

# OBELISK

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

**Newsletter of the Ohio Moss and Lichen Association. Volume 13 No. 1. 2016.**

**Ray Showman and Janet Traub, Editors**

[ray.showman@gmail.com](mailto:ray.showman@gmail.com), [j.traub@att.net](mailto:j.traub@att.net)

---

## **LEFT HAND CORNER**

### **LICHEN STUDY1800s**

Today's working concept that lichen are the relationship of an algal photobiont and fungal partner was not that long ago a shocking, ridiculous and controversial notion of lichens' configuration.

In 1868, Simon Schwendener issued his discussions of the algal cells he saw in his microscope. Other researchers looked again at the algal cells which had been assigned a reproductive role in interpretations to that date. The gonidial/algal battle carried on for another forty years or so—basically until the last partisan of the gonidial concept retired from the field.

A big point of contention was, that the fungal component couldn't possibly be parasitizing, Schwendener's term, the algal component when the algae-looking constituents looked so plump, green and healthy. All investigators could clearly see what looked like algae, but there wasn't yet a concept in place of symbiosis. It was either independence or parasitism. To avoid the contradiction of a robust parasitic host, lichen professionals had assigned the algal component some unclear reproductive role. It was Simon Schwendener who declared that the "emperor has no clothes," in a way.

— **Janet Traub**

Following is an article by Nicole Kirchner, a student at Ohio University. The paper is about the effects of forest burning on the bryoflora and is this year's **winner of the Flenniken Award**. Congratulations Nicole!

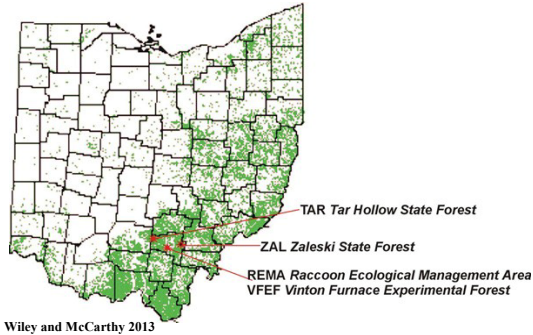
## **OHIO BRYOPHYTES ARE DISTURBED BY FIRE**

Fire is a disturbance experienced globally. Across the U.S., fire is historically attributed to lightning and Native American practices. Upon the arrival of European settlers, the utilization of fire dramatically decreased and other forms of land use became popular (e.g. farming, logging, mining). Today the precise nature of fire historically seen in Appalachia is highly debated, but we know that the intensity of fires increased due to post-logging activities, such as burning slash piles (Graham and McCarthy 2006).

In southeastern Ohio, research into the history and ecology of fire has been reignited by a recent focus of natural resource management on regenerating oak (*Quercus*) tree dominance in our mixed-deciduous forests. As these acorn-producing species seem to require a canopy-opening disturbance to reach full heights of maturation (Goins et al. 2013), studies into the effects of

prescribed burns and thinning treatments have been conducted.

In one such study, performed by a graduate student in the Department of Environmental and Plant Biology at Ohio University, the impacts of these two silviculture practices on local bryophyte communities were assessed.



More than 115 total bryophytes were identified (97 mosses and 19 liverworts) at experimental locations in three southeastern Ohio forests. Bryophyte communities were monitored for effects in untreated, burned, thinned, and a combined silviculture treatment (Wiley and McCarthy 2013).

Burning and thinning treatments had a negative impact on bryophyte abundance and diversity. Thinning altered the initial availability of suitable substrates for habitat through the felling of trees and burning changed the chemistry of the woody debris. The number of corticolous species in particular declined (Wiley and McCarthy 2013). Additionally, environmental conditions within the forest were altered due to the new openings in the canopy.

Overall, bryophyte communities in the dryer forest locations were more disturbed by the burning and thinning

treatments. There was a 50% decrease in species richness at xeric sites compared to mesic sites (Wiley and McCarthy 2013). This comes as no surprise as moisture is a critical environmental variable for bryophyte survival. Bryophytes inhabiting wetter substrates better tolerated the negative impacts of the silviculture treatments.

To help protect bryophyte communities already established in these managed forests, Wiley and McCarthy (2013) recommended the use of thinning before burning when possible. Unlike burning that adversely alters bryophyte habitat, thinning may serve to improve habitat over time through the addition of new substrates (i.e. downed trees), especially for corticolous species. If burning must occur, avoiding dry areas and rock outcroppings is also advised as these support bryophyte communities less capable of tolerating such disturbances.



*Funaria hygrometrica* in burned forest. A photo by the Northwest Botanical Institute.

Beyond fires set to manage forests like those here in southeastern Ohio, wildfires naturally occur, especially in the western part of the U.S. Folks at the Northwest Botanical Institute in Eugene, Oregon have been monitoring forested land that experienced a severe fire. They discovered that two species of bryophytes pioneered the succession of

this forest: *Funaria hygrometrica* and *Marchantia polymorpha*.



*Funaria hygrometrica*. A photo by the Northwest Botanical Institute.

Both of these early bryophyte colonizers are commonly found in Ohio. *Funaria hygrometrica* is called water-measuring cord-moss, and has been known to inhabit burned areas as well as newly exposed soils, particularly farmland. *Marchantia polymorpha* is a tongue-shaped flattened thallose liverwort that is known for its weed-like attributes that allow it to occupy nursery flowerpots (OMLA 2016).



*Marchantia polymorpha*. A photo by the Northwest Botanical Institute.

There are two broad take-home messages about fire disturbance and bryophytes. The first is that all organisms (e.g., bryophytes, herbaceous plants) living in a forest do not respond to disturbance in the same manner.

Bryophyte communities themselves respond differently based on habitat selection. Therefore, it is imperative for managers to seek out botanically inclusive strategies that take all plant communities present into account as they prepare their management plans, especially when prescribed fire and thinning is anticipated.

Secondly, hope is not lost. Bryophytes have a proven biology that enables species to persist in highly disturbed areas, withstanding conditions that other plants cannot. Revival of oak tree dominance in our local forests has the potential to improve bryophyte diversity if informed management decisions are implemented.

- **Nicole Kirchner**

#### References:

Graham, J.B. and B.C. McCarthy. 2006. Effects of Fine Fuel Moisture and Loading on Small Scale Fire Behavior in Mixed-Oak Forests of Southeastern Ohio. *Fire Ecology* 2 (1):100-114.

Ohio Moss and Lichen Association. 2016. Mosses: *Bryology* 101. <http://ohiomosslichen.org>

Sean M. Goins, S.M., J.I. Chapman, and R.W. McEwan. 2013. Composition Shifts, Disturbance, and Canopy-Accession Strategy in an Oldgrowth Forest of Southwestern Ohio, USA. *Natural Areas Journal* 33 (4):384-394.

Wiley, J.J. and B.C. McCarthy. 2013. Bryophyte Community Response to Prescribed Fire and Thinning in Mixed-Oak Forests of the Unglaciated Allegheny Plateau. Ohio University, Department of Environmental and Plant Biology 1-95.

## **USNEA HIRTA DISCOVERED IN OHIO**

*Usnea*, or beard lichen, is a particularly diverse genus of macrolichens. *Usnea hirta*, the bristly beard lichen, was discovered in Ohio for the first time during the summer of 2016. The extremely dense isidia that cover its fruticose branches is diagnostic of this species.

I found it in Summit County while working as a Summit Metro Parks seasonal employee conducting unrelated surveys. The lichen was growing on a crabapple tree near the center of some of the largest wetlands in NE Ohio – the Liberty Park wetlands in Twinsburg. Initially, the specimen was not collected due to conservational concerns, but it was eventually decided that it would be best to collect the specimen so it could be confirmed by an expert and documented as a new record for Ohio. The lichen was sent to the New York Botanical Garden and was confirmed to be *Usnea hirta* by Dr. James C. Lendemer. The specimen is curated in the Kent State University Herbarium .



*Usnea hirta* at Liberty Park, 6/10/2016;  
Photograph taken by Tomás J. Curtis

- Tomás J. Curtis

## **BRYOPHYTES AND LICHENS FROM THE 2016 SUMMER FORAY TO CARROLL COUNTY, OH**

The 2016 Summer Foray was held in Carroll County, located in eastern Ohio. Carroll County is within the unglaciated Allegheny Plateau physiographic region, and the bedrock geology underlying the soils are of Pennsylvanian age. These rocks are primarily acidic sandstones, but coal, siltstones and limestones are intermixed.

Approximately 50% of the county is in farmland. Much of the forested area, and larger lakes, lie within the Muskingum Watershed Conservancy District (MWCD). The MWCD was formed in 1933 to reduce the effects of flooding of the tributaries of the Muskingum River. The District conserves water and land, and provides recreational opportunities. The MWCD granted OMLA permission to collect on its lands.

A total of 21 macrolichens were recorded during the Summer Foray. Of these, 11 were new for Carroll County (designated by N in the table below). The fruticose lichens, *Evernia mesomorpha* and *Usnea strigosa*, were seen on several fallen branches and tree tops. These species are becoming more common in Ohio due to improved air quality. One lichen, *Bryoria furcellata*, is rare and is discussed in an accompanying article in this issue.

### **LICHENS**

*Bryoria furcellata* N  
*Candelaria concolor* N  
*Cladonia coniocraea*  
*Cladonia macilenta*  
*Cladonia squamosa*

*Evernia mesomorpha* N  
*Flavoparmelia baltimorensis* N  
*Flavoparmelia caperata*  
*Hypogymnia physodes* N  
*Melanelixia subaurifera*  
*Myelochroa aurulenta* N  
*Parmelia sulcata*  
*Parmotrema hypotropum* N  
*Parmotrema stuppeum* N  
*Phaeophyscia adiastrata*  
*Phaeophyscia pusilloides* N  
*Phaeophyscia rubropulchra*  
*Physcia millegrana*  
*Punctelia caseana* N  
*Punctelia rudenta*  
*Usnea strigosa* N

A total of 71 bryophytes (54 mosses and 16 liverworts) were collected from Carroll County. Prior to the summer foray, 27 mosses and no liverworts had been reported from the county. Taxa new to the county are indicated by an N in the list below. Thanks to contributions from Becky Smucker, the list of 16 liverworts reported from Carroll County rivals that of any Ohio county. All the liverworts are county records, and 44 of the 54 moss records are new to the county.

#### **MOSESSES**

*Anomodon attenuatus*  
*Anomodon tristis* (*Haplohymenium triste*) N  
*Atrichum altecristatum* N  
*Atrichum angustatum*  
*Atrichum crispulum* N  
*Aulacomnium heterostichum* N  
*Brachythecium falcatum* N  
*Brachythecium laetum*  
*Brachythecium plumosum* N  
*Brachythecium rivulare* N  
*Brachythecium rutabulum* N  
*Bryhnia graminicolor* N  
*Bryhnia novae-angliae* N

*Bryoandersonia illecebra* N  
*Bryum capillare* N  
*Callicladium haldanianum*  
*Climacium americanum* N  
*Dicranella heteromalla* N  
*Dicranum flagellare* N  
*Dicranum fulvum* N  
*Dicranum montanum* N  
*Dicranum scoparium*  
*Dicranum viride* N  
*Ditrichum pusillum* N  
*Entodon seductrix*  
*Fissidens bryoides* N  
*Fissidens taxifolius* N  
*Hygroamblystegium varium*  
 (*Amblystegium varium*)  
*Hypnum curvifolium* N  
*Hypnum imponens*  
*Leskea gracilescens* N  
*Leucobryum albidum* N  
*Leucobryum glaucum*  
*Mnium lycopodioides* (*M. ambiguum*) N  
*Orthotrichum ohioense* N  
*Plagiomnium ciliare* N  
*Plagiomnium cuspidatum*  
*Plagiothecium cavifolium* N  
*Plagiothecium laetum* N  
*Platygyrium repens* N  
*Polytrichastrum ohioense*  
*Pseudotaxiphyllum distichaceum* N  
*Pseudotaxiphyllum elegans* N  
*Pylaisiadelphina tenuirostre* N  
*Rhizomnium punctatum* N  
*Rhodobryum ontariense* N  
*Rhynchostegium serrulatum* N  
*Syntrichia papillosa* N  
*Tetraphis pellucida* N  
*Thuidium delicatulum* N  
*Oxyrrhynchium hians* (*Eurhynchium hians*) N  
*Pseudotaxiphyllum elegans* N  
*Taxiphyllum deplanatum* N  
*Ulota crispa* N

## LIVERWORTS

*Blepharostoma trichophyllum* N  
*Calypogeia muelleriana* N  
*Cephalozia lunulifolia* N  
*Cololejeunea biddlecomiae* N  
*Conocephalum salebrosum* N  
*Frullania eboracensis* N  
*Geocalyx graveolens* N  
*Lepidozia reptans* N  
*Lophocolea heterophylla* N  
*Nowellia curvifolia* N  
*Pellia epiphylla* N  
*Plagiochila porelloides* N  
(*P. asplenioides*)  
*Plectocolea crenuliformis* N  
(*Solenostoma crenuliformis*)  
*Porella platyphylloidea* N  
*Scapania nemorea* N  
*Trichocolea tomentella* N

- **Barbara K. Andreas and Ray Showman**

## WANTED ALIVE – ANDREAEA RUPESTRIS!

Two species of *Andreaea* (Andreaeaceae) occur in Ohio, *A. rupestris* Hedw., (Broad-leaved Lantern Moss), and *A. rothii* F. Weber & D. Mohr (Needle-leaved Lantern Moss). *Andreaea rupestris* is listed as extirpated from Ohio. The only specimen was from Hocking County, collected by R.T. Wareham, on 16 March 1940, “on moist rock ledge, S facing slope, Neotoma” (label data, specimen at OS, s.n.). This locality is within the Clear Creek Metro Park, south of Columbus. *Andreaea rupestris* typically grows on acidic rocks, often in areas of seasonal seepage over the rock surface.

According to Zander, in Volume 27 of the Flora of North America, *A. rupestris* is found at latitudes north of Ohio.



Reddish-brown plants of *Andreaea rupestris*, showing the oval capsules.  
Photo from Duke University Herbarium

*Andreaea rothii* is more common in Ohio, with collections from Fairfield, Gallia, Hocking, Pike, and Vinton Counties. Its habitat is similar to that of *A. rupestris*.

The color of the plants of the genus *Andreaea* is reddish-brown to black, and the plants may be confused with *Grimmia* or *Schistidium*. If fertile, the genus is easy to recognize in the field because of its unusual capsule. The capsule is oval in shape, lacks an operculum, and releases spores through four slits. When dry, the capsule resembles a Chinese lantern.

Although it is hard to separate *Andreaea rupestris* and *A. rothii* in the field, the two species can easily be distinguished through the microscope. *Andreaea rupestris* is ecostate, whereas the leaves of *A. rothii* have costae. The somewhat lanceolate leaves of *A. rothii* are narrowed to a subula, and those of *A. rupestris* are more ovate.

– **Barbara K. Andreas**

In wilderness is the preservation of the world. – **Henry David Thoreau**

## CRUSTOSE LICHENS

Crustose lichens are too often passed over by nature enthusiasts because they have a reputation for being difficult to identify, requiring special equipment, skills, and reference materials. I ignored them myself until last year, when I had the privilege of attending two excellent crustose lichen workshops taught by friendly experts –one by James Lendemer at the Edge of Appalachia in southern Ohio, and the other by Irwin Brodo at Eagle Hill Institute in coastal Maine. I found that working with these little lichens is indeed a challenge, but not impossible. Perspective helps, mainly to understand they’re not much different from other lichens, except that you need to look at them more closely.

Looking more closely necessitates not just a dissecting microscope, but a high-powered (compound) scope as well. The high-power view is needed mainly to see spores. Spores vary in size, shape, color, and the number that are found in each ascus (usually 8, but sometimes as few as 2, or a great many more).

Following are some variations in spore characteristics showing (clockwise from upper left): Long narrow spores of *Bacidia granosa*; very large spores, two per ascus, of *Pertussaria plittiana*; sixteen spores per ascus of *Amandinea polyspora*; dark 2-celled spores of *Rinodina tephraspis*.



Crustose lichen asci with spores. Photo by Bob Klips

Typical crustose lichens produce fruiting bodies (ascomata) that are little button-like apothecia. Apothecia are categorized into three main types based upon the composition of their margin. The most easily distinguished apothecium type is the one where the apothecia have a prominent margin with a color and texture basically like of the body (thallus) of the lichen, i.e., a “thalline margin,” which contains algae.

Best seen in the genus *Lecanora* (which accordingly are called “mortar-rim” lichens), this is termed a “lecanorine” apothecium. *Lecanora dispersa*, shown below on riprap along the shore of a pond in Montgomery County, is a common inhabitant of concrete and other lime-rich rocky substrates.



*Lecanora dispersa*. Photo by Bob Klips



*Protoblastenia rupestris*. Photo by Bob Klips

The two other principal apothecium types are less distinctive than the lecanorine type, as in them the margin doesn't appear very much different than the central portion of the apothecium. A "lecideine" apothecium has a dark, somewhat carbonized outer layer lacking algae, while a "biatorine" one lacks a distinctive outer layer altogether. These features, best seen in cross-section, can only be dimly perceived in the portrait style images below. Exhibiting the lecideine type, *Lecidella stigmatea* was found on a small rock in a meadow in Delaware County, while the *Protoblastenia rupestris*, exemplifying a biatorine apothecium, was captured on a similar substrate in Montgomery County.

Among the several categories of crustose lichens other than the typical disk lichens are those with ascomata that are flask-shaped "perithecia." These perithecia sometimes present themselves as spots projecting slightly above the thalline tissue within which they are mostly buried. Below, see *Placopyrenium fuscillum*, a lime-loving lichen from a rocky bluff in Miami County.



*Lecidella stigmatea*. Photo by Bob Klips



*Placopyrenium fuscillum*. Photo by Bob Klips

The "wart lichens" (genus *Pertusaria*) bear apothecia in fruiting warts opening on the surface with one or more small openings (osteoles). The example below is *Pertusaria pustulata*, seen on the



trunk of a hardwood tree in a parking area in Hocking County.



*Pertusaria pustulata*. Photo by Bob Klips

The ascomata of the “script lichens” are elongate and sometimes branched. They do indeed look like writing. One species is very common on tree trunks in Ohio. This is *Graphis scripta*. The specimen below is from Franklin County.



*Graphis scripta*. Photo by Bob Klips

Some crustose lichens rarely, if ever, produce any type of spore-producing structure. While many of these “sterile” crusts are quite challenging to identify, a few are distinctive enough to put a name on. *Caloplaca citrina* looks simply like a golden-yellow dust on calcareous rock. A clue to its identity is a positive (purple) KOH reaction. This specimen (mixed with *Lecanora dispersa*) was

growing on an old limestone fence in Franklin County.



*Caloplaca citrina*. Photo by Bob Klips

The accessibility of crustose lichens to the interested non-specialist took a great leap forward in early 2016, with the publication of “Keys to Lichens of North America: Revised and Expanded,” by Irwin Brodo. Consisting only of keys and some explanatory material, and thus lacking individual species descriptions or photos, this publication is meant to be used as a companion to the richly illustrated descriptive work “Lichens of North America.”

The keys are fairly comprehensive, but not exhaustive, so delving further into the literature is sometimes required. It is helpful to confirm the plausibility of a provisional identification by checking the on-line database of lichen specimens at the Consortium of North American Lichen Herbaria (<http://lichenportal.org/>).

- Bob Klips

Everybody needs beauty as well as bread, places to play in and pray in, where nature may heal and give strength to body and soul alike. — John Muir

## ADDITIONS TO THE CRUSTOSE LICHEN FLORA OF OHIO

In 2009, Ohio's principal lichenologist active in crustose identification, Don Flenniken (now deceased), published a 7-page list entitled "Crustose Lichens Reported From Ohio -An Ongoing Compilation" on the Ohio Moss and Lichen Association web site. As described therein, it is a compilation of microlichens (crustose, squamulose, and dwarf fruticose species) based upon the previous investigations of John Wolfe, Conan J. Taylor, various published literature, and recent collections made by Clifford Wetmore, the Tuckerman Workshop, the OMLA Forays, David Smith, Don G. Flenniken himself, and miscellaneous other sources and collections. The list includes the county or counties from which records are based.

Here I present six lichens I've recently collected that are absent from Don's list, three of which had actually been collected previously and are now reported elsewhere, as noted.

*Candelariella xanthostigmoides* (Müll. Arg.) R.W. Rogers is a difficult one, reported here with some uncertainty. While lichen-hunting with Ray Showman in Vinton County on November 15, 2015, we noticed a yellow dusting on some hickory fireplace logs gathered recently from his property there, evidentially a *Candelariella*. These are usually sterile, and, in Ohio at least, assumed to be *C. efflorescens*.

However, this sample had apothecia, and subsequent analysis in the lab revealed 8 spores/ascus (instead of 12-32 per ascus) –the distinguishing mark for *C.*

*xanthostigmoides*, the range of which is described in the new "Keys to Lichens of North America: Revised and Expanded" (Brodo 2016) as "southeastern and Ozark and scattered in the west; rare." That extra-limital distribution makes the identification seem uncertain and, to make matters worse, I sent a portion of the specimen to Irwin Brodo for confirmation, but that carelessly chosen fragment apparently lacked apothecia, so he called it *C. efflorescens* (the default for sterile specimens).

But Brodo also alerted me to a record of *C. reflexa* --an earlier synonym for this species --on the web site of the Consortium of North American Lichen Herbaria (CNALH) (<http://lichenportal.org/>), a collection James Lendemer made from Chaparral Prairie State Nature Preserve in Adams County in 2006. My specimen with apothecia, like all the others cited in this article (with one exception, the photograph-only records of *Lecanora muralis*), has been deposited in the Ohio State University Herbarium (OS).



*Candelariella xanthostigmoides*. Photo by Bob Klips

*Ionaspis alba* Lutzoni grows on dry siliceous boulders in deciduous forests. It is fairly widely distributed in the

eastern U.S., the Ozarks, and it also occurs in western California. I collected it October 10, 2016 from Englewood Metro Park in Montgomery County. There are two Ohio records on the CNALH site: one by Clifford Wetmore from Cuyahoga County in 1985, and another by James Lendemer from Gallia County in 2006.



*Ionaspis alba* substrate. Photo by Bob Klips



*Ionaspis alba*. Photo by Bob Klips

*Lecanora caesiorubella* Ach. ranges across much of the continental U.S. It is found on bark, mostly of deciduous and evergreen angiosperm trees. The specimen shown below was collected November 15, 2015, on recently cut firewood from Ray Showman's property in Vinton County.



*Lecanora caesiorubella*. Photo by Bob Klips

*Lecanora cenisia* Ach. ranges widely across the U.S. but is much more common in the west. It occurs on siliceous rocks. The Ohio specimen was collected June 6, 2016 from a vertical sandstone ledge at Lookout Rock in Zaleski State Forest, Vinton County.



*Lecanora cenisia*. Photo by Bob Klips

*Lecanora muralis* (Schreber) Rabenh. is an extremely common species over much of Europe and western North America, but is less so in the east. Having broad lobes, giving it a nearly foliose aspect, it is a very distinctive photo-identifiable species. I've observed it at two locations in Miami County, both as solitary specimens at preserves where collecting would be imprudent. The photos below were taken August 8, 2015 at Greenville Falls State Scenic

River Area, where it was growing on a flat limestone rock in a meadow, and October 1, 2016 during the OMLA Fall Foray at Garbry Big Woods Sanctuary, where it was growing on a concrete curb in the parking lot. While there, OMLA member Tomás Curtis mentioned having seen this species growing more abundantly in northeastern Ohio, so there are likely to be some Ohio specimen records for this striking species.



*Lecanora muralis* at Greenville Falls.  
Photo by Bob Klips



*Lecanora muralis* at Garbry Big Woods Sanctuary. Photo by Bob Klips

*Maronea polyphaea* H. Magn. is a beautiful dark brown species with lecanorine apothecia that is apparently common in much of the eastern U.S., on hardwood trees. I found this November 15, 2015 on recently cut firewood at Ray Showman's property in Vinton County.

It was previously collected by William Buck in 2006 at Strait Creek Prairie Preserve in Pike County.



*Maronea polyphaea*. Photo by Bob Klips

- Bob Klips

### MÉNAGE À TROIS?

No, this is not a personal ad, but an exciting new find in the field of lichen biology. Researchers studying the genetic composition of lichens have recently found that many lichens contain a third symbiont – a yeast embedded in the cortex of the lichen. Ongoing research has found yeasts in 52 genera of lichens worldwide, and perhaps there are many more. It is hypothesized that the yeast may play a part in the synthesis of lichen compounds, now at over 600 (see the article on lichen chemistry, p. 14 in the 2015 OBELISK). This may explain why apparently identical lichens can produce different chemicals. I'm sure there will be more interesting results to come in this new area of research!

- Ray Showman

The nice part about being a pessimist is that you are constantly being either proven right or pleasantly surprised.

- George Will

## USNEA IN OHIO

The lichen genus *Usnea* is well known to many naturalists, usually by its common name, beard lichen. Species of *Usnea* are fruticose and can vary from small to very large, and from bushy to viney and pendulous. Most species are moderately to extensively branched. They are round in cross section and solid, with a denser central strand. Usnic acid is usually present in the cortex, giving the lichen a yellow-green color. This is a large genus with as many as 600 species worldwide, found on all continents. There are 79 species reported from North America, with 12 species from Ohio. The majority of species grow on trees but a few are found on rocks.

Most Ohio species are fairly uncommon, several represented from only one county. The most common species is *Usnea strigosa*, the bushy beard lichen, with records from 22 counties. It is easily recognized by the lack of isidia or soredia and the numerous small perpendicular branches (fibrils). More mature specimens frequently have apothecia.



*Usnea strigosa* with apothecia. Photo by Ray Showman.

Several *Usnea* species are represented by only a single old record and are probably extirpated from the state (see [The Macrolichens of Ohio](#) for more details). One of these, *Usnea longissima*, is particularly dramatic. It is a pendulous lichen which, as the name implies, can be long – up to 3 meters! The Ohio specimen is from the Lea collection (ca. 1840, Hamilton County) and I consider the location questionable, but who knows?



*Usnea longissima* in the Pacific Northwest. Photo by Richard Droker

Many species of *Usnea*, perhaps all, are very sensitive to air pollution. This is probably due to their morphology, resulting in an extremely large surface area compared to volume. When I started studying lichens in the early 1970s, it was very unusual and exciting to find even a small specimen. At that time, air pollution (particularly sulfur dioxide) in the US was at its highest point.

However, in 1972 the Clean Air Act became law and things began to change. In the ensuing 40+ years air quality has steadily improved and it is now commonplace to see a beard lichen in Ohio. Many of the old county records have been updated, and several more

species of *Usnea* have been recently found in the state.



*Usnea substerilis*, recently found in Ohio. Photo by Ray Showman

Usneas are important ecologically as a winter food for ungulates, particularly in the western US. The northern parula warbler uses beard lichen as a nest building material. After an absence in the last century, this bird is making a comeback in Ohio. Although not known for certain, this return could be due, at least in part, to the regrowth of usneas in the state.

Some of the beard lichens are also used by people for a natural dye material. But the most important use of this lichen group is for the usnic acid that it produces. In Europe, tons of lichens are collected each year for the extraction of this chemical, used in the preparation of an external antibiotic ointment. I doubt that we could find tons in Ohio, but usneas are certainly becoming more common. So the next time you are out botanizing, keep a lookout for this interesting lichen.

– Ray Showman

## **MOSS MUSINGS: A CALL FOR AN UPDATED LIST OF MOSSES OF NORTH AMERICA NORTH OF MEXICO**

Back in the late 1980s, when I was working and publishing on the structure of peatlands (and when an un-named colleague misidentified the *Sphagnum* species that dominated one bog), I made an effort to learn to identify bryophytes. I was fortunate to have enthusiastic mentors, Dr. Jerry Snider at the University of Cincinnati, and Dr. Howard Crum at the University of Michigan; and I had three newly published aides: the two-volume Crum and Anderson (1981); the *List of mosses of North America north of Mexico* (Anderson et al. 1990); and the *Key to the moss genera of North America north of Mexico* (Vitt & Buck, 1992). With these books, and much mentoring, I determined the identity of most of the mosses I collected and had examined under the microscope, and put the “accepted” name on the label.

In 2016, one might expect the process of identifying and naming mosses to be easier. Allen (2005, 2014) published two volumes of Maine mosses, which cover at least 90% of Ohio’s mosses. Those volumes contain excellent identification keys, and contain consistent descriptions, terminology and concepts; and volumes 27 (2007), and 28 (2004) of the *Flora of North America* are devoted to mosses. These volumes also have identification keys and descriptions, but each family and/or genus has a different author so coverage varies.

So why am I complaining? It’s because of the inconsistency in nomenclature

among the post-2000 publications. For example, in 2014 I collected a specimen new to Ohio that I called *Thuidium delicatulum* (Hedwig) Schimper var. *radicans* (Kindberg) H.A. Crum, Steere & L.E. Anderson (Andreas 2014). This name was consistent with the treatment by Crum and Anderson (1981) and Crum (2014). I could have called it *Thuidium assimile* (Mitten) A. Jaeger (Allen 2014), or *T. philibertii*, an older name proposed by Limpricht in 1895 (Allen 2014). The genus *Thuidium* may be placed in two separate families. Crum and Anderson (1981) and Crum (2014) place *Thuidium* in the family Thuidiaceae, whereas Allen (2014) places *Thuidium* in the Leskeaceae.

Another example is *Thuidium pygmaeum* BSG, and *T. minutulum* (Hedwig) BSG (Crum & Anderson 1981). In the 1990 checklist, those taxa are referred to as *Cyrto-hypnum pygmaeum* (Schimper) W.R. Buck & H.A. Crum, and *C. minutulum* (Hedwig) W.R. Buck & H.A. Crum (Anderson et al. 1990). That treatment is followed by Buck (2014). Allen (2014) places both species in the genus *Pelekium*. Similar nomenclatural issues occur within the family Brachytheciaceae in the genera *Eurhynchium*, *Eurhynchiastrum*, *Oxyrrhynchium*, *Platyhypnidium*, and *Rhynchostegium* (Ignatov 2014).

I have great respect for the bryologists cited in the above two paragraphs. All have spent hours researching previous publications, and examining herbarium specimens, prior to making nomenclatural decisions. Which authority should we follow?

Lichenologists may follow a website where *A Cumulative Checklist for the*

*Lichen-forming, Lichenicolous and Allied Fungi of the Continental United States and Canada, Version 21* is posted (<https://www.ndsu.edu/pubweb/~essling/e/chcklst/>). This checklist is periodically updated, and contains, within each genus, currently accepted names. Synonyms are also listed. This checklist is maintained by Dr. Theodore L. Essinger from North Dakota State University.

Bryologists, especially those not in herbaria or academic institutions, need either an updated published version of the *List of mosses of North America north of Mexico*, or a website similar to that used by lichenologists.

There are many opportunities for amateur bryologists to work shoulder-to-shoulder with professionals. Examples include the Crum Bryological Workshop (Buck 2016), the Ohio Moss and Lichen Association (Andreas et al., 2005) ([ohiomosslichen.org](http://ohiomosslichen.org)), and more recently, the Pennsylvania Bryophyte and Lichen Association (<https://www.facebook.com/PaBryophytesLichens/>). These well-trained amateurs are contributing specimens and data to the field of bryology. An updated nomenclatural list that provides the “accepted” names would be greatly appreciated.

#### Literature Cited

Allen, B. 2014. *Maine Mosses, Drummondiaceae – Polytrichaceae*. The New York Botanical Garden Press, Bronx, NY.

Allen, B. 2005. *Maine Mosses, Sphagnaceae – Timmiaceae*. The New York Botanical Garden Press, Bronx, NY.

Andreas, B.K. 2014. *Thuidium delicatulum* var. *radicans* – new to Ohio. *Obelisk* 11 (1): 1–2.

Andreas, B.K., R.E. Showman & M.H. Zloba. 2005. The formation of the Ohio Moss and Lichen Association and a report of the first fall foray to the Edge of Appalachia Preserve System, Adams County, Ohio. *Evansia* 22 (3): 92–99.

Anderson, L.E., H.A. Crum & W.R. Buck. 1990. List of the mosses of North America north of Mexico. *The Bryologist* 93 (4): 448–499.

Buck, W.R. 2016. The Tuckerman Lichen Workshop and the Crum Bryophyte Workshop: a brief history. *Evansia* 33 (1): 46–49.

Buck, W.R. 2014. Thuidiaceae Schimper. In: Flora of North America Editorial Committee. Vol. 28, Bryophytes: Mosses, part 2, Flora of North America North of Mexico. Oxford University Press, New York.

Crum, H.A., & L.E. Anderson. 1981. Mosses of Eastern North America, 2 vols. Columbia University Press, New York.

Flora of North America North of Mexico. 2014. Vol. 28, Bryophyta, part 2. Flora of North America Editorial Committee. Oxford University Press, NY.

Flora of North America North of Mexico. 2007. Vol. 27, Bryophyta, part 1. Flora of North America Editorial Committee. Oxford University Press, NY.

Ignatov, M.S. 2014. Brachytheciaceae Schimper. In: Flora of North America Editorial Committee. Vol. 28, Bryophytes: Mosses, part 2, Flora of North America North of Mexico. Oxford University Press, New York.

Vitt, D.H. & W.R. Buck. Key to the moss genera of North America north of Mexico. *Contr. Univ. Mich. Herb.* 18: 43–71.

- **Barbara K. Andreas**

### **STILL WANTED ALIVE –**

The first **WANTED ALIVE** – article, featuring the Lungwort lichen *Lobaria pulmonaria*, was run in the 2007 issue of **OBELISK**. We have many new members since then, so I thought I would rerun the article, in hopes that someone would find an extant population in Ohio.



*Lobaria pulmonaria*. Photo by Ralph Pope.

Lungwort is a large lichen – frequently as large as an outspread hand – and not easy to miss. The thallus is very wrinkled, brown when dry and green when wet. It was thought to resemble lung tissue, thus the common name. It usually grows on tree bark in fairly



moist and shaded locations, and is thought to be an indicator of old growth forests.

Lungwort has been collected from 14 counties in Ohio. Thirteen of these records are pre-1945 with one between 1945 and 1965. It should be present somewhere in the state. If you do find it, don't collect it unless there are numerous thalli present. Take a photo and send it to me. This would indeed be a red letter day to rediscover the Lungwort in Ohio!  
- Ray Showman

### **FOUND (ALIVE)!** **USNEA CERATINA**

Last winter while cutting firewood from a red maple that had fallen in the edge of my yard, I noticed several *Usnea* lichens on the upper trunk. One in particular looked different from the now widespread *Usnea strigosa*, so I collected it for identification. It turned out to be *Usnea ceratina*, a fairly common Smoky Mountain species.



*Usnea ceratina*. Photo by Ray Showman.

This species is known from Ohio with 4 pre-1945 county records. I had thought it possibly extirpated and indicated so in The Macrolichens of Ohio. This *Usnea* is somewhat pendulous rather than

bushy and has coarsely papillate branches which become sorediate. Spot tests on the medulla are negative except for the KC test which is an intense yellow-orange (diffractaic acid). This is the only *Usnea* in Ohio to have a KC+ reaction of this color.

It is always nice to find a species thought to be lost from Ohio; kind of like rediscovering an old friend.

– Ray Showman

### **FALL FORAY IN WESTERN OHIO**

The theme for this year's fall foray, in Miami County in west-central Ohio, was "Summer in October." Both days were warm and sunny. A week of rain showers made everything very green by the time we arrived. All the collecting sites we visited are preserves of the Miami County Park District. Miami County is entirely within the glaciated portion of Ohio. The county is covered with till deposited by the Wisconsinian glaciers, which retreated from the area about 20,000 years ago. The county has a few outcrops of bedrock, which is primarily limestone and dolomite.

Our group of 13 forayers met Saturday morning, October 1, at Charleston Falls Preserve. This 216-acre preserve features a very scenic 37-foot-high spring-fed waterfall, hardwood forests, cedar barrens, rock outcrops, prairies and wetlands. The preserve is in the southern part of Miami County, not far from Tipp City (formerly known as "Tippecanoe").

After lunch at Charleston Falls, we spent Saturday afternoon in northern Miami County at Garbry Big Woods Sanctuary, an undisturbed, 100-acre wet beech-

maple forest with magnificent tall trees, vernal pools and a variety of particularly interesting habitats, especially for mosses and liverworts. Judy Feinstein, a naturalist with Miami County Parks, met us there to share her knowledge and show us a number of interesting places.

As evening approached, we drove about 5 miles from Garbry to the Piqua Comfort Inn. The hotel had graciously renovated all the rooms in the weeks before the foray. We filled the spiffy new conference room with our books and microscopes, ordered in a stack of huge pizzas from Beppo Uno restaurant (highly recommended) in downtown Piqua, and worked on our collections as long as anyone could keep their eyes open.

Sunday morning we caravanned through Piqua straight west to Stillwater Prairie Reserve and the adjacent Maple Ridge Reserve, both of which are along the Stillwater River in western Miami County. The 260-acre Stillwater Prairie features a variety of open areas, woods, and wooded floodplains, as well as limestone terraces along the Stillwater River. The 100-acre Maple Ridge site is a primarily wooded area with hills and ravines, with some exposed bedrock along the Stillwater River and in a tributary creek bed.

We're especially grateful to the Miami County Parks, not only for their help in organizing the foray, but also for providing us with fine places to collect. Our foray experiences remind us of the great value of our park districts, which identify and preserve important areas of biological diversity that otherwise might be inaccessible to the public or destroyed by disturbance.

## **BRYOPHYTES**

We report 40 moss taxa (33 of which are new county records) and 5 liverwort species. A noteworthy find from Garbry Big Woods Sanctuary is *Brachythecium velutinum*, a woodland species that has been reported in Ohio from only three other counties: Darke (adjacent to Miami), Erie, and Lawrence (at the southern tip of Ohio).

Another interesting species collected at Garbry is *Ephemerum crassinervium*, which is reported from 4 other Ohio counties along a roughly east-west line: Preble, Greene, Ross, and Hocking. These minute plants often go unnoticed. As the name suggests, this species has a very short life cycle, in our area typically found from late fall until early spring. The plants mature quickly and release spores that will germinate the next fall, thereby taking advantage of disturbed habitats, such as fallow fields.

### **Miami County Bryophytes. N indicates a new county record.**

#### **MOSESSES**

*Amblystegium varium*

*Anomodon attenuatus*

*Anomodon minor* N

*Anomodon rostratus*

*Brachythecium falcatum* N

*Brachythecium laetum* N

*Brachythecium plumosum* N

*Brachythecium rotaeanum* N

*Brachythecium velutinum* N

*Brothera leana* N

*Bryoandersonia illecebra* N

*Callicladium haldanianum* N

*Calliargonella lindbergii*

*Campylium stellatum* N

*Climacium americanum* N

*Entodon cladorrhizans* N

*Entodon seductrix* N

*Ephemerum crassinervium* var.  
*crassinervium* N  
*Eurhynchium hians*  
*Fissidens taxifolius* N  
*Haplocladium microphyllum* N  
*Hygoamblystegium tenax* N  
*Hypnum pallescens* N  
*Isopterygium tenerum* N  
*Leptodictyum riparium* N  
*Leskea gracilescens* N  
*Leucobryum glaucum* N  
*Orthotrichum pusillum* N  
*Orthotrichum stellatum*  
*Plagiomnium cuspidatum*  
*Plagiothecium cavifolium* N  
*Plagiothecium denticulatum* N  
*Platygyrium repens*  
*Pohlia nutans* N  
*Pylaisiadelphina tenuirostris* N  
*Racomitrium heterostichum* N  
*Rhodobryum ontariense* N  
*Tetraphis pellucida* N  
*Thuidium delicatulum* N  
*Thuidium philibertii* N

#### LIVERWORTS

*Frullania eboracensis*  
*Lophocolea heterophylla*  
*Pallavicinia lyelli*  
*Porella platyphylloidea*  
*Riccia fluitans*

#### LICHENS

A total of 40 macrolichen species were collected or observed during the 2016 Fall Foray in Miami County. Twenty-three of these were new county records and the remainder were updates of existing records. Most were common species but 3 deserve note.

*Punctelia perreticulata*, found at the Stillwater Prairie Preserve, is known from only one other location in Ohio, Buzzardroost Rock in Adams County.

*Melanohalia exasperata*, found at Charleston Falls, is known from 5 old records and one recent record from Athens County.

*Parmotrema margaritatum*, also collected at Charleston Falls, is known from 5 old records but only one recent record in Muskingum County.

These records emphasize the need to preserve natural areas in Ohio and also to survey areas which have not been visited by lichen and moss experts.

#### Miami County Lichens. N indicates a new county record.

*Candelaria concolor*  
*Canoparmelia crozalsiana* N  
*Canoparmelia texana* N  
*Cladonia coniocraea* N  
*Cladonia macilenta*  
*Cladonia peziziformis*  
*Collema tenax* N  
*Dermatocarpon muhlenbergii*  
*Flavoparmelia caperata*  
*Flavopunctelia flaventior*  
*Flavopunctelia soledica* N  
*Leptogium cyanescens* N  
*Melanohalia exasperata* N  
*Myelochroa aurulenta* N  
*Myelochroa galbina* N  
*Parmelia squarrosa* N  
*Parmelia sulcata* N  
*Parmotrema austrosinense* N  
*Parmotrema hypotropum*  
*Parmotrampa margaritatum* N  
*Parmotrema reticulatum* N  
*Phaeophyscia ciliata*  
*Phaeophyscia hirsuta* N  
*Phaeophyscia pusilliodes*  
*Phaeophyscia rubropulchra*  
*Physcia adscendens* N  
*Physcia millegrana*  
*Physcia stellaris*  
*Physciella chloantha* N

*Physconia detersa*  
*Physconia leucoleiptes* N  
*Punctelia bolliana*  
*Punctelia caseana* N  
*Punctelia perreticulata* N  
*Punctelia rudecta*  
*Pyxine soledica* N  
*Pyxine subcinerea* N  
*Usnea strigosa* N  
*Xanthomendoza fallax*  
*Xanthomendoza ulophyllodes*

- Jim Toppin

### **FOUND (ALIVE)!** **BRYORIA FURCELLATA**

The 2014 issue of OBELISK contained a **WANTED (ALIVE)!** article featuring the fruticose lichen *Bryoria furcellata*. It is very uncommon in Ohio and I had not seen it for around 20 years of collecting the state. On May 10<sup>th</sup> of this year, I visited Carroll County with fellow members Barb Andreas and Rick Gardner for a reconnaissance of possible Summer Foray sites. The first site we visited was a wooded ravine. Barb immediately went to the small stream at the bottom, looking at the mossy rocks. Rick was walking the slope, looking at sedges and wildflowers. I was following Rick, but was drawn to a recently felled tree, the upper branches rich with lichens. I found several county records, among them *Bryoria furcellata*! The under-collected counties that we have visited on OMLA forays have really paid off with numerous county records and usually a rarity or two.

Without a diversity of opinion, the discovery of truth is impossible. –  
**Alexander von Humboldt**

### **AIRBORNE**

The lichens and the mosses,  
grow the world around;  
farther than any other plants,  
these cryptogams are found.

Mountain tops and deserts,  
polar regions too,  
are home for lichens and mosses,  
where higher plants are few.

But how did they get established  
in these remote and drastic sites?  
They both have tiny propagules,  
to reproduce their likes.

These microscopic bits of life,  
ride on currents of air,  
they're disseminated far and wide,  
to find a new home there.

But wind is not the only thing,  
birds may play a role,  
for some of these wandering wonders,  
can fly from pole to pole.

And trapped within their feathers,  
or on their feet residing,  
these tiny little propagules,  
may on these birds be riding.

So now you know the story,  
of dispersal in the air,  
of the lichens and the mosses,  
and why they're everywhere.

- Ray Showman

## NEWS AND NOTES

First, **THANK YOU TO EVERYONE WHO CONTRIBUTED TO THIS OBELISK!** Our members who participate and contribute make OMLA the success that it has become.

We are planning the OMLA Annual Meeting for early next year but do not have a date yet. We will let you know by email as soon as plans are finalized.

We have been invited to do a foray at **Dawes Arboretum** in Licking County. We will plan to do our 2017 Summer Foray there and will let you know details later.

### OHIO BOTANICAL SYMPOSIUM

The 2017 Ohio Botanical Symposium will be held on Friday, March 24th. One of the featured speakers will be Dr. James Lendemer from the New York Botanical Garden. He will give a presentation on lichens. Put this date on your calendar!

### BOB KLIPS WINS AWARD

OMLA is delighted that Bob Klips received the 2015 Sullivant Award for the best bryology paper in The Bryologist. His paper, titled “DNA microsatellite analysis of sporophytes of the short-lived moss *Physcomitrium pyriforme* reveals a predominately self-fertilizing mating pattern,” was published in The Bryologist 118(2): 200-211.

Bob is a valued member of OMLA. He is our chief photographer and webmaster. Bob is compiling a photographic atlas of all Ohio’s mosses,

which may be viewed under Moss Photos at [www.ohiomosslichen.org](http://www.ohiomosslichen.org). Congratulations Bob!

OMLA member **Bill Schumacher** (also **Brian Gara** and **Barb Andreas**) has been busy publishing articles about bryophytes as wetland indicators:

Schumacher, W., M.A. Stapanian, B.K. Andreas & B. Gara. 2016. Number of genera as a potential screening tool for assessing quality of bryophyte communities in Ohio wetlands. *Wetlands* 36: 771–778.

Stapanian, M.A., W. Schumacher, B. Gara, J.V. Adams, & N. Viau. 2016. Mosses in Ohio wetlands respond to indices of disturbance and vascular plant integrity. *Ecological Indicators* 63: 110–120.

Stapanian, M.A., W. Schumacher, B. Gara, & S. Monteith. 2016. Moss and vascular plant indices in Ohio wetlands have similar environmental predictors. *Ecological Indicators* 62:138 – 146.

There will be a number of courses on lichens and mosses offered at **Eagle Hill** in Maine this coming summer:

May 21-27, Crustose lichens of the Acadian forest. By Stephen Clayden.

June 4-10, Undergraduate field studies: Introduction to bryophytes and lichens. By Fred Olday.

June 11-17, Mosses: Structure, ecology, and identification. By Jerry Jenkins and Susan Williams.

June 25-July 1, Liverworts and liverwort ecology. By Blanka Shaw.

July 2-8, Lichens and lichen ecology.  
By David Richardson and Mark Seaward.

July 23-29, Lichens, biofilms, and stone.  
By Judy Jacob and Michaela Schull.

**Jim McCormac**, a former member of OMLA and a friend to all who know him, retired from the Ohio Division of Wildlife as of November 30. Jim intends to pursue his interests in nature without the bureaucracy of a state job. He has a couple book projects in mind and he will be devoting more time to his passion for photography. Congratulations Jim and good luck in your future endeavors!

### LOOKING FOR A GOOD BOOK?

Try The Naturalist by Darrin Lunde, 2016, Crown Publishers. This is a biography of Theodore Roosevelt, concentrating on his interest in nature and hunting. At a young age, TR became an accomplished naturalist and a birder of some renown. As he grew older, he became an avid hunter and a champion of the budding conservation movement. This book is part history and part entertaining stories of TR's many adventures. A great read about a great man!

Another great book is The Invention of Nature: Alexander von Humboldt's New World, by Andrea Wulf, 2015. Available in paperback from Amazon for \$13.36. This is the life story of Humboldt, possibly the greatest naturalist ever. Humboldt was a

prodigious explorer, scientist and author who has more plants, animals, geographic and geologic features named after him than anyone else. His thinking strongly influenced contemporaries like Thomas Jefferson, Henry David Thoreau and Charles Darwin, as well as future generations of naturalists like John Muir. This is a fairly long book, but worth every page. It should be required reading for anyone interested in nature!

**We don't stop playing because we grow old, we grow old because we stop playing. – George Bernard Shaw**

### NEW BRYOPHYTE AND LICHEN GROUP IN PENNSYLVANIA

Several bryophyte and lichen enthusiasts teamed up to initiate a new organization the *Pennsylvania Bryophyte and Lichen Association, PennBLA*. The work of starting our group came from several members of the *Bryophyte and Lichen Technical Committee (BLTC)* for the *Pennsylvania Biological Survey (PABS)*.

We have also been fortunate in that several of the founders of PennBLA are also active members of OMLA and we were inspired to start PennBLA from the great success of OMLA. OMLA and its members have been very encouraging with helpful guidance, support, and encouragement as we have been getting our group off the ground and running.

The goals of our new organization include educating the public about bryophytes and lichens in Pennsylvania. We will also be recording the occurrences of these species throughout Pennsylvania, and act as a champion for

bryophytes and lichens both inside and outside of Pennsylvania.

Information about species and their occurrences will be shared with the commonwealth of Pennsylvania as we will advocate for both attention to and advocate for the adoption of conservation measures to protect these species.

Additionally we will be creating species checklists for the areas we visit as a way to underscore the importance of bryophytes and lichens; these will be for both resource managers and for visitors to those parks or preserves. We think informing a more general public about these species could serve to enhance their experience when they visit parks where we have created species lists.

We will be hosting several forays each year for both professionals and amateurs. However, the focus will remain on educating interested amateurs. Following the model of OMLA, our forays will include field work and then a session with microscopes for identification. We will be depositing collected vouchers at both Slippery Rock University and New York Botanical Garden herbaria.

I can also report that we have already had our first two forays earlier this year and they were resounding successes. On August 20, 2016 we had our inaugural foray at Moraine State Park in Butler County, Pennsylvania and we were fortunate enough to be able to use the botany lab at Slippery Rock University for the afternoon portion of our event. We had 11 folks in attendance with folks from both Ohio and Pennsylvania. Our second foray took place November 12, 2016 at Maurice K. Goddard State Park in Mercer County, Pennsylvania and we

were lucky enough to be able to use a lab at Penn State Shenango. We had 10 folks in attendance for this foray and again it was a great success.

We are still planning our forays for 2017 but we anticipate that there will be many opportunities for both PennBLA and OMLA to work together and grow as organizations. Currently we do not have a formal membership but we do have an email list and Facebook page (<https://www.facebook.com/PaBryophytesLichens>) and our website is under construction. If you want to join our mailing list you can send an email to [bryandolney@icloud.com](mailto:bryandolney@icloud.com) or contact us on our Facebook page and please like us while you are there! - **Brian Dolney**

And here is a late entry (science doesn't stop because of deadlines) but too important to wait until next year!  
**Congratulations Tomás on two new species for Ohio this year!**

### **USNEA DASAEA DISCOVERED IN OHIO**

*Usnea dasaea* is a widespread and relatively rare species of beard lichen that is usually found on the bark of hardwood trees. It has a shrubby to sub-pendent, sorediate fruticose thallus with dense fibrils. *Usnea dasaea* is likely to be confused with *U. amblyoclada* because the medulla of both species reacts K (potassium hydroxide) + yellow turning red, but *U. amblyoclada* is strictly a noncalcareous rock-dwelling species with black-tipped isidiomorphs rather than consistently colored isidiomorphs.

*Usnea dasaea* was found in Ohio for the first time in Portage County, Ohio at

West Branch State Park on October 28, 2016 by lichen enthusiasts exploring the area. It was a large specimen and was found on a young, dead ash tree trunk in full sun in a secluded area of the park. It was collected with the thought that it was a more common species of beard lichen, but later examination proved otherwise.

The specimen was sent to the New York Botanical Garden and was confirmed by Dr. James C. Lendemer using thin layer chromatography.



*Usnea dasaea* at West Branch State Park, 10/28/2016 Photograph taken by Tomás J. Curtis.

**-Tomás J. Curtis**





**2016 Summer Foray.** L to R: Jim Toppin, Bob Long, Chris Poling, Tomás Curtis, Janet Traub, Ray Showman, Barb Andreas, Bob Klips, Julia Wiesenber, Becky Smucker, Carl Dister, Steve Upperman, Joe Dister, Diane Lucas, Alexa Wagner, Carole Schumacher, Brandon Ashcraft, Bill Schumacher, Paul Lehmann.



**2016 Fall Foray.** L to R: Diane Lucas, Bill Schumacher, Carole Schumacher, Megan Osika, Jim Toppin, Janet Traub, Ray Showman, Barb Andreas, Joe Ford, Brandon Ashcraft, Tomás Curtis, Cynthia Dassler, Bob Klips, (not pictured Ian Adams).