OBELISK

Ohio Bryology *et* Lichenology, Identification, Species, Knowledge

Newsletter of the Ohio Moss and Lichen Association. Volume 21 No. 1. 2024.

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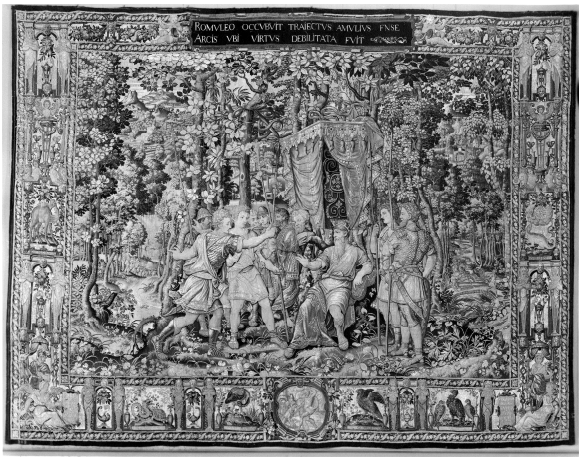
Lichens and Mosses in Art

The Toledo Museum of Art has a wonderful variety of paintings, glass, sculptures, books and other objects among its 30,000 works of art. One tapestry in particular struck me as very interesting on my most recent visits.



"The Legend of Romulus and Remus: Romulus Brings the Head of Amulius" was made by Frans Geubels in Brussels around the years 1575-1585. It is 11 feet 6 inches high and 14 feet 7 inches wide, woven with wool, silk and gold.

For me the most striking features are the very distinct lichens and mosses, as well as ferns and mushrooms. Here are a few examples:

Lichens and mosses are often shown in art as blurs of color on tree trunks and rocks. Is that how the artists saw them? Or did they see these details, but didn't choose to show them? Clearly this artist was very aware of the smaller features in the landscape and did a masterful job of embellishing the art.

The tapestry is not currently on display at the Toledo Museum of Art, but you can download a large image and more information at http://emuseum.toledomuseum.org/objects/55430/the-legend-of-romulus-and-remus--romulus-brings-the-head-of?ctx=197b6504-7ca1-406c-a027-f3845b60b567&idx=0

— Jim Toppin

Moss with water droplets.
–Photo by Ruth Hart

Spring Foray to Black Fork Wetlands Preserve, Richland County June 8, 2024

The Black Fork of the Mohican River flows 58 miles through Ashland and Richland Counties from its source west of Mansfield until it meets the Clear Fork near Loudonville. It drains an area of about 150 square miles. The Black Fork runs through the site of our Spring Foray to Richland County.

Ashland University preserve manager Dick Stoffer guided us through several areas of the Black Fork Wetlands Preserve. This 305-acre preserve, about halfway between the cities of Ashland and Mansfield, is the largest of five environmental preserves owned by Ashland University. The habitats at Black Fork Wetlands include buttonbush swamps, swamp forests, marshes, riparian corridors and upland areas. Beavers, trumpeter swans, bald eagles, soras, sandhill cranes and other species are commonly seen at the preserve.

In the morning we collected in the southern part of the preserve (accessible through Esbenshade Wetlands, owned by the Ashland County Park District). The area we explored was mainly floodplain forest and upland areas between a large buttonbush swamp and the west bank of the Black Fork.

At noon we had lunch at the Black Fork Wetlands Environmental Studies Center. The center is an innovative flood-proof, off-the-grid classroom/research building at the preserve, made possible by grants from the Crawford-Richland Central Labor Council, the Sisler-McFawn Foundation, the Richland County Foundation, and the Milliron Foundation.

After lunch we walked a few hundred yards east along US Route 42 from the Environmental Studies Center to explore areas of the preserve on the east bank of the Black Fork. Part of our trail was a long-abandoned earthworks for an interurban railroad. This area was mostly upland woods.

We plan to revisit and explore more of the preserve, which has great potential for interesting finds. Our sincere thanks to Dick Stoffer and Ashland University for hosting our foray!

SPECIES LIST (**N** = new county record)

LICHENS
Candelaria concolor **N**
Flavoparmelia caperata
Parmelia sulcata
Parmotrema hypotropum **N**
Physcia millegrana
Punctelia rudecta
Phaeophyscia pusilloides
Ph. rubropulchra

MOSSES
Anomodon attenuatus
Atrichum altecristatum
Brachythecium campestre
B. laetum
Bryoandersonia illecebra
Climacium americanum
Entodon seductrix
Fissidens taxifolius
Leskea gracilescens
Orthotrichum ohioense
O. stellatum N
Oxyrrhynchium hians
Plagiomnium cuspidatum
Platygyrium repens
Polytrichastrum ohioense
Schistidium apocarpum
Taxiphyllum taxirameum

LIVERWORTS
Frullania eboracensis

-Jim Toppin

Spring Foray to Black Fork Wetlands Preserve, Richland County
Back, left to right: Simone Barros, Zach Betonte, Dick Stoffer, Janet Traub, Heather Gilford
Front, left to right: Jim Toppin, Megan Osika, Bob Klips, Steve McKee --Photo by Bob Klips

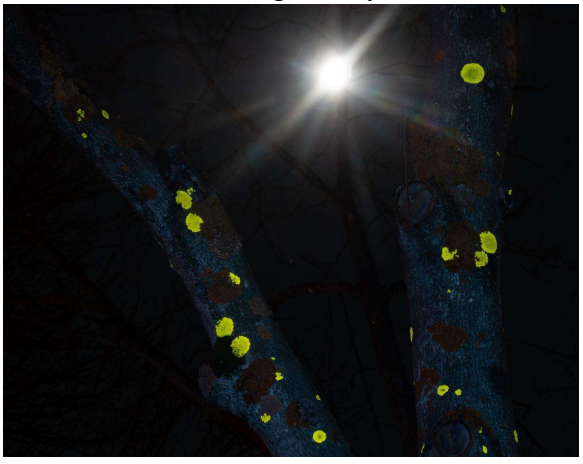
Announcement from the Treasurer

Our OMLA account is in good shape, and no dues will be collected in 2025.

Pyxine subcinerea--The Lichen that Celebrates Halloween

This light gray foliose lichen is distinctive enough to field-recognize, at least to genus, with its linear pruinose-tipped lobes, but being small, is easy to miss—in the daytime at least.

But at night, with the aid of a UV flashlight, the so-called "jack-o-lantern lichen," *Pyxine subcinerea*, stands out vividly as it fluoresces a brilliant golden yellow.



Ray Showman and Don Flenniken, in their landmark *The Macrolichens of Ohio*, published in 2004 by the Ohio Biological Survey, describe the ecology of this species as "Widespread in the southeastern US; common in southern Ohio, uncommon farther north, usually on bark, rarely on rock." Their accompanying range map corroborates this, with circles (1945-1965) or squares (1965-2002) for nearly all the counties in the lower one-third of the state, but only three in the northern two-thirds. However, post-2002 records, gleaned from the Consortium of Lichen Herbaria (https//www.lichenportal.org) shows new records from the following 12 counties, here listed in order of increasing latitude, i.e., from south to north: Fayette, Montgomery, Franklin, Miami, Summit, Huron, Portage, Trumbull, Sandusky, Geauga, Ashtabula, and Lake. This seems to be a striking and sudden northward range expansion, perhaps, given its southern affinity, aided by a warming climate.

Personal anecdotal observations suggest that this lichen is noteworthy not only for the geographic breadth of its occurrence, but for its abundance as well. On the Columbus city street where the photo above was taken, there are 118 mature (>6 in. diameter) trees in the "devil strip" area between the street and the sidewalk. During a few early November nights this year I inspected them all with a UV flashlight and found *Pyxine subcinerea* growing on 70 of them (equivalent to 59.3%). The extent of colonization per tree was quite variable, ranging from just one or a few specimens <1 cm. wide, to instances where a dozen or more yellow patches, some several cm. across, could be seen.

One wonders whether this recorded range expansion and abundance is indeed a new phenomenon or just an increase in apparency brought on by the sudden

availability and widespread use of UV flashlights. Readers, especially those in northern Ohio counties, are encouraged to acquire one of these gadgets and canvass their neighborhoods. It would be good to know if this lovely little showoff lichen is as abundant elsewhere as it is on my street.

-Bob Klips

Fall Foray to Harrison County September 21-22, 2024

In the 1800s, the economy of Harrison County was largely agricultural. Where coal beds were close to the surface, coal was mined for local use. Commercial coal mining increased in the 1900s. Extensive strip mining after 1940 greatly altered the landscape east of Cadiz, the county seat.

Our foray focused on the Clendening Lake area in the western part of the county, which was relatively untouched by mining. Clendening Lake was created by a dam built in 1936 on Brushy Fork Creek, to control flooding as part of the Muskingum Watershed Conservancy District. Most of the shoreline is undeveloped.

On a very warm, late September weekend, OMLA members, along with the Lichen Likers from The Ohio State University, met at YMCA Camp Tippecanoe to explore the very interesting natural features of the camp, which is on the north shore of Clendening Lake. The camp has a variety of habitats, including ravines, ridges, rock caves, slump blocks, mesic woods, lake shoreline, intermittent streams and wetlands.

Along Clendening Lake

The Lichen Likers is an interdisciplinary group of OSU students, faculty, and staff who employ art as a research practice and intervention to engage with the intelligence of the more-than-human world, seeking insights into resolutions for the critical social, cultural, and environmental injustices that plague our anthropocentric society.

We stayed in cabins at the camp and were wonderfully fed by the camp kitchen staff. Sunday breakfast included huge, homemade cinnamon rolls. We had our usual microscope room on Saturday evening in the meeting room one floor below the dining area.

Among the highlights of the foray:

83 lichen species were found (76 are new county records); 45 moss species (23 new county records); all 4 liverwort species are new county records;

Barb Andreas carefully searched a rock cave roof and found *Tetrodontium brownianum*, a

very small, rarely seen moss. It is a new record for Harrison County;

Tomás Curtis took the group outdoors after dark and showed us *Pyxine subcinerea*, glowing golden yellow under UV light;

Thanks to Camp Director Ryan Culby and the entire staff of YMCA Camp Tippecanoe for the great hospitality!

SPECIES LIST (* = new county record)

LICHENS

*Amandinea polyspora**

*Am. punctata**, on a somewhat sheltered sandstone cliff

*Anisomeridium distans**, on sandstone; spores 1-septate, macrocephalate

*An. polypori**, on bark of *Acer rubrum*

*Aspicilia cinerea**

*A. laevata**, on exposed sandstone, near lake

*Bacidia fuscoviridis**, on moist, shaded sandstone in stream bed

*B. granosa**, on exposed sandstone near lake

*Biatora printzenii**, on bark of *Acer*

*Caloplaca sideritis**, on exposed sandstone near lake

Candelaria concolor

*Cladonia apodocarpa**

C. furcata, on dry soil

*C. macilenta**

*C. ochrochlora**, on basal bark of *Prunus*

*C. squamosa**, on sandstone

*Coenogonium pineti**, on basal bark of *Fagus*, in shade

*Crespoa crozalsiana**, on bark of *Pinus strobus*

*Fellhanera silicis**, on sandstone boulders

*Flavoparmelia baltimorensis**, on sandstone

F. caperata

*Fuscidea recensa**, on sandstone boulder

*Graphis scripta**, on bark of *Tilia*

*Herteliana schuyleriana**, on sandstone bedrock

*Heterodermia speciosa**, on bark of *Quercus*

*Hypotrachyna minarum**, on sandstone

*Julella fallaciosa**

*Lecania croatica**, on bark of *Fagus*

*Lecidea varians**, on branches & twigs of hardwoods

*Lecanora appalachensis**, on bark of *Quercus*

*L. layana**, on bark of hardwoods

*L. strobilina**, on branches & twigs of hardwoods

*L. thysanophora**, on bark of *Acer saccharum*

Lecanora sp. {sterile morph of either *L. strobilina* or *L. symmicta*}, on a somewhat sheltered sandstone cliff

Lepra pustulata, on bark of fallen *Quercus*

*Lepraria caesiella**, on bark of *Pinus strobus*

*L. cryophila**, on sandstone cliff faces

*L. finkii**, on bark of *Acer*

*L. harrisiana**, on bark of *Pinus strobus*

*L. neglecta**, on sandstone bedrock

*L. normandinoides**, on bark of *Quercus*

*L. vouauxii**, on bark of *Carya*

*Micarea prasina**, on decaying logs of hardwoods

*M. soralifera**, at base of *Pinus strobus*

*Myelochroa aurulenta**, on bark of hardwoods in shade

*Ochrolechia yasudae**, on sandstone bedrock; C+ R

Parmelia sulcata

*Parmotrema austrosinense**, on bark of *Pinus strobus*

*P. gardneri**, on bark of *Quercus*

*P. hypotropum**, on bark & branches of trees

*P. reticulatum**, on tree bark

*Peltigera praetextata**, on a large, exposed sandstone boulder

*Pertusaria plittiana**, on sandstone

*Phaeophyscia adiastola**, on sandstone and bark at base of mature hardwoods

*Pha. rubropulchra**

*Phlyctis petraea**, on sandstone

Physcia millegrana, on bark of *Pinus strobus*

Phy. stellaris

*Phy. thomsoniana**, on sandstone cliff face

*Physconia detersa**

*Piccolia nannaria**, on bark of *Acer*

*Porpidia albocaerulescens**, on a sandstone boulder

*Po. subsimplex**, on sandstone

*Pseudosagedia cestrensis**, on bark of *Fagus*

*Ps. guentheri**, on somewhat sheltered sandstone

*Punctelia caseana**, on bark of *Pinus strobus*

Pu. rudecta, on bark

*Pyrenula laevigata**, on basal bark of *Fagus*

*Pyxine sorediata**, on *Quercus* bark

*P. subcinerea**

*Ramalina americana**

*Rinodina oxydata**, on exposed sandstone near lake; spores averaging 19.5 X 11.9 µm (of 6)

*R. tephraspis**, on sandstone boulders

*Scytinium dactylinum**, on moist, shaded sandstone in stream bed

*Trapelia placodioides**, on sandstone

*Trimmatothelopsis dispersa**, on sandstone boulders

*Usnea amblyoclada**, on a sandstone boulder

*U. mutabilis**, fallen from tree canopy

*Verrucaria muralis**, on sandstone; perithecial wall incomplete

*V. umbrinula** {?}, on exposed sandstone near lake

*Viridothelium virens**, on bark of *Fagus*

*Xanthocarpia feracissima**

*Xanthomendoza weberi**

*Xanthoparmelia conspersa**, on exposed sandstone

'Lichenicolous fungus,' parasitic on *Caloplaca sideritis*

MOSSES

*Andreaea rothii**, sandstone cliff, at crest near top

*Atrichum crispulum**, on soil

*Brachythecium laetum**

B. plumosum

*B. populeum**

Bryoandersonia illecebra,* on soil

*Callicladium haldanianum**

Calliergonella curvifolia

*C. lindbergii**

Campylophyllopsis hispidula,* on bark at base of *Ostrya*

Ceratodon purpureus, on exposed sandstone

Claopodium rostratum, on basal bark of a hardwood

*Climacium americanum**

Dicranella heteromalla, on disturbed soil

*Dicranum fulvum**

D. scoparium

Diphyscium foliosum,* on moist, shaded sandstone cliff face in small stream valley

Entodon seductrix

Fissidens bryoides,* on shaded sandstone in stream bed

*F. minutulus**

*Grimmia pilifera**

Hedwigia ciliata

Herzogiella striatella,* on SE-facing sandstone cliff

Hygroamblystegium varium, on moist sandstone in stream bed

Hymenostylium recurvirostrum,* on moist, shaded sandstone cliff face in small stream valley

Leskea gracilescens, on bark at base of hardwoods

Leucobryum glaucum, on dry soil

Othodicranum montanum

Oxyrrhynchium hians

Plagiomnium cuspidatum

Plagiothecium denticulatum, on moist, sandstone cliff face

P. laetum, on moist, silty sandstone in stream bed

Platygyrium repens

Polytrichum ohioense

*Pylaisiadelpha tenuirostris**

Pseudanomodon attenuatus

*Pseudotaxiphyllum elegans**

Rhizomnium punctatum, on moist, shaded sandstone cliff face in small stream valley

Sciuro-hypnum plumosum, on sandstone

*Sematophyllum demissum**

*Tetraphis pellucida**

*Tetrodontium brownianum**

Thamnobryum alleghaniense,* on shaded, moist sandstone boulder face in creek bed

Thuidium delicatulum

Ulota crispa,* on fallen tree top

LIVERWORTS

*Calypogeia muelleriana**

*Frullania eboracensis**

*Lophocolea heterophylla**

*Ptilidium pulcherrimum**

— **Jim Toppin**

Fall Foray to Harrison County

Standing, left to right: Megan Osika, Ian Adams, Bill Schumacher, Carole Schumacher, Jim Toppin, Dean Porter, Suzanne Nelson, Amy Youngs, Doosung Yoo, Zachary Betonte
Seated, left to right: Tomás Curtis, Barb Andreas, Mandy Slate, Janet Traub, Madison Blue, Emma Kline, Brennan Jones, Steve McKee, Jiara Sha, Simone Barros, Bob Klips --Photo by Bob Klips

John Holliger

I was saddened in May to receive in the mail a note from Carol Holliger, along with an obituary, informing me that her husband John passed away as a result of injuries sustained in a fall a couple of months earlier. Only a week prior to that tragedy, John was present at our annual meeting at Dawes Arboretum, where we all enjoyed his companionship as he shared his enthusiasm for his artistic photography. Carol mentioned that he was eagerly looking forward to the upcoming foray in Indiana.

I knew John, and spent some time with him off and on, for about 20 years. How we met was kind of unique. When I taught at Ohio State-Marion, one of my colleagues there ran a "Science Café" event series where, typically, scientists give presentations to the public at a restaurant or pub. The organizer had the wild idea to do one called "Science and Religion," with two co-presenters each representing a different perspective on life. I somehow got roped into being "science" and John, an ordained Episcopal minister, "religion." It definitely was meant to be not science versus religion, but many of the audience members clearly wanted it to be adversarial. They were on the "side" of religion. The funny thing was that they seemed more ticked off at John than they were at me, because he was a lot more soft-edged and holistically spiritual, i.e., not doctrinal in any way, than they would have liked. All in all, an interesting experience, and it was most fun keeping in touch with him after that. We had lunches together a couple-few times where we discussed photographic techniques, and once spent a whole day re-visiting Raven Rocks in Belmont County shortly after the OMLA foray there. He was intrigued by other peoples' enthusiasm for nature study and liked to photograph people hard at work exploring the outdoors. About once a month he would send out lovely "A Thought and a Photograph" emails with attachments that were poems or other inspirational passages, usually from great authors or songwriters, presented alongside his beautiful images.

Here's a passage from his obituary in the Delaware Gazette: Every bio that he ever wrote about himself included the following statement: 'I come alive walking the Lake Erie Shore, slogging through wetlands, learning the habitats of forests in Ohio, the stories the rocks are telling, watching the movement from starry nights to the first light of day."

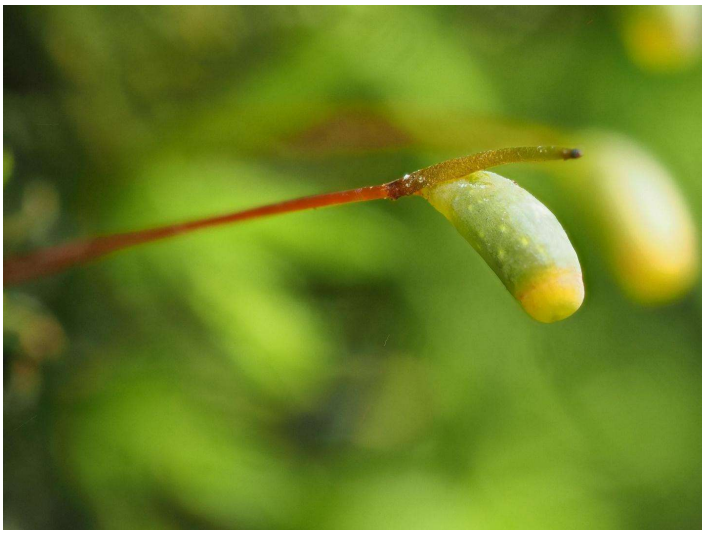
-Bob Klips

Timmia megapolitana: Lime-loving, Pretty, and Pretty Rare

Lying just west of Cedarville, owned and managed by Greene County Parks and Trails, lies the 169-acre Indian Mounds Reserve. This is a lovely wooded area with irregular terrain and numerous limestone rock outcroppings. Having a geology and plant community composition similar to nearby Clifton Gorge State Nature Preserve and John Bryan State Park, it's a great place to see, say, blue ash, hepatica, and snow trillium, along with many bryophytes having an affinity to calcareous sites. Among them are some that are to be expected in places like this: rose moss (Rhodobryum ontariense), hook-beak tufa-moss (*Hymenostylium recurvirostrum*), and hemisphaeric liverwort (*Reboulia hemisphaerica*). Having visited this park about a dozen times over the previous decade, and pored over many of the rock ledges in search of lime-loving cryptogams, I was surprised and delighted in the spring of 2019 to see, at one spot, a robust acrocarp with a general aspect suggestive of *Atrichum*, but having leaves that were uniformly thin, curled upwards (involute) along the margins, and light yellowish-green. This turned out to be *Timmia megapolitana*, a member of the Timmiaceae, described by Guy R. Brassard in volume 27 of *Flora of North America* (Oxford University Press, 2007) as "a small, taxonomically isolated family" containing only 4 species, all of which occur in North America (but there's only this one in Ohio).

The "Habitat" description by Brassard reads thusly: "Almost always with sporophytes. Most often in deciduous forests, on humus in moist, shady calcareous sites, northwards in forested localities, especially along major rivers, and as an adventive in disturbed sites such as lawns, golf courses or cemeteries."

A peculiar feature of *Timmia* is that its calyptra has a median longitudinal split that causes it to be persistent on the neck of the capsule or the seta. This upwardly-pointing appendage is the basis for the name "Indian feather moss, explained by Brassard thusly: "The common name reflects the resemblance of the erect, persistent calyptra to the feather headdresses used by some North American Indians." On iNaturalist it is called "warrior moss," possibly for the same reason.



Speaking of iNaturalist, that much-utilized natural history observation aggregation web site lists only 34 North American observations for warrior moss; this Indian Mounds location is the only Ohio one. It seems like this is a rare moss.

Its rarity in Ohio is further spoken to by looking at the more comprehensive and bryophyte-centered Symbiota portal, Consortium of Bryophyte Herbaria (https://bryophyteportal.org/portal/), which gathers together records of specimens in Herbaria worldwide. Here we see 2535 North American records, of which 44 are from Ohio. Among the Ohio records, the only 21st-century station is mine from Indian Mounds. The most recent collections besides

that are the following: one made in 1975 by Jerry Snider at John Bryan State Park, and before that, two specimens taken on the same day by Paul Redfearn at one location in Clifton Gorge in 1968. Other, earlier, locations are scattered across the state.

As set forth by the Ohio Department of Natural Resources, a native Ohio plant species may be designated **endangered** if, based on its known status in Ohio, one or more of the following criteria apply.

1. The species is a federal endangered (FE) species extant in Ohio .
2. The natural populations of the species in Ohio are limited to three or fewer occurrences.
3. The distribution of the natural populations of the species in Ohio is limited to a geographic area delineated by three or fewer U.S. Geological Survey 7.5 minute quadrangle maps.
4. The number of plants in all the natural populations of the species in Ohio is limited to one hundred or fewer individual, physically unconnected plants.

A native Ohio plant species may be designated **threatened** if, based on its known status in Ohio, one or more of the following criteria apply:

1. The species is a federally threatened (FT) species extant in Ohio but not on the state endangered species list.
2. The natural populations of the species in Ohio are limited to no less than four or more than 10 occurrences.
3. The distribution of the natural populations of the species in Ohio is limited to a geographic area delineated by no less than four or more than seven U.S. Geological Survey 7.5 minute quadrangle maps.

Might warrior moss be a suitable candidate for listing as an Ohio Rare Plant? I think so. Of course, absence of evidence is not evidence of absence, but with the increase in interest in the Ohio bryoflora, especially that associated with OMLA forays and independent outings by our members, we would expect some sightings of this large (for a moss) and distinctive (for a moss) moss. With only three documented locations in over 50 years, coupled with the geographic proximities of Indian Mounds, Clifton Gorge, and John Bryan State Park, it may meet the criteria for "Endangered." Careful scouting of some of the historical locations and similar limestone-dominated areas might turn up some more instances, potentially properly placing it in the "Threatened" category. Regardless of its potential for listing, let's keep an eye out for this interesting moss!

-Bob Klips

Book Review

The Lives of Lichens: A Natural History
by Robert Lucking & Toby Spribille

Hardcover - US$35.00 - ISBN: 9780691247274
288 pages - 7.5 x 9.5 inches
250+ color photos and illustrations
Publication date: 04 June, 2024
Robert Lucking is Head of the Department of Evolution and Biodiversity at the

Botanical Garden and Botanical Museum of Berlin, Freie Universitat Berlin, where he manages collections containing nearly one million lichens, fungi, and bryophytes. Toby Spribille is Canada Research Chair in Symbiosis and Associate Professor in the Department of Biological Sciences at the University of Alberta in Edmonton.

The Lives of the Natural World is an authoritative new Princeton University Press series of richly illustrated natural histories written by world-class experts. Combining lively, engaging text with a wealth of color photographs and illustrations, these inviting and comprehensive introductory guides explore the evolution, behaviors, and ecologies of fascinating organisms, and offer brand-new science and modern insights. The books feature in-depth, essay-led chapters and beautifully illustrated profiles of selected species. The 14 current books in the series cover bats, frogs, snakes, spiders, **lichens**, bees, butterflies, seaweeds, sharks, octopuses, viruses, beetles, fungi, and moths. If I had a bigger books budget and a spare shelf on my living room bookcase I would buy all 14 books in the series!

The Lives of Lichens: A Natural History provides an in-depth, up-to-date natural history of lichens, blending hundreds of superb macrophotographs and illustrations with essay-oriented chapters on symbiosis, biology of lichens, lichen architecture, evolution and taxonomy, lichen ecosystems, and lichens and people. The book includes an index, a glossary of lichen terms, and a list of useful lichen-related books and websites.

One of the book's most attractive features is the inclusion of double-page essays on 38 of the world's most interesting lichen species. Each lichen is showcased with a full-page color photograph on the right-hand page, accompanied by a world map showing the location(s) of t he lichen and an essay profiling the species on the left-hand page. Some of my favorites include British Soldier Lichen, Yellow Wall Lichen, Golden Trentepohlia Algae, Tree Bloodspot, Pored Net-coral Lichen, Andine Shingle Lichen, Red Snow Tea Lichen, and Highlighter Lichen.

Although a long list of technical lichen terms is inevitably needed in this book to explain the complexities of lichens and their ecosystems, the text is presented clearly and the reader does not need to possess a Ph.D. in botany or biology to understand it. The use of plentiful, well designed illustrations and diagrams, coupled with the superb photographs, adds to the clarity of the authors' explanations of the complex world of lichens.

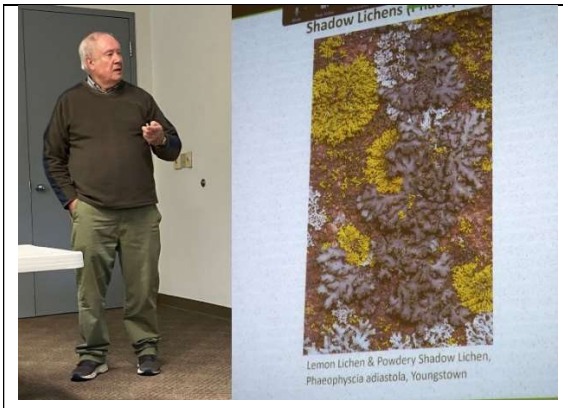
In short, if you have a passion for lichens then this is a great book for you!

The Lives of Lichens: A Natural History is not a field guide. If you wish to identify lichens found in Ohio, the first publication you should acquire is the **Common Lichens of Ohio Field Guide**, by Ray Showman, with photographs by Robert Klips published by the Ohio Division of Wildlife. This is a free publication. In addition, Robert Klips's new field guide, **Common Mosses, Liverworts and Lichens of Ohio**, published by Ohio University Press, is a great book to acquire.

-Ian Adams

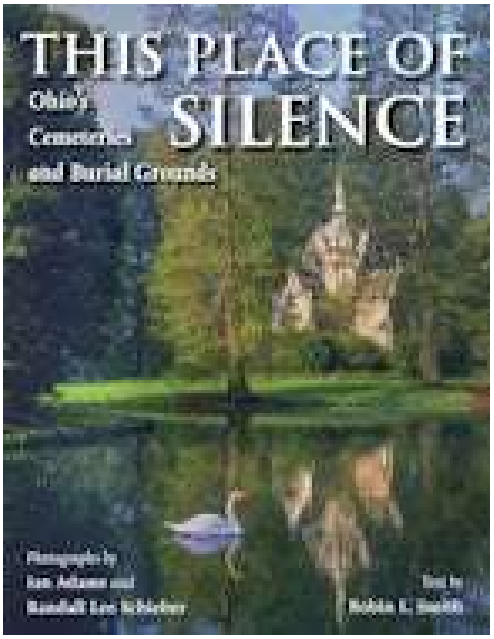
Sneak Peak

At the OMLA annual meeting on March 2, 2024 at Dawes Arboretum, member Ian Adams presented about some of the lichens he came across in cemeteries as he worked on his upcoming photo book. *This Place of Silence: Ohio's Cemeteries and Burial Grounds*, by Ian Adams, Randall Lee Scheiber and Robin L Smith, was published later in the year (July 2024).



Ian Adams presenting at OMLA 2024 annual meeting
Photo by Marita King

I purchased a copy for my husband (and myself!) for Christmas, and we're enjoying the excellent photography, history, and natural history that are woven together in this gem of a book. Watch for a more complete book review in the next issue of The Obelisk.



-Carole Schumacher

Combined 2024 Indiana Crum-Tuckerman Foray Report

Acknowledgements

I want to thank all those who helped make this foray possible.

Thanks to Bill McKnight for information and guidance. Bill has a wealth of information and concern regarding the natural history of Indiana, including bryophytes. I am fortunate he is willing to share it. Both forays conducted in IN in the past 2 years have benefited from his advice.

Thanks to Indiana Department of Natural Resources (IDNR), Division of Nature Preserves, for their encouragement and assistance in selecting sites for the foray, field assistance, as well as assistance in obtaining permits. Both Scott Namestnik and Wyatt Williams were instrumental in this.

Thanks to The Nature Conservancy (TNC) – Indiana for allowing us to collect on TNC sites in southern Harrison County. Vince Garmon, of TNC in Indiana, was instrumental in helping select sites and coming out in the field with me. His encouragement and gracious attitude were always welcomed.

Thanks to The National Forest Service, especially Cheryl Coon and Richard Sample, for assisting with site selection information and helping us with permits; and also encouragement.

Thanks to James Lendemer and Bill Buck for helping with initial announcements regarding the foray.

Thanks to the Discovery Museum Center in downtown Corydon for assisting us with meeting spaces.

Thanks to all my friends in the Ohio Moss and Lichen Association for their support.

Thanks to all who came to the foray and collected and IDed specimens.

Background

The 2024 joint Crum/Tuckerman workshop was held from Friday, May 17 to Monday, May 20, 2024. It was based in Corydon, Indiana, the county seat of Harrison County.

The workshop was held mainly in the Shawnee Hills & Highland Rim Natural Regions of south-central Indiana. Most of the areas were unglaciated, although the Blue Grass Natural Region in an Illinoian glacial area was also included.

Sites included sandstone cliffs, mature and old growth forests, cave openings and other karst features, limestone outcrops, streams, wet flat woods, areas along the Ohio River, and knobstone escarpments. Areas were located in national and state forests, state parks, and nature preserves managed by Indiana Department of Natural Resources (IDNR) or The Nature Conservancy (TNC).

Sites

- Mosquito Creek Preserve (TNC & IDNR) – Harrison County. Includes a riparian area with boulder-strewn tributaries and limestone outcrops on the upland areas.
- Teeple Glade (TNC) is a SE-facing limestone glade in southern Harrison County. It has a harsh dry climate, combined with thin soils.
- Fink Tract (TNC) – Harrison County. We visited the southern half of the property, which has a dry, mesic slope featuring significant limestone outcropping and a groundwater-fed stream.
- Sullivan Tract (TNC) – Harrison County. Features of this property include limestone outcroppings atop steep, hardwood-inhabited slopes. A small stream flows through the tract at the bottom of a ravine.
- Yellow Birch Ravine Nature Preserve (USFS) – Crawford County. This NP

contains many deep valleys and steep rocky cliffs. The combination of tall cliffs and narrow valleys at times creates a microclimate more typically found in the Appalachian Mountains.

- Peter Cave Hollow (USFS) – Perry County. This property just outside Crawford County has extensive sandstone cliffs on both the east and west sides of the road. Most of the forest on the east side is mature deciduous forest. Along the west side is a shallow stream (Oil Creek), easy to wade, and maturing secondary riparian forest before cliff areas. The property contains thousands of feet of cliffs.
- Potts Site (USFS) – Crawford County. This site has mature deciduous forest and sandstone cliffs, with a stream in a low area between cliffs.
- Harrison Crawford State Forest (IDNR) – Harrison and Crawford Counties. The forest borders the Ohio River, and contains about 24,000 acres of rugged hardwood forest in western Harrison and eastern Crawford counties. Within the forest are hundreds of caves. The Blue River runs through it, ending at the Ohio River. Numerous small ephemeral streams go through it. It also contains Leavenworth Barrens.
- Chelsea Flat Woods Nature Preserve (IDNR) – Jefferson County. This is a good example of the bluegrass till plain flatwoods in Indiana. It is underlain by wet soil, with a fragipan that holds the water up. It becomes dry when trees leaf out. It is dominated by large stands of swamp white oak and black gum.
- Pennywort Nature Preserve (IDNR) - Jefferson County. This preserve has 100-year-old tulip tree stands and limestone cliffs along Big Creek.
- Hemlock Cliffs (USFS) – Crawford County. This site is a box canyon with a cool climate, sandstone rock formations, and seasonal waterfalls. The area features sandstone rock outcrops, overhangs, cliffs, rock shelters, and ravines.

Sites and Collecting

More sites were planned for than most people had time to explore. Therefore, some sites had most people collecting, others had fewer, particularly those in the afternoons. This should be kept in mind when comparing sites. Some sites have smaller lists just because fewer people collected there and/or for a shorter time.

Some sites definitely were sampled at very low levels. For example Peter's Cave in Perry County had records from my wife and I sampling it for a couple of hours. Yet it has thousands of feet of sandstone outcrops and cliffs in high quality forest. It has not been collected before and should be examined again as it appears to be a place of potentially high diversity. Pennywort NP in Jefferson County was collected very little due to a logistical error. It should also be considered for sampling in the future.

New species to Indiana or to individual counties in the Foray

I feel uneasy informing about new "records" in Indiana as a state or in individual counties. There are a couple reasons for this.

First, working on two forays does not make one an expert on Indiana bryophytes. In addition, my knowledge of lichens is minimal.

Second, to determine if species are records or not, one needs to know a number of things. Are records in the portal correct? To do that one has to examine collections in the portal to be sure. The literature should also be thoroughly perused. There could be information that shows new records or precludes records. All of these take time and skill.

However, there should be some effort to see what is new to the state or to individual counties, to provide some information for those who are concerned regarding the biodiversity of Indiana.

In county lists, bryophytes that have asterisks were determined to be new to those counties, using county check lists provided by Bill McKnight, long time botanist and bryologist associated with the Indiana Academy of Science. These lists were provided to collectors at the Foray.

Bryophytes listed as new to the state were chosen because there was no evidence, either in the bryophyte portal (The Consortium of Bryophyte Herbaria), the distribution of bryophytes in Indiana or other reports, that they had been collected before in the state.

Lichens records were determined for both counties and the state using the Consortium of Bryophyte Herbaria (lichen portal) and other reports searched online. If no country or state observations were noted for a species, then it was given an asterisk in the county lists and/or placed in the table for state records.

The above designations are tentative based on no other information coming forward.

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Below is a disclaimer that you probably know, but I think is worth repeating

For the most part, these additions have not been checked, other than by the collectors, for accuracy for inclusion in the portals. So, addition to the portals for these specimens, or other specimens that are in the portal, do not necessarily mean correctness. There are errors in the portals because there are errors in herbaria, because humans make mistakes from time to time. Anyone that is involved in botany is aware of this. Portals are herbaria connected together, although not all herbariums are in the portals.

Yet we know herbaria, in spite of errors, are very valuable tools. In mass, records from the portal provide us a pretty good idea of what is common or rare, and where patterns for a species occur across a state or country.

However, all species from this foray were collected by quite experienced field people; so there probably is a high degree of accuracy in the determinations.

A report like this has many entry points for potential errors. If an error or omission is noted, please pass this information along and a revision can be made.

Lists

Below are lists for the foray. They consist of two main sections: Lists for Bryophytes (Crum Foray) and Lists for Lichens (Tuckerman Foray). Within each section the list format is is as follows.

List for the entire foray: all the reported bryophytes or lichens collected during the foray.

New to the State of Indiana List

County Lists: County records, as determined by sources previously noted, are denoted by asterisks.

Site lists: Species collected at each site are listed.

Bryophyte Lists

Complete Bryophyte Foray List

Liverworts

Asterella tenella
Bazzania trilobata
Calypogeia sullivantii
Cephalozia connivens
Conocephalum salebrosum
Diplophyllum apiculatum
Frullania eboracensis
Frullania inflata
Frullania virginica
Harpanthus sp.
Jubula pennsylvanica
Kurzia makinoana (Kurzia sylvatica)
Lophocolea heterophylla
Lophocolea minor
Nowellia curvifolia
Pallavicinia lyellii
Pellia epiphylla
Plagiochila porelloides
Porella platyphylla
Radula obconica
Reboulia hemisphaerica
Scapania nemorea
Solenostoma crenuliforme
Solenostoma hyalinum
Solenostoma sp

Mosses

Amblystegium serpens
Anomodon attenuatus
Anomodon minor
Anomodon tristis
Arrhenopterum heterostichum
Atrichum altecristatum
Atrichum angustatum
Atrichum crispulum
Atrichum cylindricum
Aulacomnium pallustre
Barbula unguiculata
Bartramia pomiformis
Brachythecium acuminatum
Brachythecium acutum
Brachythecium falcatum
Brachythecium laetum
Brachythecium rivulare
Brotherella recurvans
Bryhnia graminicolor
Bryhnia novae-angliae
Bryoandersonia illecebra
Bryoxiphium norvegicum
Bryum caespiticium
Callicladium haldanianum
Calliergonella curvifolia
Calliergonella lindbergii
Campyliadelphus chrysophyllus
Campylopus flexuosus
Ceratodon purpureus
Claopodium rostratum
Clasmatodon parvulus
Climacium americanum
Climacium americanum var. *kindbergii*
Climacium dendroides
Dicranum scoparium
Diphyscium foliosum
Ditrichum pusillum
Elodium blandowii
Elodium paludosum
Entodon seductrix
Entodon cladorrhizans
Eurhynchium hians
Eurhynchium pulchellum
Fabronia ciliaris
Fissidens bryoides
Fissidens bushii

Fissidens dubius
Fissidens elegans
Fissidens minutulus
Fissidens osmundoides
Fissidens subbasilaris
Fissidens taxifolius
Fontinalis hypnoides
Forsstroemia trichomitria
Gymnostomum aeruginosum
Haplocladium microphyllum
Haplocladium virginianum
Hedwigia ciliata
Homalotheciella subcapillata
Homomallium adnatum
Hookeria acutifolia
Hygroamblystegium tenax
Hygroamblystegium varium
Hyophila involuta
Hypnum imponens
Isopterygiopsis muelleriana
Isopterygium tenerum
Leptodictyum riparium
Leskea gracilescens
Leskea obscura
Leucobryum glaucum
Leucodon julaceus
Mnium marginatum
Orthodicranum flagellare
Orthodicranum fulvum
Orthodicranum montanum
Orthotrichum ohioense
Oxyrrhyncium hians
Palustriella commutata
Plagiomnium ciliare
Plagiomnium cuspidatum
Plagiomnium ellipticum
Plagiothecium cavifolium
Plagiothecium denticulatum
Plagiothecium laeteum
Platydictya confervoides
Platygyrium repens
Pogonatum pensilvanicum
Pohlia annotina
Pohlia wahlenbergii
Polytrichum commune
Polytrichum ohioense
Pseudotaxiphyllum elegans
Ptychostomum creberrimum
Pylaisiadelpha tenuirostris
Rhizomnium punctatum
Rhynchostegium serrulatum
Schistidium apocarpum
Schistidium crassithecium
Schistidium rivulare
Schwetschkeopsis fabronia
Sciuro-hypnum plumosum
Sematophyllum adnatum
Sphagnum lescurii
Sphagnum subsecundum
Syntrichia laevipila
Syrrhopodon texanus
Taxiphyllum deplanatum
Taxiphyllum taxirameum
Tetraphis pellucida
Thelia hirtella
Thuidium delicatulum
Thuidium recognitum
Tortella humilis
Tortella tortuosa
Tortula muralis
Tortula obtusifolia
Trematodon longicollis
Trichostomum tenuirostre
Weissia controversa

New to State of Indiana. Bryophyte specimens not found in Consortium of Bryophyte Herbaria for Indiana

Name	Location	Notes
Atrichum cylindricum	Chelsea Flatwoods NP - Jefferson County	
Campylopus flexuosus	Yellow Birch Ravine NP- Harrison County	Only other specimen collected in US was in NC. Identified by staff of Missouri Botanical Garden. Most of what used to called *C. flexuous* in E. NA has been put into *C. tallulensis.*
Schistidium crassithecium	Teeple Glade NP - Harrison County	
Tortula muralis	Cement wall by Discovery Place Museum - Harrison County	

County Lists County records are denoted with an asterisk.

Harrison County Bryophyte List

Liverworts

*Conocephalum salebrosum**
Frullania eboracensis
Porella platyphylla

Mosses

*Amblystegium serpens**
Anomodon attenuatus
Anomodon minor
*Anomodon tristis**
Arrhenopterum heterostichum
*Barbula unguiculata**
*Brachythecium acuminatum**
*Brachythecium acutum**
Brachythecium laetum
Bryoandersonia illecebra
*Bryum caespiticium**
Calliergonella curvifolia
Campyliadelphus chrysophyllus
*Ceratodon purpureus**
Claopodium rostratum
Clasmatodon parvulus
Climacium americanum
Dicranum scoparium
*Ditrichum pusillum**
Entodon seductrix
*Fabronia ciliaris**
*Fissidens dubius**
*Fissidens subbasilaris**
*Fissidens taxifolius**
*Fontinalis hypnoides**
*Forsstroemia trichomitria**
*Homalotheciella subcapillata**
Homomallium adnatum
Hygroamblystegium tenax
Leskea gracilescens
Leskea obscura
Leucobryum glaucum
Leucodon julaceus
*Orthodicranum flagellare**
*Orthodicranum montanum**
Plagiomnium cuspidatum
*Plagiomnium ellipticum**
*Platydictya confervoides**

Platygyrium repens
Polytrichum ohioense *
*Ptychostomum creberrimum**
Rhynchostegium serrulatum
*Schistidium apocarpum**
Schistidium crassithecium *
*Schistidium rivulare**
*Sciuro-hypnum plumosum**
*Syntrichia laevipila**
Taxiphyllum taxirameum
*Thelia hirtella**
Thuidium recognitum
Tortella humilis
*Tortula muralis**
*Tortula obtusifolia**
*Trematodon longicollis**
*Trichostomum tenuirostre**
*Weissia controversa**

Crawford County Bryophyte List

Liverworts

Bazzania trilobata
Calypogeia sullivantii
Cephalozia connivens
Conocephalum salebrosum
Diplophyllum apiculatum
Harpanthus sp. *
Jubula pennsylvanica
Kurzia sylvatica
Nowellia curvifolia
Pellia epiphylla
*Plagiochila porelloides**
Radula obconica
Reboulia hemisphaerica
*Scapania nemorea**
Solenostoma crenuliforme
*Solenostoma hyalinum**

Mosses

Anomodon attenuatus
*Anomodon minor**
Anomodon tristis
Arrhenopterum heterostichum
Atrichum angustatum
Atrichum crispulum *
Atrichum cylindricum *
Bartramia pomiformis
*Brachythecium acuminatum**
*Brachythecium falcatum**
Brachythecium rivulare
Bryhnia graminicolor
Bryhnia novae-angliae
Bryoandersonia illecebra
Bryoxiphium norvegicum
Calliergonella curvifolia
Campyliadelphus chrysophyllus
*Campylopus flexuosus**
Claopodium rostratum
*Clasmatodon parvulus**
Climacium americanum
Climacium americanum var. *kindbergii**
Diphyscium foliosum
*Elodium paludosum**
Entodon seductrix
Fissidens bryoides
Fissidens bushii
*Fissidens dubius**
*Fissidens elegans**
*Fissidens minutulus**
Fissidens osmundoides
Fissidens subbasilaris
*Forsstroemia trichomitria**
*Gymnostomum aeruginosum**
*Homalotheciella subcapillata**
Hookeria acutifolia
Hygroamblystegium tenex
Hygroamblystegium varium
Hyophila involuta
*Isopterygiopsis muelleriana**
Isopterygium tenerum
Leskea gracilescens
Leucobryum glaucum
*Mnium marginatum**
*Orthodicranum fulvum**
Orthodicranum montanum
*Oxyrrhyncium hians**

*Plagiomnium ciliare**
Plagiomnium cuspidatum
*Plagiomnium ellipticum**
*Plagiothecium cavifolium**
*Plagiothecium laeteum**
Platygyrium repens
Pogonatum pensilvanicum
*Pohlia annotina**
*Pohlia wahlenbergii**
Polytrichum ohioense
Pseudotaxiphyllum elegans
Pylaisiadelpha tenuirostris
Rhizomnium punctatum
Rhynchostegium serrulatum
*Schwetschkeopsis fabronia**
Sciuro-hypnum plumosum
*Sematophyllum adnatum**
*Syntrichia laevipila**
Syrrhopodon texanus
*Taxiphyllum deplanatum**
Taxiphyllum taxirameum
Tetraphis pellucida
Thuidium delicatulum
Tortella tortuosa

Jefferson County Bryophyte List

Liverworts

Frullania eboracensis
Frullania inflata
*Frullania virginica**
Lophocolea heterophylla
*Lophocolea minor**
*Pallavicinia lyellii**

Mosses

Anomodon attenuatus
Aulacomnium pallustre
Barbula unguiculata
Brachythecium laetum
*Brotherella recurvans**
*Callicladium haldanianum**
Calliergonella lindbergii
Campyliadelphus chrysophyllus
Climacium americanum
Climacium americanum var. *kindbergii*
*Climacium dendroides**
*Elodium blandowii**
Elodium paludosum..
Entodon seductrix
Entodon cladorrhizans
Eurhynchium hians
Eurhynchium pulchellum
Gymnostomum aeruginosum
*Haplocladium microphyllum**
Haplocladium virginianum
Hedwigia ciliata
*Homalotheciella subcapillata**
Hygroamblystegium tenax
Hyophila involuta
Hypnum imponens
*Isopterygium tenerum**
Leptodictyum riparium
Leskea gracilescens
Leucobryum glaucum
*Orthodicranum montanum**
Orthotrichum ohioense
*Palustriella commutata**
Plagiomnium ciliare
Plagiomnium cuspidatum
Platygyrium repens
Polytrichum commune
Polytrichum ohioense
Rhynchostegium serrulatum
Sciuro-hypnum plumosum
*Sematophyllum adnatum**
*Sphagnum lescurii**
Sphagnum subsecundum
Taxiphyllum deplanatum
Thuidium delicatulum

Perry County Bryophyte List

Liverworts

Asterella tenella
Bazzania trilobata *
Jubula pennsylvanica
Scapania nemorea
*Solenostoma crenuliforme**

Mosses

Arrhenopterum heterostichum
Atrichum angustatum
Bartramia pomiformis
Bryhnia graminicolor
Bryoandersonia illecebra
Claopodium rostratum
*Fissidens bushii**
Orthodicranum fulvum
Plagiomnium cuspidatum
Plagiothecium cavifolium
*Plagiothecium laeteum**
*Sematophyllum adnatum**
Taxiphyllum deplanatum

Site Lists

Mosquito Creek Preserve (TNC) – Harrison County

Liverworts

Conocephalum salebrosum
Frullania eboracensis
Porella platyphylla

Mosses

Amblystegium serpens
Anomodon attenuatus
Anomodon minor
Anomodon tristis
Arrhenopterum heterostichum
Barbula unguiculata
Brachythecium acuminatum
Brachythecium acutum
Brachythecium laetum
Bryoandersonia illecebra
Bryum caespiticium
Calliergonella curvifolia
Campyliadelphus chrysophyllus
Ceratodon purpureus
Claopodium rostratum
Clasmatodon parvulus
Climacium americanum
Dicranum scoparium
Ditrichum pusillum
Entodon seductrix
Fabronia ciliaris
Fissidens dubius
Fissidens subbasilaris
Fissidens taxifolius
Fontinalis hypnoides
Forsstroemia trichomitria
Homalotheciella subcapillata
Homomallium adnatum
Hygroamblystegium tenax
Leskea gracilescens
Leskea obscura
Leucodon julaceus
Orthodicranum flagellare
Orthodicranum montanum
Plagiomnium cuspidatum
Plagiomnium ellipticum
Platydictya confervoides
Platygyrium repens
Polytrichum ohioense
Ptychostomum creberrimum
Rhynchostegium serrulatum
Schistidium apocarpum
Schistidium crassithecium
Schistidium rivulare
Sciuro-hypnum plumosum
Syntrichia laevipila
Taxiphyllum taxirameum
Thelia hirtella

Thuidium recognitum
Tortella humilis
Tortula muralis
Tortula obtusifolia
Trematodon longicollis
Trichostomum tenuirostre
Weissia controversa

Mosquito Creek (IDNR) – Harrison County

Mosses
Anomodon attenuatus
Anomodon minor
Anomodon tristis
Brachythecium acuminatum
Brachythecium acutum
Brachythecium laetum
Calliergonella curvifolia
Campyliadelphus chrysophyllus
Claopodium rostratum
Clasmatodon parvulus
Entodon seductrix
Fissidens dubius
Fissidens subbasilaris
Homalotheciella subcapillata
Homomallium adnatum
Leskea gracilescens
Leucodon julaceus
Plagiomnium cuspidatum
Platygyrium repens
Ptychostomum creberrimum
Rhynchostegium serrulatum
Schistidium apocarpum
Syntrichia laevipila
Tortella humilis
Trichostomum tenuirostre
Weissia controversa

Mosquito Creek Undifferentiated (TNC or IDNR) - Harrison County

Liverworts
Conocephalum salebrosum

Mosses
Anomodon minor
Climacium americanum
Fissidens dubius
Fontinalis hypnoides
Forsstroemia trichomitria
Leucodon julaceus
Plagiomnium ellipticum

Teeple Glade Preserve - Harrison County

Mosses
Barbula unguiculata
Campyliadelphus chrysophyllus
Ditrichum pusillum
Entodon seductrix
Fissidens subbasilaris
Fissidens taxifolius
Homomallium adnatum
Leskea obscura
Leucodon julaceus
Plagiomnium cuspidatum
Schistidium apocarpum
Schistidium crassithecium
Syntrichia laevipila
Tortella humilis
Weissia controversa

Yellow Birch NP - Crawford County

Liverworts

Bazzania trilobata
Calypogeia sullivantii
Cephalozia connivens
Conocephalum salebrosum
Diplophyllum apiculatum
Harpanthus sp.
Jubula pennsylvanica
Kurzia makinoana (Kurzia sylvatica)
Nowellia curvifolia
Pellia epiphylla
Plagiochila porelloides
Radula obconica
Reboulia hemisphaerica
Scapania nemorea
Solenostoma crenuliforme
Solenostoma hyalinum
Solenostoma sp

Mosses

Anomodon attenuatus
Anomodon minor
Anomodon tristis
Arrhenopterum heterostichum
Atrichum angustatum
Atrichum crispulum
Brachythecium rivulare
Bryhnia graminicolor
Bryhnia novae-angliae
Bryoandersonia illecebra
Bryoxiphium norvegicum
Calliergonella curvifolia
Campyliadelphus chrysophyllus
Campylopus flexuosus
Claopodium rostratum
Clasmatodon parvulus
Climacium americanum
Diphyscium foliosum
Elodium paludosum
Entodon seductrix
Fissidens bryoides
Fissidens elegans
Fissidens minutulus
Forsstroemia trichomitria
Homalotheciella subcapillata
Hookeria acutifolia
Hygroamblystegium tenax
Hygroamblystegium varium
Hyophila involuta
Isopterygiopsis muelleriana
Leskea gracilescens
Leucobryum glaucum
Mnium marginatum
Orthodicranum fulvum
Orthodicranum montanum
Oxyrrhyncium hians
Plagiomnium ciliare
Plagiomnium cuspidatum
Plagiomnium ellipticum
Plagiothecium cavifolium
Platygyrium repens
Pohlia annotina
Polytrichum ohioense
Pseudotaxiphyllum elegans
Pylaisiadelpha tenuirostris
Rhizomnium punctatum
Rhynchostegium serrulatum
Schwetschkeopsis fabronia
Sciuro-hypnum plumosum
Syntrichia laevipila
Taxiphyllum deplanatum
Tetraphis pellucida
Thuidium delicatulum
Tortella tortuosa

Potts Site - Crawford County

Mosses
Arrhenopterum heterostichum
Atrichum angustatum
Atrichum crispulum
Bartramia pomiformis
Bryhnia graminicolor
Bryoxiphium norvegicum
Gymnostomum aeruginosum
Plagiomnium ciliare
Polytrichum ohioense

Hemlock Cliffs - Crawford County

Mosses
Anomodon attenuatus
Arrhenopterum heterostichum
Atrichum crispulum
Brachythecium acuminatum
Brachythecium falcatum
Calliergonella curvifolia
Claopodium rostratum
Diphyscium foliosum
Fissidens bryoides
Fissidens bushii
Fissidens dubius
Fissidens elegans
Fissidens osmundoides
Fissidens subbasilaris
Forsstroemia trichomitria
Hookeria acutifolia
Hygroamblystegium tenax
Plagiomnium cuspidatum
Plagiothecium laeteum
Pohlia wahlenbergii
Pogonatum pensilvanicum
Schwetschkeopsis fabronia
Sematophyllum adnatum
Syrrhopodon texanus
Taxiphyllum deplanatum
Taxiphyllum taxirameum

Harrison Crawford State Forest – O'Bannon State Park - Harrison County

Liverworts
Frullania eboracensis
Porella platyphylla

Mosses
Anomodon tristis
Brachythecium laetum
Ceratodon purpureus
Entodon seductrix
Hygroamblystegium tenax
Leskea gracilescens
Plagiomnium cuspidatum
Schistidium apocarpum
Tortula obtusifolia

Harrison Crawford State Forest – Leavenworth Barrens – Crawford County

Mosses
Atrichum angustatum
Aulacomnium pallustre
Barbula unguiculata
Leucobryum glaucum
Platygyrium repens
Sematophyllum adnatum

Chelsea Flat Woods NP - Jefferson County

Liverworts

Frullania eboracensis
Frullania inflata
Frullania virginica
Lophocolea heterophylla
Lophocolea minor
Pallavicinia lyellii

Mosses

Anomodon attenuatus
Atrichum altecristatum
Atrichum angustatum
Atrichum crispulum
Atrichum cylindricum
Aulacomnium pallustre
Barbula unguiculata
Brachythecium laetum
Brotherella recurvans
Callicladium haldanianum
Calliergonella lindbergii
Campyliadelphus chrysophyllus
Climacium americanum
Climacium americanum var. *kindbergii*
Climacium dendroides
Elodium blandowii
Elodium paludosum
Entodon seductrix
Entodon cladorrhizans
Eurhynchium hians
Eurhynchium pulchellum
Haplocladium microphyllum
Haplocladium virginianum
Hedwigia ciliata
Homalotheciella subcapillata
Hygroamblystegium tenax
Hyophila involuta
Hypnum imponens
Isopterygium tenerum
Leptodictyum riparium
Leskea gracilescens
Leucobryum glaucum
Orthodicranum montanum
Orthotrichum ohioense
Palustriella commutata
Plagiomnium ciliare
Plagiomnium cuspidatum
Plagiothecium denticulatum
Platygyrium repens
Polytrichum commune
Polytrichum ohioense
Rhynchostegium serrulatum
Sciuro-hypnum plumosum
Sematophyllum adnatum
Sphagnum lescurii
Sphagnum subsecundum
Taxiphyllum deplanatum
Thuidium delicatulum

Peter's Cave Cove - Perry County

Liverworts

Asterella tenella
Jubula pennsylvanica
Scapania nemorea
Solenostoma crenuliforme

Mosses

Arrhenopterum heterostichum
Atrichum angustatum
Bartramia pomiformis
Bryhnia graminicolor
Bryoandersonia illecebra
Claopodium rostratum
Fissidens bushii
Orthodicranum fulvum
Plagiomnium cuspidatum
Plagiothecium cavifolium
Plagiothecium laeteum
Sematophyllum adnatum
Taxiphyllum deplanatum

Pennywort NP – Jefferson County

Mosses
Climacium dendroides
Hyophila involuta

Lichen Lists

Complete Lichen Foray List

Bacidia schweinitzii
Bagliettoa baldensis
Bagliettoa marmorea
Caloplaca sideritis
Canoparmelia texana
Chaenotheca furfuracea
Cladonia cristatella
Cladonia furcata
Cladonia petrophila
Cladonia ramulosa
Collema pustulatum
Dermatocarpon muhlenbergii
Dermatocarpon multifolium
Dermatocarpon sp.
Dibaeis baeomyces
Dibaeis absoluta
Enchylium coccophorum
Graphis furcata
Gyalolechia flavovirescens
Heterodermia speciosa
Hypotrachyna livida
Lecanora subpallens
Myelochroa galbina
Nadvornikia sorediata
Ochrolechia africana
Parmotrema reticulatum
Peltula obscurans
Phaeophyscia pusilloides
Phaeophyscia rubropulchra
Phaeophyscia squarrosa
Phlyctis petraea
Physcia americana
Placidium arboreum
Placynthium petersii
Porpidia albocaerulescens
Pseudosagedia cestrensis
Psora decipiens
Psora pseudorussellii
Psorotichia schaereri
Punctelia missouriensis
Punctelia rudecta
Pyxine sorediata
Pyxine subcinerea
Sarcogyne regularis
Scytinium apalachense
Scytinium dactylinum
Scytinium lichenoides
Thyrea confusa
Toninia tecta
Usnea mutabilis
Viridothelium virens

New to State of Indiana. Lichen specimens not found in Consortium of Lichen Herbaria for Indiana

Lichen Species	Location
Bagliettoa marmorea	Dry Run Creek - Harrison Crawford State Forest (Crawford Co.)
Collema pustulatum	Dry Run Creek - Harrison Crawford State Forest (Crawford Co.)
Enchylium coccophorum	Dry Run Creek - Harrison Crawford State Forest (Crawford Co.); Sullivan Tract NP & Mosquito Creek NP (both Harrison Co.)
Graphis furcata	Yellow Birch Ravine NP (Crawford County)
Ochrolechia africana	Dry Run Creek - Harrison Crawford State Forest (Crawford Co.)
Peltula obscurans	Teeple Glade Preserve & Blue River Site in Harrison Crawford State Forest (both Harrison Co.)
Phlyctis petraea	Yellow Birch Ravine NP & Potts Site (both Crawford Co)
Placynthium petersii	Blue River Site in Harrison Crawford State Forest (Harrison Co.)
Psora decipiens	Mosquito Creek (Harrison Co.)
Scytinium apalachense	Blue River Site in Harrison Crawford State Forest (Harrison Co.)
Thyrea confusa	Dry Run Creek - Harrison Crawford State Forest (Crawford Co.)
Toninia tecta	Blue River Site in Harrison Crawford State Forest (Harrison Co.)
Usnea mutabilis	Dry Run Creek - Harrison Crawford State Forest (Crawford Co.)

County Lists County records are denoted with an asterisk.

Harrison County Lichen List

*Bagliettoa baldensis**
*Caloplaca sideritis**
*Canoparmelia texana**
Cf. Lempholemma sp
*Cladonia ramulosa**
*Dermatocarpon muhlenbergii**
*Dermatocarpon multifolium**
Dermatocarpon sp.
*Enchylium coccophorum**
*Gyalolechia flavovirescens**
Myelochroa galbina
*Peltula obscurans**
*Phaeophyscia pusilloides**
*Phaeophyscia squarrosa**
Physcia americana
*Placidium arboreum**
*Placynthium petersii**
*Psora decipiens**

*Psora pseudorussellii**
*Psorotichia schaereri**
*Punctelia missouriensis**
*Punctelia rudecta**
*Sarcogyne regularis**
*Scytinium apalachense**
*Scytinium dactylinum**
*Scytinium lichenoides**
*Thyrea confusa**
*Toninia tecta**

Crawford County Lichen List

*Bacidia schweinitzii**
*Bagliettoa marmorea**
Chaenotheca furfuracea
Cladonia cristatella
Cladonia furcata
Cladonia petrophila
Collema pustulatum
*Dermatocarpon muhlenbergii**
*Dibaeis baeomyces**
*Dibaeis absoluta**
*Enchylium coccophorum**
*Graphis furcata**
*Heterodermia speciosa**
Hypotrachyna livida
*Lecanora subpallens**
Myelochroa galbina
*Nadvornikia sorediata**
*Ochrolechia africana**
Parmotrema reticulatum
Phaeophyscia rubropulchra
*Phlyctis petraea**
*Physcia americana**
Porpidia albocaerulescens
*Psora pseudorussellii**
Pyxine sorediata
*Usnea mutabilis**
*Viridothelium virens**

Site Lists

Mosquito Creek Preserve - Harrison County

Canoparmelia texana
Cladonia ramulosa
Dermatocarpon muhlenbergii
Enchylium coccophorum
Gyalolechia flavovirescens
Myelochroa galbina
Placidium arboreum
Psora decipiens
Psora pseudorussellii
Punctelia missouriensis
Punctelia rudecta
Pyxine subcinerea
Scytinium lichenoides

Fink Tract - Harrison County

Phaeophyscia pusilloides
Phaeophyscia squarrosa
Scytinium dactylinum
Scytinium lichenoides

Sullivan Tract - Harrison County

Enchylium coccophorum
Scytinium lichenoides

Teeple Glade NP – Harrison County

Dermatocarpon muhlenbergii
Dermatocarpon multifolium
Peltula obscurans
Psorotichia schaereri
Sarcogyne regularis

Yellow Birch Ravine - Crawford County

Bacidia schweinitzii
Chaenotheca furfuracea
Cladonia furcata
Cladonia petrophila
Graphis furcata
Hypotrachyna livida
Myelochroa galbina
Nadvornikia sorediata
Phaeophyscia rubropulchra
Phlyctis petraea
Physcia americana
Pyxine subcinerea
Viridothelium virens

Potts Site - Crawford County

Cladonia petrophila
Dibaeis absoluta
Phlyctis petraea
Porpidia albocaerulescens

Dry Run Creek - Harrison Crawford State Forest - Crawford County

Collema pustulatum
Dermatocarpon muhlenbergii
Enchylium coccophorum
Heterodermia speciosa
Hypotrachyna livida
Lecanora subpallens
Ochrolechia africana
Physcia americana
Pyxine sorediata
Pyxine subcinerea
Usnea mutabilis
Viridothelium virens

Blue River Area - Harrison Crawford State Forest - Harrison County

Bagliettoa baldensis
Caloplaca sideritis
Dermatocarpon sp.
Peltula obscurans
Physcia americana
Placynthium petersii
Scytinium apalachense
Thyrea confuse
Toninia tecta

Harrison Crawford State Forest - Harrison or Crawford Counties-undifferentiated

Hypotrachyna livida
Thyrea confuse

Leavenworth Barrens - Crawford County

Cladonia cristatella
Dibaeis baeomyces
Myelochroa galbina
Parmotrema reticulatum
Physcia americana
Psorotichia schaereri
Punctelia missouri

-Bill Schumacher

Crum Tuckerman Foray to S Indiana

--Photo by Bob Klips