

THE OHIO JOURNAL OF SCIENCE

VOL. 64

MAY, 1964

No. 3

OHIO LIVERWORTS

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The liverworts (Hepaticae) known to occur in Ohio have been cited in numerous publications but no recent attempt has been made to account for species present or their distribution within the state. With the increasing interest now being shown in providing detailed distributional data for the Ohio vascular plant flora (as implied, e.g., by Cooperrider, 1961), similar data for Hepaticae should be of interest also.

Liverworts are less abundant than mosses in Ohio and fewer species are known. Nonetheless, 122 species of hepatics compared to 331 species of mosses (Giesy, 1957) suggests a relatively rich hepatic flora for a mesophytic temperate region. The wealth of species already known for a heavily collected region, i.e., southeastern Ohio, suggests that additions to the present list and meaningful range extensions can be expected when collections are made from the many unexplored counties (fig. 1).

The collections deposited in The Ohio State University Herbarium reflect that moss collectors (see Giesy, 1957) are also hepatic collectors. Thus, specimens prepared by Hannah J. Biddlecome, E. Jane Spence, W. C. Werner, Edo Claassen, H. C. Beardslee, C. H. Coles, and R. C. Wareham comprise a significant part of the collections. In addition, there were abundant collections from Hocking and nearby counties made by Mary S. (Mrs. Bayard R.) Taylor. It is clear from the richness of the collections that Mrs. Taylor has made a considerable contribution to Ohio hepaticology and has probably collected more species of Hepaticae in Ohio than anyone else.

We have not attempted to account for every collection cited for Ohio or to examine every specimen ever collected. Every county record listed is based on a specimen in The Ohio State University Herbarium unless noted MU for the Miami University Herbarium or ABSH for The American Bryological Society Hepatic Herbarium at The University of Cincinnati. It is obvious from figure 1 that much field work remains to be done before margins of the distributional patterns can be established.

The numerous changes in nomenclature and many new discoveries within Ohio since the last list appeared over fifty years ago are incorporated below. If the species is reported from one or more adjacent states, we have noted that fact, but we have not attempted to outline the total distribution for any species. It is hoped that this preliminary report will stimulate a renewed interest in Ohio liverworts.

Lepidoziaceae

Bazzania denudata (Torr.) Trevis. Athens (Hall, 1958); Fairfield; Hocking. Reported from the adjacent states of Kentucky, New York, and West Virginia.

Bazzania tricrenata (Wahl.) Trevis. Hocking, ABSH. Reported from the adjacent states of Kentucky, New York and West Virginia.

Bazzania trilobata (L.) S. F. Gray. Ashtabula; Athens (Hall, 1958); Champaign; Cuyahoga; Fairfield; Franklin; Hocking; Jackson; Lake; Licking; Portage; Ross; Vinton (Hall, 1958); Washington. Reported from all adjacent states.

Lepidozia reptans (L.) Dum. Athens (Hall, 1958); Fairfield; Hocking, ABSH; Lake; Portage. Reported from all adjacent states.

Microlepidozia setacea (Web.) Joerg. Athens, ABSH; Clark, ABSH; Fairfield; Highland. Reported from the adjacent states of Michigan, New York, West Virginia and questionably from Indiana.

Microlepidozia sylvatica (Evans) Joerg. Athens (Hall, 1958); Hocking; Vinton (Hall, 1958). Reported from the adjacent states of Kentucky, New York, Pennsylvania and West Virginia.

Calyptogeiaceae

Calyptogea fissa (L.) Raddi. Ashtabula; Champaign; Cuyahoga; Logan; Scioto. Reported from the adjacent states of Michigan, New York and West Virginia.

Calyptogea muelleriana (Schiffn.) K. Mull. Cuyahoga; Hocking. Reported from the adjacent states of Michigan and New York but only recently recognized (Schuster, 1949) and so further distribution is unknown.

Calyptogea suecica (Arn. & Perss.) K. Mull. Champaign. Reported from Michigan.

Calyptogea sullivantii Aust. Hocking. Reported from the adjacent states of Indiana, Kentucky and West Virginia.

Calyptogea trichomanis (L.) Corda. Athens (Hall, 1958); Champaign; Clinton, MU; Cuyahoga; Geauga; Hocking; Meigs (Hall, 1958); Vinton (Hall, 1958). Reported from all adjacent states.

Cephaloziaceae

Cephalozia affinis Lindb. Hocking. A much overlooked species of unknown distribution.

Cephalozia bicuspidata (L.) Dum. Athens; Cuyahoga; Hocking; Jackson; Logan; Summit. Reported from all adjacent states.

Cephalozia catenulata (Huben.) Spr. Hocking. Reported from all adjacent states except Indiana.

Cephalozia connivens (Dicks.) Lindb. Ashtabula; Champaign; Clark; Jackson; Licking. Reported from all adjacent states.

Cephalozia media Lindb. Adams, ABSH; Ashtabula; Athens (Hall, 1958); Champaign; Cuyahoga; Hocking; Jackson; Lake. Reported from all adjacent states.

Cephalozia planiceps (Aust.) Lindb. Champaign, ABSH; Hocking; Lake. Reported from the adjacent states of Indiana, Michigan and New York.

Cladopodiella fluitans (Nees) Buch. Champaign. Reported from the adjacent states of Michigan, New York and West Virginia.

Nowellia curvifolia (Dicks.) Mitt. Adams, ABSH; Ashtabula; Athens (Hall, 1958); Champaign; Clark; Cuyahoga; Franklin; Hocking; Jackson; Lake; Madison; Medina, ABSH; Portage; Vinton (Hall, 1958). Reported from all adjacent states.

Odontoschisma denudatum (Nees) Dum. Athens (Hall, 1958); Champaign; Clark; Licking; Summit. Reported from all adjacent states except Indiana.

Odontoschisma prostratum (Sw.) Trevis. Athens (Hall, 1958); Clark, ABSH; Hocking; Jackson; Vinton (Hall, 1958). Reported from Indiana, Kentucky, New York and West Virginia.

Cephaloziella byssacea (Roth) Warnst. Hocking. Not yet reported for Indiana and Kentucky of our adjacent states.

Cephaloziella hampeana (Nees) Schiffn. Geauga. Known from all but Pennsylvania of our adjacent states.

Cephaloziella rubella (Nees) Douin. Clark; Hocking. Reported from Indiana, Michigan and New York.

Cephaloziella sullivantii (Aust.) Evans. Clark; Franklin (type locality). Reported from Michigan and New York.

Harpanthaceae

Chiloscyphus pallescens (Ehrh.) Dum. including var. *fragilis* (Roth) K. Müll. Athens (Hall, 1958); Butler, MU; Champaign; Clark; Franklin; Hocking; Lake; Madison; Preble, MU. Reported from all adjacent states.

Chiloscyphus polyanthus (L.) Corda. Athens (Hall, 1958); Geauga, ABSH; Hocking. Reported from the adjacent states of Indiana, New York, Pennsylvania and West Virginia.

Chiloscyphus rivularis (Schräd.) Loeske. Hocking; Jackson; Richland. We have not seen a report from Indiana of the adjacent states.

Geocalyx graveolens (Schräd.) Nees. Adams, ABSH; Ashtabula; Athens, ABSH; Champaign; Clinton, MU; Fairfield; Hocking; Jefferson, MU; Tuscarawas; Vinton (Hall, 1958). Reported from all adjacent states.

Harpanthus scutatus (Web. and Mohr) Spr. Clark; Fairfield; Green; Hocking; Jackson; Lake. Reported from all adjacent states.

Lophocolea alata Mitt. Athens (Hall, 1958). Reported from adjacent states of New York and Pennsylvania.

Lophocolea bidentula (L.) Dum. Hocking. We have seen reports from all adjacent states except Michigan.

Lophocolea heterophylla (Schrad.) Dum. Athens (Hall, 1958); Butler, MU; Champaign; Clark, ABSH; Clinton, MU; Coshoccon; Fairfield; Franklin; Hocking; Jefferson, MU; Lake; Madison; Medina, ABSH; Montgomery, ABSH; Preble, MU; Ross, ABSH. Reported from all adjacent states.

Lophocolea minor Nees. Cuyahoga; Delaware; Lake; Wayne, MU. Reported from all adjacent states.

Jungermanniaceae

Anastrophyllum hellerianum (Nees) Schuster. Champaign; Hocking, ABSH. Reported from adjacent states of Michigan, New York and West Virginia.

Barbilophozia barbata (Schmid.) Loeske. Geauga. We have seen reports from the adjacent states of Indiana, Michigan and New York.

Isopaches bicrenatus (Schmid.) Buch. Hocking, ABSH. We have seen reports from the adjacent states of Michigan, New York, Pennsylvania and West Virginia.

Jamesoniella autumnalis (DC) Steph. Adams, ABSH; Athens (Hall, 1958); Champaign; Clark; Coshoccon, ABSH; Cuyahoga; Fairfield; Franklin; Hocking; Holmes; Jackson; Lawrence; Montgomery, ABSH; Vinton (Hall, 1958).

Jungermannia lanceolata L. Athens (Hall, 1958); Hocking; Jackson, ABSH; Lake; Monroe. Reported from all adjacent states.

Leiocolea badensis (Gott.) Jeorg. Cuyahoga; Greene; Ottawa. We have seen reports from Michigan and New York.

Leiocolea gillmanii (Aust.) Evans. Greene. Apparently reported only from adjacent state of Michigan.

Leiocolea heterocolpa (Thed.) Buch. Hocking. Apparently reported only from Michigan of adjacent states.

Lophozia incisa (Schrad.) Dum. Athens (Hall, 1958); Champaign; Hocking. Apparently not yet reported from Indiana of the adjacent states.

Lophozia mildeana (Gott.) Schiffn. Ashtabula; Hocking. Apparently not yet reported from the adjacent states of Indiana and Kentucky.

Nardia geoscyphus (De Not.) Lindb. Hocking. Reported from Kentucky and Pennsylvania.

Nardia lescurii (Aust.) Underw. Athens (Hall, 1958); Clinton, ABSH; Jackson, ABSH; Vinton (Hall, 1958). Reported from Kentucky and West Virginia.

Plectocolea crenuliformis (Aust.) Mitt. Athens (Hall, 1958); Cuyahoga; Hocking, ABSH; Jackson, ABSH; Meigs, ABSH; Scioto, ABSH. Reported from all adjacent states.

Plectocolea fossombrioides (Aust.) Mitt. Ashtabula; Cuyahoga; Hocking. Apparently known only from West Virginia of the adjacent states.

Plectocolea hyalina (Lyell) Mitt. Adams, ABSH; Athens (Hall, 1958); Cuyahoga; Geauga; Hocking; Jackson; Scioto; Washington. Reported from all adjacent states.

Solenostoma crenulatum (Smith) Mitt. Athens (Hall, 1958); Cuyahoga; Hocking. Reported from all adjacent states.

Solenostoma pumilum (With.) Steph. Athens (Hall, 1958); Clinton, MU; Cuyahoga; Hocking; Scioto. Apparently not yet reported from Indiana.

Tritomaria exsecta (Schmid.) Schiffn. Hocking. We have not seen reports for Indiana or Pennsylvania.

Tritomaria exsectiformis (Breidl.) Schiffn. Geauga. Reported from Michigan and New York.

Marsupellaceae

Marsupella emarginata (Ehrh.) Dum. Hocking. We have seen no reports from Indiana or Pennsylvania.

Marsupella sphacelata (Gieseke) Dum. Hocking. We have seen no report from Indiana.

Plagiophilaceae

Pedinophyllum interruptum (Nees) Lindb. Champaign; Cuyahoga. Reported from Indiana and New York.

Plagiochila asplenioides (L.) Dum. Adams, ABSH; Athens (Hall, 1958); Belmont; Champaign; Fairfield; Greene; Hocking; Lake; Madison; Meigs (Hall, 1958); Monroe; Vinton (Hall, 1958). Reported from all adjacent states.

Plagiochila austinii Evans. Hocking. Reported from New York, Pennsylvania and West Virginia.

Plagiochila sharpii Blomquist. Hocking. Apparently previously known from only North Carolina and Tennessee.

Plagiochila sullivanii Gott. Hocking, ABSH (not seen, but reported by Conklin, 1923). Reported from West Virginia.

Scapaniaceae

Diplophyllum apiculatum (Evans) Steph. Athens (Hall, 1958); Fairchild; Hocking; Jackson; Monroe; Vinton (Hall, 1958). Reported from all adjacent states.

Scapania curta (Mart.) Dum. Jackson. Reported from the adjacent states of Indiana and Michigan.

Scapania nemorosa (L.) Dum. Athens (Hall, 1958); Champaign; Cuyahoga; Fairfield; Geauga, ABSH; Hocking; Lawrence; Vinton (Hall, 1958). Reported from all adjacent states.

Scapania undulata (L.) Dum. Adams, ABSH; Ashtabula; Athens (Hall, 1958); Franklin; Geauga; Hocking; Licking; Montgomery, ABSH; Richland. Reported from all adjacent states.

Porellaceae

Porella pinnata L. Athens (Hall, 1958); Delaware; Greene; Madison. Reported from all adjacent states.

Porella platyphylla (L.) Lindb. Athens (Hall, 1958); Champaign; Clermont; Franklin; Greene, ABSH; Hocking; Montgomery, ABSH; Muskingum; Ottawa; Vinton (Hall, 1958). Reported from all adjacent states.

Porella platyphylloidea (Schwein.) Lindb. Adams; Ashtabula; Auglaize; Butler, MU; Champaign; Clark; Clinton, MU; Coshocton, ABSH; Cuyahoga; Defiance; Delaware; Franklin; Greene; Guernsey; Hamilton, ABSH; Hocking; Jefferson; Lake; Logan; Medina; Muskingum; Pickaway; Portage; Preble, MU; Trumbull; Wayne, MU. Reported from all adjacent states.

Radulaceae

Radula complanata (L.) Dum. Adams, ABSH; Ashland; Athens (Hall, 1958); Belmont; Champaign; Clark; Coshocton, ABSH; Greene; Jefferson, MU; Lake; Madison. Reported from all adjacent states.

Radula obconica Sulliv. Athens (Hall, 1958); Champaign; Clark; Hocking; Lake; Meigs and Vinton (Hall, 1958). Reported from all adjacent states.

Radula tenax Lindb. Hocking. Reported from Kentucky, New York and Pennsylvania.

Frullaniaceae

Frullania asagrayana Mont. Adams, ABSH; Athens (Hall, 1958); Champaign; Fairfield; Hocking; Jackson; Lawrence; Meigs (Hall, 1958).

Frullania bolanderi Aust. Athens; Champaign; Delaware; Fairfield; Hocking; Jackson; Montgomery; Pickaway; Pike; Ross; Scioto; Wayne. We have seen reports of this easily overlooked species only from Michigan.

Frullania brittoniae Evans. Athens (Hall, 1958); Champaign; Clark; Franklin; Hocking; Warren, MU. Reported from all adjacent states.

Frullania eboracensis Gott. Athens (Hall, 1958); Butler, MU; Champaign; Clark; Clinton, MU; Delaware; Franklin; Greene; Hocking; Lake; Montgomery; Wayne, MU. Reported from all adjacent states.

Frullania plana Sulliv. Athens (Hall, 1958, specimen not seen). Reported from Kentucky, Michigan and West Virginia.

Frullania riparia Hampe. Adams, ABSH; Athens (Hall, 1958); Champaign; Clark; Delaware; Fairfield; Franklin; Greene, ABSH; Jackson; Madison; Montgomery, ABSH; Vinton (Hall, 1958); Warren, MU.

Frullania selwyniana Pears. Champaign. We have seen only reports for Michigan of the adjacent states.

Frullania squarrosa (Reinw., Bl., & Nees) Dum. Adams; Champaign; Clark, ABSH; Lawrence; Madison; Montgomery, ABSH. We have not seen reports for Michigan or Pennsylvania.

Frullania saxicola Aust. Muskingum. Perhaps conspecific with *F. inflata* (Frye and Clark, 1947; Schuster, 1953) reported from West Virginia.

Jubula pennsylvanica (Steph.) Evans. Adams, ABSH; Athens (Hall, 1958); Hocking; Meigs (Hall, 1958). Reported from all adjacent states except Michigan.

Lejeuneaceae

Cololejeunea biddlecomiae (Aust.) Evans. Adams; Athens (Hall, 1958); Champaign; Hocking; Vinton (Hall, 1958).

Lejeunea cavifolia (Ehrh.) Lindb. Champaign; Lake. We have found reasonable reports from all adjacent states except Kentucky.

Lejeunea lamacerina Gott. ex Steph. ssp. *gemminata* Schuster. Hocking. Reported by Schuster (1957) from West Virginia and "probably" Kentucky.

Leucolejeunea clypeata (Schwein.) Evans. Adams; Athens (Hall, 1958); Champaign; Hocking; Jackson; Vinton (Hall, 1958). Reported from all adjacent states.

Microlejeunea laetivirens (Nees & Mont.) Evans. Fairfield; Hocking. Reported from Kentucky and West Virginia.

Microlejeunea ruthii Evans. Hocking, ABSH; Jackson, ABSH. Reported from Kentucky and West Virginia.

Microlejeunea ulicina (Tayl.) Evans. Hocking. Reported from Kentucky, New York and West Virginia.

Fossombromiaceae

Fossombromia cristula Aust. Adams; Cuyahoga, ABSH; Hocking; Jackson, ABSH. We have seen reports from all but Kentucky and Pennsylvania of the adjacent states.

Fossombronia foveolata Lindb. Adams, ABSH; Hocking, ABSH. Reported from Indiana, Michigan, New York and West Virginia.

Fossombronia wondraczekii (Corda) Dum. Athens (Hall, 1958); Cuyahoga, ABSH; Hocking; Perry. We have seen reports from Indiana, New York, Pennsylvania and West Virginia.

Pelliaceae

Pellia endiviaefolia (Dicks.) Dum. Champaign. This species has been reported from Michigan, New York and West Virginia.

Pellia epiphylla (L.) Corda. Ashtabula; Athens (Hall, 1958); Hocking; Jackson; Licking; Mahoning; Portage; Trumbull; Vinton (Hall, 1958). Reported from all adjacent states.

Pellia neesiana (Gott.) Limpr. Hocking. We have seen reports from all adjacent states except Indiana.

Blasiaceae

Blasia pusilla L. Ashland; Athens (Hall, 1958); Hocking. We have not seen reports from either Indiana or Kentucky.

Pallaviciniaceae

Pallavicinia lyellii (Hook.) S. F. Gray. Athens (Hall, 1958); Delaware; Franklin; Geauga; Lake; Summit. Reported from all adjacent states.

Metzgeriaceae

Metzgeria conjugata Lindb. Athens (Hall, 1958); Hocking; Lawrence; Meigs (Hall, 1958). Reported from all adjacent states.

Metzgeria crassipilis Lindb. Fairfield; Hocking. We have not seen reports for either Indiana or Michigan.

Metzgeria furcata (L.) Dum. Cuyahoga; Hocking; Jackson. We have not seen a report from Indiana.

Riccardiaceae

Riccardia latifrons Lindb. Champaign; Franklin; Hocking. We have not seen a report from Indiana.

Riccardia multifida (L.) S. F. Gray. Athens (Hall, 1958); Champaign; Hocking. We have not seen a report from Indiana.

Riccardia palmata (Hedw.) Carruth. Champaign; Hocking. We have not seen a report from Indiana.

Riccardia pinguis (L.) S. F. Gray. Athens (Hall, 1958); Champaign; Coshocton; Vinton (Hall, 1958). Reported from all adjacent states.

Marchantiaceae

Conocephalum conicum (L.) Dum. Adams; Ashtabula; Athens; Champaign; Clinton, MU; Delaware; Fairfield; Franklin; Gallia; Highland; Hocking; Jackson; Jefferson, MU; Licking; Logan; Meigs (Hall, 1958); Ottawa; Portage; Shelby; Trumbull; Vinton. Reported from all adjacent states.

Dumortiera hirsuta (Sw.) Reinw. Fairfield. Reported from the adjacent states of Kentucky, Pennsylvania and West Virginia.

Lunularia cruciata (L.) Dum. Butler, MU; Lake; Wayne, MU. We have seen no report for Kentucky.

Marchantia polymorpha L. Ashtabula; Athens (Hall, 1958); Butler, MU; Clark; Coshocton; Cuyahoga; Defiance; Fairfield; Franklin; Greene; Lake; Logan; Richland. Reported from all adjacent states.

Preissia quadrata (Scop.) Nees. Adams, ABSH; Athens (Hall, 1958); Hocking. We have seen no report for West Virginia.

Rebouliaeeae

Asterella tenella (L.) Beauv. Athens (Hall, 1958); Coshocton, ABSH; Franklin; Hocking; Jackson. We have not seen a report for Michigan.

Mannia fragrans (Balbis) Frye & Clark. Clark. We have seen reports from the adjacent states of Indiana, New York and Pennsylvania.

Mannia rupestris (Nees) Frye & Clark. Clark. Reported from Indiana, Michigan and New York.

Reboulia hemisphaerica (L.) Raddi. Athens (Hall, 1958); Champaign; Clark; Fairfield; Greene; Hocking; Lake; Licking; Richland. Reported from all adjacent states.

Ricciaceae

Riccia fluitans L. Delaware; Erie; Fairfield, MU; Hamilton, ABSH; Harrison; Jackson; Jefferson; Lake; Logan; Richland; Summit, ABSH; Warren. Reported from all adjacent states.

Riccia sullivantii Aust. Medina. Reported from all adjacent states except Indiana and Michigan.

Ricciocarpus natans (L.) Corda. Athens (Hall, 1958); Cuyahoga; Erie, ABSH; Franklin; Lake; Lucas; Madison, ABSH; Mahoning, MU; Stark; Union. Reported from all adjacent states.

Anthocerotaceae

Anthoceros crispulus (Mont.) Douin. Ashland, ABSH. Previously reported from Indiana, New York, Pennsylvania and West Virginia.

Anthoceros punctatus L. Adams, ABSH; Athens (Hall, 1958); Hocking, ABSH; Lake. We have seen reports from Indiana, New York and West Virginia.

Phaeoceros laevis (L.) Prosk. Athens (Hall, 1958); Clinton, MU; Coshocton; Cuyahoga; Hamilton, ABSH; Hocking, ABSH; Lake; Lucas, ABSH; Perry; Richland. Reported from all adjacent states.

Notothylas orbicularis (Schwein.) Sulliv. Athens (Hall, 1958); Hocking; Lake; Madison, ABSH. Reported from all adjacent states.

EXCLUDED AND UNCERTAIN SPECIES RECORDED FROM OHIO

Anthoceros laevis (Frye and Clark, 1947) ≡ *Phaeoceros laevis* (L.) Prosk.

Anthoceros laevis var. *minor* (Beardslee, 1876) probably *Phaeoceros laevis* (L.) Prosk.

Aneura palmata (Beardslee, 1876) ≡ *Riccardia palmata* (Hedw.) Carruth.

Aneura pinguis (Beardslee, 1876) ≡ *Riccardia pinguis* (L.) S. F. Gray.

Aneura sessilis (Sullivant, 1848) = *Riccardia pinguis* (L.) S. F. Gray.

Asterella hemisphaerica (Beardslee, 1876) ≡ *Reboulia hemisphaerica* (L.) Raddi.

Blepharozia ciliaris Dum. (Beardslee, 1876) ≡ *Ptilidium ciliare* (L.) Hampe. Doubtfully present in Ohio. The record is apparently based on specimens of *Ptilidium pulcherrimum* (Web.) Hampe which we have seen. The two species were not distinguished by "Gray's Manual."

Cephalozia curvifolia (Dicks.) Dum. (Beardslee, 1876) ≡ *Nowellia curvifolia* (Dicks.) Mitt.

Cephalozia sullivantii Aust. (Beardslee, 1876) ≡ *Cephalozia sullivantii* (Aust.) Evans.

Chiloscyphus ascendens Hook. & Wils. (Beardslee, 1876) Misprint for *C. adscendens* (Hook & Wils.) Sulliv. = *Chiloscyphus pallescens* (Ehrh.) Dum.

Chiloscyphus polyanthus var. *rivularis* Syn. Hep. (Beardslee, 1876) ≡ *Chiloscyphus rivularis* (Schrad.) Loeske.

Fimbriaria tenella Nees. (Beardslee, 1876) ≡ *Asterella tenella* (L.) Beauv.

Frullania aeolotis Nees. (Beardslee, 1876) = *Frullania riparia* Hampe.

Frullania inflata Gott. (Frye and Clark, 1947) Erroneously reported from Ohio. Evans' (1897) revision of *Frullania* did not cite Ohio material.

Grimaldia rupestris (Nees) Lindenb. (Underwood, 1895) ≡ *Mannia rupestris* (Nees.) Frye & Clark.

Jungermannia excisa Dicks. (Beardslee, 1876) ≡ *Lophozia excisa* (Dicks.) Dum. We have seen no specimens of this northern species which should, for the present, be excluded from the flora of Ohio.

Jungermannia crenulata Smith (Beardslee, 1876) ≡ *Solenostoma creunlatum* (Smith) Mitt.

Jungermannia crenuliformis Aust. (Beardslee, 1876) ≡ *Plectocolea crenuliformis* (Aust.) Mitt.

Jungermannia hyalina Lyell. (Beardslee, 1876) ≡ *Plectocolea hyalina* (Lyell) Mitt.

Jungermannia pumila With. (Hall, 1958) ≡ *Solenostoma pumilum* (With.) Steph.

Lejeunea calcarea Libert. (Sullivant, 1848) Probably *Cololejeunea biddlecomiae* (Aust.) Evans, a species not yet recognized in 1848 (See Frye and Clark, 1947).

Lejeunea echinata Tayl. (Beardslee, 1876) Probably *Cololejeunea biddlecomiae* (Aust.) Evans (See Frye and Clark, 1947).

Lejeunea patens Lindb. (Frye and Clark, 1947) = *Lejeunea lamacerina* Gott. ex. Steph. ssp. *geminata* Schuster.

Liochloena lanceolata Nees. (Beardslee, 1876) ≡ *Jungermannia lanceolata* L.

Lophocolea macouni Aust. (Beardslee, 1876) = *Lophocolea heterophylla* (Schrad.) Dum.

Lunularia vulgaris (Beardslee, 1876) = *Lunularia cruciata* (L.) Dum.

Madotheca platyphylla Dum. (Beardslee, 1876) ≡ *Porella platyphylla* (L.) Lindb.

Madotheca platyphylla var. *navicularis* Nees. (Beardslee, 1876) We have been unable to find this combination cited in any of the usual places. It is most probable that the specimen involved was *Porella platyphylloidea* (Schwein.) Lindb. *Porella navicularis* is a western species and its presence in Ohio would be most unusual.

Madotheca porella Nees. (Beardslee, 1876) = *Porella pinnata* L.

Madotheca rivularis Nees. (Beardslee, 1876) = *Porella cordeana* (Huben.) Evans a Pacific coast species most like *P. pinnata* L. to which this report doubtless should be assigned.

Mastigobryum trilobatum Nees. ≡ *Bazzania trilobata* (L.) S. F. Gray.

Notothylas melanospora Sulliv. (Sullivant, 1848) = *Notothylas orbularis* (Schwein.) Sulliv.

Notothylas valvata Sulliv. (Sullivant, 1848) = *Notothylas orbicularis* (Schwein.) Sulliv.

Nowellia (sic!) *curvifolia* (Dicks.) Mitt. (Hall, 1958) Misprint for *Nowellia*.

Odontoschisma hubeneriana Rabenh. (Beardslee, 1876) = *Odontoschisma denudatum* (Mart.) Dum.

Odontoschisma scutata (Web.) Aust. (Beardslee, 1876) ≡ *Harpanthus scutatus* (Web. & Mohr) Spr.

Odontoschisma sphagni (Dicks.) Dum. (Underwood, 1884) often confused with *Odontoschisma denudatum* (Mart.) Dum. (see Frye and Clark, 1944). Until specimens are found, *O. sphagni* should be excluded from the Ohio Flora.

Phragmicoma clypeata Sulliv. (Beardslee, 1876) ≡ *Leucolejeunea clypeata* (Schwein.) Evans.

- Plagiochila macrostoma* Sulliv. (Sullivant, 1848) Misprinted "*microstoma*" in Frye and Clark (1943) = *Pedinophyllum interruptum* (Nees.) Lindb.
Plagiochila porelloides Lindb. (Beardslee, 1876) = *Plagiochila asplenoides* (L.) Dum.
Plagiochila sullivanii Gott. in Evans (Frye and Clark, 1944) Erroneously reported on basis of Conklin (1923) but it is not listed there.
Plectocolea crenulata (Smith) Evans. (Hall, 1958) = *Solenostoma crenulata* (Smith) Steph.
Riccia frostii Aust. (Underwood, 1894) Specimens not seen. Doubtfully present in Ohio.
Riccia huebeneriana Lindb. (Underwood, 1894) = *Riccia sullivanii* Aust. (See Frye and Clark, 1937).
Riccia lutescens Schwein. (Underwood, 1894) = *Riccioarpus natans* (L.) Corda.
Riccia membranacea Gott. & Lindb. (Frye and Clark, 1937) Based on Underwood's (1894) report of *R. tenuis*. No specimens have been seen and the species is doubtfully present in Ohio.
Riccia tenuis Aust. (Underwood, 1894) = *Riccia membranacea* Gott. & Lindb. which is doubtfully present in Ohio.
Sarcoscyphus sphacelatus Nees. (Beardslee, 1876) = *Marsupella sphacelata* (Gieseke) Dum.
Scapania albicans var. *taxifolia minor* Aust. (Beardslee, 1876) = *Diplophyllum apiculatum* (Evans) Steph.
Steezia lyellii Lehm. (Beardslee, 1876) = *Pallavicinia lyellii* (Hook.) S. F. Gray.

Grateful acknowledgement is given Dr. T. Richard Fisher and Dr. Clara Weishaupt of The Ohio State University Herbarium for loan of the hepatic herbarium. The American Bryological Society Hepatic Herbarium was consulted through the courtesy of Dr. Margaret Fulford of the University of Cincinnati. Arthur Olah has assisted greatly with many details of this study. Partial financial support for the study of the Southwestern Ohio flora has been provided from Miami University research funds.

REFERENCES

- Ammons, Nelle. 1940. A manual of the liverworts of West Virginia. Amer. Midl. Nat. 23: 3-164.
 Beardslee, H. C. 1876. List of Hepaticae growing in Ohio. Bot. Bull. (=Bot. Gaz.) 1: 22.
 Conklin, G. 1923. Report of the curator of the Hepatic Herbarium. Bryologist 26: 10-11.
 Cooperrider, T. S. 1961. Ohio floristics at the county level. Ohio J. Sci. 61: 318-320.
 Frye, T. C. and Lois Clark. 1937-47. The Hepaticae of North America. Univ. Wash. Publ. Biol. 6: 1-1018.
 Fulford, Margaret. 1934. List of the Hepaticae of Kentucky. Bryologist 37: 21-28.
 ———. 1936. Additions to the list of Hepaticae of Kentucky—I. Bryologist 39: 119-122.
 Giesy, R. M. 1957. Studies in Ohio bryophytes. Ohio J. Sci. 57: 290-312.
 Hall, G. W. 1958. Notes on the hepatic flora of the Athens area. Ohio J. Sci. 58: 15-19.
 Kellough, R. D. 1960. Bryophytes of Clinton County, Ohio. Ohio J. Sci. 60: 278-282.
 Miller, H. A. and J. W. Thomson. 1959. The 1958 foray of the American Bryological Society. Bryologist 62: 67-73.
 Parker, Dorothy. 1928. The Hepaticae of Indiana. Bryologist 41: 41-46.
 Schuster, R. M. 1949. The ecology and distribution of Hepaticae in Central and Western New York. Amer. Midl. Nat. 42: 513-712.
 ———. 1953. Boreal Hepaticae. A manual of the liverworts of Minnesota and adjacent regions. Amer. Midl. Nat. 49: 257-684.
 ———. 1957. North American Lejeuneaceae VI. Lejeunea . . . Elisha Mitchell Sci. Soc. 73: 122-197.
 Steere, W. C. 1947. The bryophyte flora of Michigan. Pap. Mich. Acad. Sci., Arts and Lett. 31: 33-56.
 Sullivant, W. S. 1848. Hepaticae. In Gray, A. Manual of the botany of the northern United States. p. 678-696.
 Underwood, L. M. 1884. Descriptive catalog of the North American Hepaticae, north of Mexico. Bull. Ill. State Lab. Nat. Hist. 2: 1-133.
 ———. 1894. Notes on our hepaticae—2. The genus Riccia. Bot. Gaz. 19: 273-278.
 ———. 1895. Notes on our hepaticae—3. The distribution of North American Marchantiaceae. Bot. Gaz. 20: 59-71.
 Wagner, K. A. 1946. Additions to the hepatic flora of Indiana. Bryologist 49: 125-126.
 ———. 1947. Additional distribution records of Hepaticae in Indiana. Proc. Ind. Acad. Sci. 56: 86-91.
 ———. 1947. A consideration of some reports of Indiana liverworts. Proc. Ind. Acad. Sci. 56: 92-94.
 ———. 1950. Notes on Indiana liverworts III. Some new county and state records. Proc. Ind. Acad. Sci. 59: 112-114.
 ———. 1952. Notes on Indiana liverworts IV. A report of recent collections. Proc. Ind. Acad. Sci. 61: 103-105.