

The BogHunter

the newsletter of the Friends of the Cedarburg Bog

Volume 9, Number 1

WINTER 2014

WHAT ARE THOSE THINGS?

Those crusty green or gray (or orange) growths that look like they've been pounded or sprayed onto rocks and tree trunks. The small, shrubby clumps of "leaves" attached to tree branches. The tiny gray-green chalices or gnarled fingers topped with red knobs. The answer: lichens.

Lichens are two organisms in one package, a fungus and an alga (usually), and if you had been reading about them a few decades ago, they would have been classified as non-flowering members of the Plant kingdom. Because a fungus contributes the characteristic shape of most lichens, the majority are in the Fungus kingdom. Green and yellow-green algae, the typical algal partners, are plants, but some lichens contain cyanobacteria, and others may house both. Only about 20% of fungus species are able to "lichenize," but they are so dependent on their plant partners that when they are grown in a laboratory and deprived of their partners, they are essentially shapeless. Most, but not all, lichen fungi are very particular about who they partner with.



Pixie cups – a fruticose lichen

There are between 3,500 and 5,000 species of these often-overlooked "composite organisms" in North America and more than 15,000 worldwide. Fungi have been taking advantage of the "lichen lifestyle" for 400 million years. Visually, they are cataloged by growth form, and the three most common groups are the foliose (leafy), crustose (crusty), and fruticose (shrubby) lichens.

Lichens are pioneer plants, the first to grow on rocks or bare earth, and

some persist in extreme climate conditions (they have been grown in simulated Martian conditions). They survive drought and heat by suspending metabolism, but, according to Joe Walewski in *Lichens of the North Woods* some species continue to photosynthesize when temperatures drop below freezing.



A foliose lichen

The species that grow on rocks are soil-makers, penetrating the rock surface minutely and allowing moisture to enter, freeze and ultimately to crack off tiny rock flakes. Lichens may live for a long time, but eventually, their decay adds organic matter to the surface and sets the stage for mosses, grasses, and wildflowers. Cyanobacteria are nitrogen-fixers that contribute to the fertility of the soil.

How do they work? The fungus provides structure and stability, and it absorbs moisture and nutrients, primarily from the atmosphere. It absorbs indiscriminately, and some species, sensitive to air pollution, are considered indicators of air quality. The alga also gets water and minerals from the air, and the food it makes through photosynthesis is used by both partners.

Lichens can reproduce sexually or asexually/vegetatively. Vegetative lichen reproductive structures are little "starter kits" that contain cells of both (all) partners. They may be special structures (diaspores - algal material in fungal wrappers) produced and released by the lichen, or they may simply be a piece of the existing plant that breaks off and grows where it falls. Less commonly, lichens reproduce

sexually, making spores that carry the genetic material of the fungus. It's a chancy proposition, since spores must come in contact with the appropriate algae in order to grow.

This win-win partnership is often labeled as mutualism, a relationship from which both partners benefit. Because the algal partner can exist in nature without the fungus, but not vice-versa, some scientists call it commensalism, a relationship in which one partner benefits and the other is unaffected.

Lichens do not go unnoticed by wildlife. Northern Parula Warblers and Ruby-throated Hummingbirds incorporate them into their nests, and lichens are eaten by deer and flying squirrels as well as by a variety of insects, snails and slugs. Humans use them as an emergency food (George Washington's troops at Valley Forge ate a soup made with rock tripe lichens), for medicine, and for dyes. Walewski writes that some scientists feel that lichens are "not organisms at all, but are actually small ecosystems containing a producer (algae or cyanobacteria) and a consumer (fungus)." Walewski also quotes a lichenologist who describes lichens as "a fungus that has discovered agriculture."



A foliose lichen

One thing that lichenologists seem to agree on is that even with today's scientific tools, the more we study lichens, the more questions we raise. Enjoy their various forms in the field (bring a hand lens), and remember, a lichen is a "fungus and an alga that have taken a liken' to each other."

TAKING CARE OF THE BOG

When I first started studying ecology and sustainability in college, the word stewardship began to creep its way into my vocabulary. Definitions of stewardship revolve around being responsible for or protecting something, often a resource - in fact the origin of the word means literally guarding a house. Although the term surfaces in many contexts (stewarding the planet, stewarding data), I most often see it in terms of stewarding the land, or land stewardship.

The Friends' Stewardship Committee researches and stewards the Cedarburg Bog Natural Area. The goals, objectives and responsibilities of this group are varied and include invasive species control, improving wildlife habitat and public access, working with partnering stakeholders and recruiting volunteers. For the past six years, the group has worked under the guidance of Field Station Director, Jim Reinartz and committee chair Mark Murphy and DNR Property Manager Andy Krueger. In addition to managing the Bog, this committee works with neighboring land owners, supports the DNR's Master Plan and eventually would like to see the entire watershed protected.



Glossy Buckthorn

Recently, much of the stewardship in the Bog has focused on the removal of glossy buckthorn (*Frangula alnus*). This tall (up to 20 feet) understory exotic shrub invades wetlands (including bogs and fens), forming dense thickets that crowd out native species and prevent tree regeneration. The committee initially focused on removing buckthorn from a few areas where density was low with the idea that they would be more successful in keeping those areas free of buckthorn while widening the scope of removal. The bulk of the funding for buckthorn removal has come from the Natural Resources Foundation, a grant from the Wisconsin Energy Foundation, and the Wisconsin Stewardship Fund.

In addition to Buckthorn Removal, stewardship activities have eradicated

or severely reduced several invasives including Common Teasel (*Dipsacus fullonum*), Japanese Knotweed (*Polygonum cuspidatum*), Giant Reed-Grass (*Phragmites australis*) and Purple Loosestrife (*Lythrum salicaria*), the latter involving raising and releasing of Purple Loosestrife Beetles.



Purple Loosestrife

Finally, the stewardship committee focuses on man-made structures of the Bog, for example boardwalks, kiosks, signage and the accessible trail off Highway 33 on the north end of the Bog. The committee also organizes trash pickup along Cedar Sauk Road twice a year through an Adopt a Road program. If DNR approval is obtained, the committee would like to construct a boardwalk to provide safe access into Mud Lake at the south end of the Bog.

Tim Vargo, Friends Board

THE FRIEND'S MONIES

When the Board of the Friends of the Cedarburg Bog meets quarterly, our discussions frequently focus on projects: a boardwalk, invasive species mitigation, an improved member outreach program, the next newsletter, membership drives, ongoing (or new) education programs, scientific support projects, etc. As the Fundraising Committee chair for the Friends, I view these initiatives from a funding perspective: Do they need monies to execute? If so, where does this money come from? Are they Sources of Monies (the goz-inta's) or Uses of Monies (goz-outta's)—that is, do such activities either allow monies to go-inta our bucket of funds or to go-outta it? I'd like to spend a few paragraphs to share where your friends group is both sourcing and using funds.

Historically, the Sources of Friends' funds have been primarily: (1) membership dues and any associated donations or, (2) grant awards. While there are also event donations, these tend to be modest and to cover the immediate costs of the event.

With over 160 Friends, and our cur-

rent dues structure, we normally collect enough membership-sourced funding to cover the costs of newsletters and the minor administration costs associated with sustaining our non-profit status, maintaining the website, and paying for the membership database and insurance. Donations in excess of the minimum membership are always welcome, and they allow us to undertake small initiatives, or with several years accumulation, to meet any matching funds expectations of grants.

In part due to our ability to match (and manage) grant funding, we've been very successful at obtaining grants. These funds have typically been for improving access to the Bog, enhancing the public understanding of the property, funding scientific research initiatives, or maintaining the Bog's unique biodiversity. To date, we have sought and acquired over \$150,000 in grants. Of course, the application of these funds to Bog projects is narrowly restricted to the specific purposes of the grant. And even as governmental and non-governmental funding for such programs becomes scarcer, the potential need for such Bog funding has grown.

To sharpen our focus for the future, including how we intend to use funds, the Board of Directors of the Friends recently established the following organizational goals to be achieved over the next 3 years:

- Construct a boardwalk to allow safer and less-damaging public access to Mud Lake (pending approval by the DNR)
- Enhance the educational, academic and scientific benefits of the Bog through property improvements.
- Fund a part time Stewardship manager position to coordinate and oversee the funding for the eradication of non-native plant species in the Bog's delicate eco-system.
- Establish a part-time administrative position to allow more efficient membership outreach, coordination of grants, and delivery of membership benefits
- Create a comprehensive volunteer program to connect member-volunteers with jobs that need to get done in the Bog.

These potential new Uses of Friends' monies exceed our currently budgeted Sources, so we have begun to explore other funding avenues:

- We have established an endowment fund for the Friends, and with Board member contributions, it now stands at \$11,000. Since we can only draw the

interest out of this account, it is important to grow this fund considerably, through private or corporate contributions.

- To grow the unrestricted funds that we need to achieve these organizational goals over the next few years, our Consider the Bog initiative will provide conservation-minded individuals or corporations an intimate look at the unique benefits (and needs) of the Cedarburg Bog, and create opportunities to establish a personal relationship with the Bog and its Friends' group. The first outreach was held in September, with several others anticipated in the coming year.

I can provide more information on any of these initiatives. And the Fundraising committee can certainly use more goz-inta volunteer help—from party planning to development strategizing. Please contact me if your interests lie in this area at brucross@wi.rr.com.

Bruce Ross, Fundraising Chair

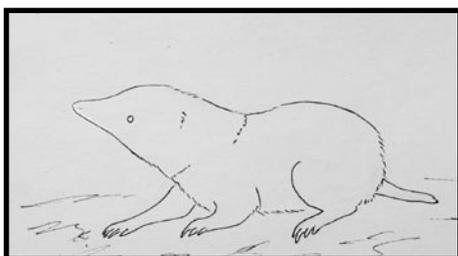


ATTACK OF THE KILLER SHREWS

Short-tailed shrews are one of the most common small mammals between the Great Plains and the Atlantic, but they are rarely seen. In winter, they are found in the intranivean and sub-nivean layers – the space between the ground and the top of the snow layer.

The meandering, inch-wide tunnels they make just below the snow offer some protection from predators, though foxes and owls can hunt by ear, and shrew bones are common in owl pellets.

Largely nocturnal, they spend the daylight hours in tunnels in and under



Short tailed shrew

the snow, in leaf litter, and as deep as 20 inches underground, sometimes emerging at night. They dig tunnels using their front paws, but they also use burrows made by voles and moles.

During the winter, short-tailed shrews (*Blarina brevicauda*) feed on the mice, voles, and other shrews that they find in the nivean layers.

In warmer weather, they add insect larvae, snails, slugs, earthworms, crickets, salamanders to their diets, and they eat some roots, seeds and berries year-round. They usually eat underground, and they are known to cache food for later use. Their metabolism requires them to eat three times their weight daily in order to keep going; one source reported that they hunt for about five minutes out of every 30.

Because they have glands that produce poisonous saliva (very few other mammals do), short-tailed shrews can pick on critters their own size. A bite slows the heart and respiration rates of their prey and can paralyze and kill them. Short-tailed shrew bites can be dangerous for dogs and cats, and humans experience burning and significant swelling at the site of the bite.

Although they look mouse-like, short-tailed shrews are not rodents, but are grouped with moles in the order Insectivora. They are about three inches long plus an inch-long tail that they hold up in the air as they travel (males are a bit larger). They have a pointy snout and short, gray fur that can be brushed in any direction. Like most tunnel-dwellers, their vision is poor, but their senses of touch, smell, and hearing are well-developed (they are missing the large external ears that characterize the rodents).

They mark their tunnels with musk, communicate using a vocabulary of squeaks and clicks, and can navigate underground using echolocation, like bats. They are said to “growl” contentedly while feeding.

Except during the breeding season, short-tailed shrews tend to be loners. Three or four litters averaging six or seven hairless young are born in spherical nests within a tunnel system. The young of early litters may be parents themselves by the end of fall.

Add short-tailed shrews to the growing list of animals that succeed in the big city. In a study of shrews in urban environments, Virgil Brack reported on short-tailed shrews nesting in a small vegetable garden and in a crabapple tree in Cincinnati. He documented scavenging behavior, and he even observed one shrew that entered a

garage and fed on a package of hamburger stored there – captive shrews love beef.

Brack also noted that short-tailed shrews are known to come to bird feeders. Shrew tunnels are common in the snow below sunflower feeders. It's not known whether they are preying on invertebrates found there or feeding on the seed itself, but caches of corn have been found in the wild.

Three Insectivores - two species of shrews and one mole, the star-nosed mole, have been recorded in small mammal studies on the Bog property; the masked shrew prefers wetter surroundings than the short-tailed.

Please join us for the
**Annual Winter Walk
and Chili Potluck**
at the UWM Field Station
January 26, 2014
1:00 - hike
4:30 - eats
We supply chili and beverage.
You don't have to get chilly
to eat chili. Join us for the
walk or the potluck or both.
If your last name starts
with A to M,
please bring a dessert to
share.
If your last name starts
with N to Z,
please bring a side dish to
share.
No dogs, please
Please RSVP by going to the
Friends of the Cedarburg Bog
website and register on the
events tab. Bogfriends.org
or you may call
262-675-6844 or email
fieldstn@uwm.edu

SUMMER WORKSHOPS

Every summer a variety of college-level workshops is offered at the Field Station. For more information about the workshops, housing, and optional college credit, cost, or to register, visit the Field Station website, www.fieldstation.uwm.edu. Registration for the workshops will begin in March. Check the website and sign up early – these fill up fast!



Blue Dasher

Field Herpetology: Identification of Wisconsin Amphibians and Reptiles
Instructor: Dr. Josh Kapfer
May 30 & 31 (Friday & Saturday).
June 1 (Sunday) is optional

Sedges: Identification and Ecology
Instructor: Dr. Anton Reznicek
June 6 & 7 (Friday & Saturday)

Birds of Southern Wisconsin
Instructors: William Mueller, Dr. Owen Boyle, and Tim Vargo
June 10 - June 14 (Tuesday - Saturday)

Vegetation of Wisconsin
Instructor: Dr. James Reinartz
June 16 - 21 (Monday - Saturday)

Methods for Description of Vegetation
Instructor: Dr. James Reinartz
July 14 - 19 (Monday - Saturday)

Dragonflies and Damselflies: Identification and Ecology
Instructor: Robert DuBois
August 2-3 (Saturday & Sunday)

Plant - Insect Interactions
Instructors: Dr. Gretchen Meyer and Robert Clare
August 8 & 9 (Friday & Saturday)

Mushrooms and other Fleshy Fungi: Identification and Ecology
Instructor: Dr. Alan Parker
September, dates to be announced.

THANKS

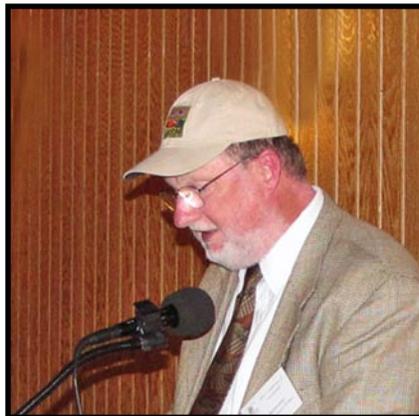
The Friends of the Cedarburg Bog is losing two long-time Board members who worked hard to advance the work of the organization.

Andrew Krueger has been the DNR Property Manager since the inception of the Friends. Taking care of the Bog was his "day job," and he served in an advisory position on the Friends' Board. Andy has moved to a different assignment with the DNR.



Andrew Krueger

Also stepping down is Carl Schwartz, a Board member since 2008, whose tenure included three years as President of the organization. Carl served on the Stewardship and Fundraising Committees, wrote articles for the BogHaunter, and put in many hours as the Board's Nominating Committee. As President, he worked hard to forge partnerships with like-minded State, regional and local organizations, and through his efforts, the Friends established an Endowment fund through the Natural Resources Foundation of Wisconsin to help fund the long-term work of the Friends.



Carl Schwartz

Thanks for your tireless work, Andy and Carl – see you on the trails.



SEEKING AN ADMINISTRATIVE ASSISTANT

The Friends of the Cedarburg Bog is hiring a part time administrative assistant. It is expected that the starting pay for the position will be \$15.00 per hour and we will need an average of about 20 hours per month. The hours will vary depending on the needs of the organization. This will be an independent contractor position with no benefits provided by FOCB.

Duties will be maintaining and inputting data into the organization's Database (Donor Snap), handling all aspects related to membership drives, and tracking and reporting membership information. The Administrative Assistant can work remotely on a computer from home but must be available to go to the UWM Field Station occasionally. The AA will help to administer grants, including preparing requests, tracking, and accounting. The AA will update the FOCB website and maintain the Facebook page as well as provide clerical support for the organization.

Basic computer skills and a familiarity with Word and Excel are requirements. Additionally, experience with a database and website updating are desirable. Training will be provided for Website and Database management.

Interested applicants should send resumes, before January 31, 2014, to: Pamela@resnickandresnick.com and please reference in the subject line "Administrative Assistant Position".

Pam Resnick Ross, Friends Board

The Friends of the Cedarburg Bog

Support stewardship and appreciation of the Cedarburg Bog through land management, preservation, research and education

CONSIDER THE BOG!!!!

It's the time of year again when we are asking our members to renew their memberships and we are hoping some of our new "friends" will decide to become members of the "Friends of the Cedarburg Bog". Why be a Friend? You can provide financial support to the Cedarburg Bog, which is a remarkable natural gem nestled in the heart of our otherwise suburban community. Its 2400 acres of green space is an important water, wildlife and plant conservation area.

Sixty years ago a group of conservationists, Aldo Leopold among them, recognized the Bog's unique ecosystem when they created the State Natural Area program, and designated the Bog as one of the first two SNAs in Wisconsin. As a Friend of the Cedarburg Bog, you can join us in following Leopold's footsteps by working to protect the Bog, educating the public on its special character, and supporting the Wisconsin DNR and the University of Wisconsin-Milwaukee in their work in the Bog. We need the support of people who share Leopold's land ethic.

The Bog's conundrum is that its special character is incompatible with high volumes of human use. As you can imagine, funds are necessary to preserve it from today's threats: invasive plant species, unmanaged access, and encroaching development.

Last year we sponsored over 18 events and hosted over 600 people at our educational hikes and walks. If you have not come out to the Bog to take

advantage of these educational events, please consider joining us this coming year. We'd love to see you here!

You can easily renew your membership or become a new member by going to our website, Bogfriends.org. Your donations can be paid online through Pay Pal with a Pay Pal account or a major credit card.

Pam Resnick Ross, Friends Board

The Cedarburg Bog: designated an Important Bird Area and a Wetland Gem

POPULAR WINTER EVENT

Looking for a perfect way to avoid the pre-Super Bowl hype? Want to burn some calories before the Game-day festivities? What better than a hike to the middle of the Cedarburg Bog?

Join us as we visit a few of the lakes within the Bog system, and see the Bog "off trail." Dress for three-and-a-half hours on the trail, and bring your snowshoes if you have some. The Friends have "Grip-ons" ice cleats for sale (T-shirts, too). Then join us for a dinner of home-made chili with all the fixin's, side dishes, and desserts. Please preregister (see the "invitation" in the text box) - if we have your contact information, we can let you know if the event is canceled due to weather.

Friends of Cedarburg Bog Board of Directors

Here is the current list of FOCB board members:

President and Treasurer

William James Taylor

Vice Presidents

Kate Redmond

Bruce Ross

Secretary

Mary Holleback

Board Members

Chris Ford

Mark Murphy

Bill Niehaus

John O'Donnell

Pam Resnick Ross

Susan Schumacher

Jennifer Rothstein

Tom Uttech

Tim Vargo

Director of UWM Field Station

Jim Reinartz

Manager of UWM Field Station

Gretchen Meyer

Yes, I want to be a Friend!

Name _____

Address _____

City _____ State _____ Zip _____

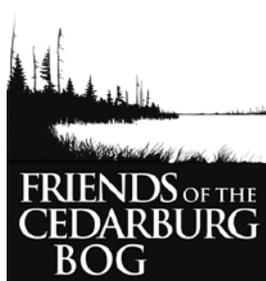
Phone _____

Email _____

MEMBERSHIP DUES: \$25 \$_____ and SPECIAL PROJECTS \$_____

I am interested in helping FOCB with...

- Scientific studies
- Fundraising
- Educational programs
- Invasive species control
- Special events
- Trail maintenance, construction
- Office Support



Make checks payable to
Friends of Cedarburg Bog

Send to:
Friends of Cedarburg Bog
C/o UWM Field Station
3095 Blue Goose Road
Saukville, WI 53080
Bogfriends.org

WE ARE GOING GREEN! We will now contact you via email and send you our quarterly newsletter, The Bog Haunter, electronically.

If you prefer to receive a paper copy via regular mail, please check here:

FOCB is a non-profit organization. All contributions are tax-deductible.
FOCB will not share your personal information with any other organization



UWM Field Station
3095 Blue Goose Road
Saukville, WI 53080

ADDRESS CORRECTION REQUESTED

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CALENDAR

For more events, visit the Treasures of Oz website: <http://treasuresofoz.org/>

SCIENCE FOR EVERYONE

Public programs on Natural History.
7 to 8:15 PM

Third Tuesday of the month at Riveredge Nature Center (RNC), Newburg; fourth Tuesday at Lac Lawrann Conservancy (LLC), West Bend. For information, topics, or driving directions, call Riveredge Nature Center at 800-287-8098 or see riveredge.us. Fee: Free (\$5 Donation Appreciated)

Jan. 21, 7 pm (RNC)

Polar Bears & Climate Change

Jan. 28, 7pm (LLC)

The Physics of Bird Flight

NOEL J. CUTRIGHT BIRD CLUB

First Tuesday of the month.

February 4, 7 to 9 PM

“Long Walk For Birds,” and The Great Wisconsin Birdathon

Bill Mueller will share adventures from his “Long Walk for Birds,” a 246 mile trek across Wisconsin to raise funds for the Bird Protection Fund, and to raise awareness about bird conservation.

Free

Riveredge Nature Center, Newburg.

FRIENDS OF THE CEDARBURG BOG

Quarterly Board Meeting

January 9, 7 to 9 PM.

Members welcome

UWM Field Station

WINTER WONDERS LUMINARY WALK

January 17, 5 to 8 PM

Enjoy a full moon and sparkling snow on candle-lit trails at the LLC, Winter Wonders

Luminary Walk. Warm up with a campfire and warm drinks.

Free

Lac Lawrann Conservancy, 300 Schmidt Rd. West Bend, <http://www.laclawrann.org/>

ANNUAL WINTER WALK and CHILI SUPPER – A Friends’-Sponsored Activity

January 26, 1 PM walk; 4:30 dinner.

See information elsewhere in this newsletter.

UWM Field Station, Cedarburg Bog.



CANDLELIGHT SKI HIKES

February 1, 6 to 9 PM

Harrington Beach

Strap on your cross country skis or snowshoes and join the Friends of Harrington Beach State Park for an evening of exploration at the Park. Warm up with free coffee, hot chocolate and apple cider. A State Park Sticker will be required for all vehicles entering the park.

Donations are appreciated.

Harrington Beach State Park, Belgium

<http://friendsofharrington.org>

WINTER FROLIC

February 8 from 1-4 PM

Join us to celebrate winter and enjoy a variety of indoor and outdoor activities for

details, check <http://mequonnaturepreserve.org/winter-frolic>.

Free, no preregistration needed.

Mequon Nature Preserve, 8200 W. County Line Rd., Mequon

TAPPING THE SUGARBUSH

February 22, 1- 2:30 PM

Help us prepare for the sugarin’ season. We need people to drill the holes, tap in the spiles and hang the buckets. When it’s maple sugarin’ time, spring can’t be far behind!

Fee: Non-members \$5

Trail & all access members: Free

Riveredge Nature Center

OWL PROWL – A Friends’-Sponsored Activity

March 14, 6:30 to 8:30 PM

Watch our website (www.bogfriends.org) or call 262-675-6844 for more information about the location of this Owl Prowl. Bring binoculars and dress warmly. Please register at the FOCB website - bogfriends.org or 262-675-6844 or fieldstn@uwm.edu.

Free: A \$5 donation is suggested.

MAKING LAND AVAILABLE FOR SMALL ORGANIC FARMS

March 19, 5 PM.

Brad Leibov of the Liberty Prairie Foundation will talk about “How and why land trusts and county land planners need to actively engage in making land available to small organic farm producers.”

Sponsored by the Ozaukee Treasures Network.

Details are still evolving, so watch for more information about location and exact time.

For more information, email Marjie Tomter coordinator@treasuresofoz.org

Free