Furnace Experimental Forest in the central part of Vinton County.
Grimmia laevigata (Brid.) Brid. Growing on high exposed ledge near Moonville.

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