

The BogHaunter

the newsletter of the Friends of the Cedarburg Bog

Volume 8, Number 3

SUMMER 2013

FRONDS of the CEDARBURG BOG

Ferns are a prominent feature of the Bog landscape, whether in wetland or upland. We all learned about them in high school – non-flowering plants with polysyllabic, alternating life stages; plants that produce spores, not seeds, and that tuck those spores into tidy packets called fruit dots or sori on the undersides of their lacey leaflets. Ferns whose ancestors first appeared more than 360 million years ago, some of them tree-sized - the first plants to have both roots and leaves. Vascular plants are “plants with plumbing” – with tubes that move nutrients throughout, and there are 14 species of ferns on the list of vascular plants of the Cedarburg Bog.

Nothing says “spring” like the appearance of the first fern fiddleheads, so-named because the curl of the fern is reminiscent of the scroll at the top of a violin’s neck. The fiddlehead soon straightens and its leaflets unfold.

The anatomy of this “showy” stage of a fern’s life is pretty basic. It’s called a sporophyte because it produces spores. The base is a rhizome (underground stem or rootstock) from which roots grow down and leaves grow up. The bare, lower part of the leaf stalk or petiole is called the stipe, and the part of the stalk that holds the “leaves” (pinnae) is the rachis. “Blade” refers to the leafy section of the plant, which can be very simple or quite intricate.

A fern spore is not, like a lima bean, a miniature plant surrounded by its food supply. With little or no food wrapped around it, a fern spore travels light, and it can travel far. If it lands on a spot with favorable environmental conditions, a spore may develop into a small, heart-shaped “leaf” called a prothallus or gametophyte that produces both eggs and sperm (gametes) on its underside. The habitat has to be moist enough, at least briefly, for sperm to swim to the eggs.

Ferns can grow in marginal habitats because of their partnerships with the far-reaching, thread-like, underground system of mycorrhizal fungi that pick up nutrients and water from the soil and make them available for the ferns to absorb.

Some of the most conspicuous ferns in the Bog do things a just a little differently. Instead of encasing their spores in packets on the backs of ordinary leaves, royal, cinnamon and interrupted Ferns, in the family Osmundaceae, and sensitive ferns (family Dryopteridaceae) grow spores on separate stalks or on drastically adapted leaves. So does the familiar ostrich fern, but it doesn’t occur in the Bog. The green, sterile leaves manufacture food for the plant.

In the three Osmundas (often called “Flowering ferns because of their conspicuous spore-bearing adaptations), the thin-walled spore containers are connected directly to a stalk. They produce spores in spring that are shed in spring soon after they’re formed.



Royal fern fertile leaf

Royal ferns (*Osmunda regalis*) bear their spores on modified leaves at the tops of the stalks, and tapping a leaf tip will send clouds of spores into the air. Royal fern is one of our taller ferns, measuring four feet and more, and it can resemble a small shrub. Its

pale green leaflets look like the compound leaves and give it the common name “locust fern.” Royal ferns are more tolerant of sunlight than are many other fern species.

In his wonderful Book of Swamp and Bog, John Eastman says, “Recognize the cinnamon fern by its arching, vase-like growth habit and circular growth clusters, its cinnamon-brown, clublike sporestalks in spring, and the wooly tufts at its leaflet bases.” The spore stalk, called a “wand” by some, is separate from the sterile leaves and dies back in early summer.



Cinnamon fern

Cinnamon fern (*Osmunda cinnamomea*) has, according to Eastman, “one of the largest creeping rhizomes of any American fern. The horizontal rootstocks are annually renewed with new fronds at one end as they die off at the other. (‘It is believed that they can live forever,’ writes fern botanist Boughton Cobb).”

Sensitive ferns (*Onoclea sensibilis*) get their name because they tend to wither with the first frosts of fall. Sensitive (and ostrich) ferns make spore stalks in early summer that persist throughout the winter; their spores are released in spring, before there’s a lot of other vegetation to get in the way. A common name, bead fern, comes from the appearance of the spore cases on the fertile fronds.



Interrupted fern

As its name suggests, some of the sterile fronds of the Interrupted fern (*Osmunda claytoniana*) are interrupted about mid-way up their stalks by fertile leaflets that are modified sterile leaves. It looks like the middle leaves have withered. Interrupted ferns grow two to four feet tall, and spore-bearing fronds are taller than sterile fronds.

Royal and cinnamon ferns can grow with their feet in the water, and where you find one, you often find the other. Sensitive and Interrupted ferns prefer drier ground.

The fiddleheads of the three *Osmundas* emerge from the ground in mid-spring protected from the cold by a dense covering of hairs. These fiddleheads can be eaten by humans, but fiddleheads of sensitive fern and other wood ferns should not be consumed. The "bulb" of royal and cinnamon ferns is also edible in spring.

Most mature ferns are not grazed by wildlife other than some insects, though their calorie-rich spores and the tender prothallus are eaten by mice and other animals. Yellow Warblers use hairs from the cinnamon fern's stalk to line their nests, and the Veery, a Canadian-nesting Bog specialty, likes to nest on the ground in the center of a cinnamon fern clump.

TREASURES OF OZ 2013

In the past four years, the Treasures of Oz event has offered people a chance to fall in love with the natural areas of Ozaukee County. For the third time in those four years, the Bog was a Treasures destination; but on June 15, the site was the University trail, not the public trail at the north end of the Bog.

What a day! The rain stopped by 9 AM, temperatures were pleasant, and only a fraction of the Bog's mosquitoes materialized. The official clicker tallied 311 visitors (triple our previous high).

They were treated to an overlook of the Bog from a vantage point on the prairie, and to a spectacular display of pitcher plants and of three species of native orchids blooming along the boardwalk trail.

Many thanks to the volunteers who staffed the welcome table and the points of interest along the trails.



Pitcher plant

SIX-SPOTTED FISHING SPIDER

Six-spotted fishing spiders (*Dolomedes triton*) are found in wetlands, especially wetlands bordered by lots of vegetation, which describes much of the Cedarburg Bog. They've developed multiple ways to get around within their habitats, depending on where they're hunting.

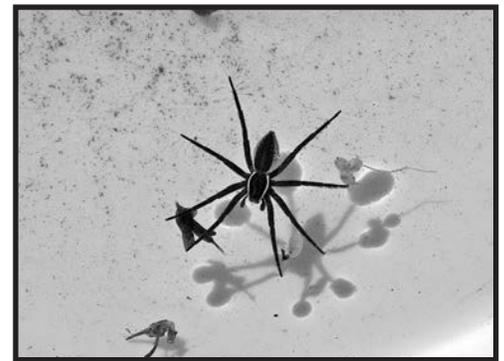
Fishing spiders are carnivores, as are almost all spiders (a recently-discovered jumping spider is an herbivore). They are "opportunistic" carnivores that will eat just about anything that comes along, and they are "wandering spiders" – spiders that don't spin webs to snare prey, though they do make silk for several other purposes.

A fishing spider can dive underwater as deep as seven inches, and it can easily take a tiny fish. Its strong legs allow it to capture prey, like small goldfish, that is larger than the spider itself. It's able to walk on submerged vegetation, and it may retreat underwater when alarmed.

It stays under water with the aid of "book lungs," alternating layers of air pockets and tissue that is filled with a blood-like substance, and its body is covered with short, water-repellant hairs that hold an additional layer of silvery air against its body when the spider submerges. With this "air tank," it can stay submerged for more than thirty minutes, but all that air may make it so buoyant that it has to grab a plant or rock to keep from floating to

the surface.

Six-spotted fishing spiders may hunt on the water's surface, where its eight eyes allow it to locate nearby prey visually and where it may stay motionless for several hours waiting for food to appear. Like a water strider, a six-spotted fishing spider uses the sense of touch in its front legs to detect the ripples made by insects that are trapped and struggling on the water's sticky surface film. It walks out to its prey, grabs it with hooked front feet, subdues it with venom, and eats it. It eats the competition, too – other surface-feeders, especially water striders. Some sources claim that a fishing spider can distinguish the vibration of a trapped leaf from that of an insect or of a lunging frog; others said they cannot.



Six-spotted fishing spider

Besides walking, a fishing spider can run across the water, row across it using several pairs of legs like oars; or glide, pushed by the wind like an iceboat.

An six-spotted fishing spider is equally at home on dry ground - hunting along the wetland's edges, on leaves of shoreline plants, and on floating leaves in the water.

And the air? These spiders have been observed jumping up off the water's surface to snag prey (or to avoid becoming the prey of birds, fish, frogs, snakes, and dragonflies), and small fishing spiders can disperse by "ballooning," letting out a length of web, allowing the wind to catch it, and sailing away.

Like many spiders, six-spotted fishing spiders, are sexually dimorphic; he is half her size. When a young male's fancy turns to love, he proceeds with caution, because he is prey-sized and she needs protein to produce yolk for her eggs. The signals are chemical, vibratory, and tactile. He may follow her pheromone-laced silk dragline across the water (pheromones are chemical "perfumes"), actually pulling himself along it (her scent is in the water, even without the dragline).

CALENDAR

SEFRIENDS EVENTS

Join us for these events, sponsored by the Friends of the Cedarburg Bog. All walks will meet at the UWM Field Station on Blue Goose Rd. Walks are open to the public.

Space is limited and pre-registration is requested. For directions or to register, contact us at 262-675-6844 or www.bogfriends.org (click on the Events tab) or fieldstn@uwm.edu. Free: a \$5 donation is appreciated.

PLEASE - NO PETS ALLOWED

Star Gazing

August 3, 8 – 9:30 PM

Join members of the Northern Cross Science Foundation to view stars and other celestial bodies through their telescopes. Dress for the weather and bring lawn chairs and binoculars.

Dragonflies at the North End of the Bog

August 18, 11 AM – 1 PM

A beginner's look at dragonflies and how they operate. Meet at the Bog entrance on Hwy 33.

Photographing the Prairie

August 25, 9 AM to Noon.

A no-tech/low-tech program about getting good pictures. Includes picture-taking time.

Fall Migration Bird Walk

September 29, 6:30 – 8:30 AM

Search for fall migrants and winter residents of the Bog.

Friends of the Cedarburg Bog

Fall Potluck (and mini-Annual Meeting)

September 29, 3 - 7 PM

3:00 – meet at the Hwy 33 parking lot for a hike at the north end of the Bog or at the Field Station for the University trails.

5:30 - eat

Members welcome

More information in the next newsletter for:

A Walk in the Beech Woods

October 13, 12:30 – 3 PM

Fall Owl Prowl

November 15, 7 – 9 PM

OTHER OPPORTUNITIES

The Friends calendar presents a small selection of events offered by our partner organizations. For a more complete list, check: <http://treasure-sofoz.org/calendar#year=2012&month=7&day=1&view=month>

Riveredge Bird Club

First Tuesday of the month (except December)

6 PM – optional hike during DST.

7 PM - program

August 6 – Radar Ornithology – what radar tells us about bird migration.

September 3 – Fourth (almost) annual bird identification challenge.

MAPS Bird Banding

July 6, 13, 27; August 3, 7 – 10 AM

See how resident song birds are mist-netted, extracted and banded by licensed bird banders. Adult? Observers are welcome, weather permitting. Call Mary Holleback at 262-416-1224 to register and get additional information. Riveredge Nature Center, Newburg.

Crocodiles in the Desert - a monologue by Roger Kuhns

July 10, 7 - 8:30 PM

Information elsewhere in the newsletter

Registration required. Register at...

Fee: \$7, \$5 Members

Riveredge Nature Center

Horticulturalist Workshop

July 18, 5:30 - 6:30 PM.

Landscaper Loriena Harrington will present solutions on the top 10 landscaping issues homeowners face as well as proper pruning and other plant care tips. For more information, contact Kay at kamland@mequonnaturepreserve.org or 262-242-8055 x101.

No charge.

Mequon Nature Preserve, 8200 W. County Line Rd

Friends of the Cedarburg Bog

Quarterly Meeting

July 18, 7 – 9 PM

Members welcome

UWM Field Station

Racket-tailed Emerald dragonfly

Discovering Dragonflies

July 20, 10 AM – 3 PM

Join us for all or part of the day as we learn to identify and document the dragonflies and damselflies of Riveredge Nature Center. Bring a pair of close-focus binoculars if you have them, wear old shoes and pack a bag lunch if you're staying over the noon hour.

Adults, children 10 and older accompanied by adults.

Fee: free Mary – in past years you've said "\$5 donation is requested to support Riveredge research and stewardship efforts"

Riveredge Nature Center, Newburg

EcoCamp (for Grown-ups)

July 29 - August 2, 9 AM – 2 PM

Get back to nature, hone your knowledge, have fun, and allow your inner child to shine in this one week summer camp. Activities will include hiking, birding, and playing in the river!

Registration is required; register by Wednesday, July 24th. Register at...

Fee: \$75 (members), \$100 (non-members)

Riveredge Nature Center

Hike-a-doodle-do

Thursday s 8/1-8/22 10 – 11:30 AM

If your child is too big for a backpack, but too small to hike far, join other parents with 3-5

year olds in a beautiful outdoor setting. We'll read a book about nature and then spend some time hiking- stopping, looking, and discovering nature's treasures along the way. We will explore a new area of the Conservancy with each visit and end with a craft to round out the theme. For 3-5 year olds with parent
Fee: \$14 resident/ \$21 non-resident
Lac Lawrann Conservancy, Schmidt Rd, West Bend

Native American Life

August 10, 1 - 3 PM

Experience the games and learn the skills that Native Americans used 300 years ago to survive in Wisconsin. Learn to stalk prey and more.

Open to all ages.

Fee: \$6 resident/ \$9 non-resident

Lac Lawrann Conservancy, Schmidt Rd, West Bend

Knee Deep in the Prairie

August 14, 8 AM – 4:15 PM

Come to Riveredge for a full day of fun and learning on the prairie. Enjoy guided walks and breakout learning sessions. See our website for more details www.riveredge.us or call us at 800-287-8098. Registration opens July 1, 2013.

Butterflies and Flutter-bys

August 17, 1 - 3 PM

Where did they get their name? Why are they always fluttering about? Discover the secrets of butterflies and other prairie insects and determine why they are so much fun to watch. Open to all ages

Fee: \$6 resident/ \$9 non-resident

Lac Lawrann Conservancy, Schmidt Rd, West Bend

Monarch Tagging Mary – doesn't look like there will be many monarchs this year – want me to advertise this?

August 24, 1-3 PM

The journey and migration patterns of monarch butterflies are amazing. Join a Riveredge Naturalist and help catch, tag and release Monarch butterflies as we take part in the Monarch Watch migration research project.

All ages are welcome; children under 12 must be with an adult.

Fee: Adult \$6, 12 & under \$4, 3 & under FREE

Member: Adult \$4, 12 & under \$3, 3 & under FREE

Riveredge Nature Center, Newburg

Ozaukee-Washington Land Trust Annual Dinner
August 24, 3 – 10 PM

Self-guided Tours 3 - 4:30 PM.

Social 4:00 - 5:30 PM

Silent auction, raffle items, Hors d'oeuvres, dinner, awards, music, Bingo. For information or reservations, contact <http://owl.org/annual-dinner> or (262) 338-1794.

Forest Beach Migratory Preserve (former Squires Golf Course), 4970 Country Club Beach Road, Port Washington.

Obstacle Training Course Event

September, date and time to be determined
Join Mequon Nature Preserve and the Mequon Fire Department for a training and obstacle course fundraising event. For more information, contact Kristin at 262-242-8055 x106 or kgies@mequonnaturepreserve.org.
Mequon Nature Preserve, 8200 W. County Line Rd

This Old Barn
September 13
5:30 PM - Food available to purchase
7:30 Concert by Big Cedar Bluegrass Band
Support Lac Lawrann's environmental education efforts.
Admission: \$12.00 (food is extra)
Lac Lawrann Conservancy, 300 Schmidt Rd,
West Bend,

After-Summer Hike at Harrington Beach State Park
September 21, 7 to 10 PM
Join the Friends of Harrington Beach State Park for an evening Tiki-torch lit stroll along Lake Michigan and Quarry Lake. Refreshments and bonfire at the Ansay Welcome Center – Public Viewing at the Plunkett Observatory. For more information see www.friendsofharrington.or or call the Park Office at 262-285-3015. State Park Admission required.

Return the Sturgeon
Sept. 28, 11 AM – 3 PM. (please note new date)
Join us at Lakeshore State Parks as we release our eighth batch of Lake Sturgeon into the wild. Sponsor and release your own sturgeon! The event includes food, children's crafts, a live reptile and amphibian presentation, and other activities. Call 800-287-8098 or see our website www.riveredge.us for more information or directions. Open to the public.
At: Lakeshore State Park, Milwaukee (new location)

National Astronomy Day Workshop Next newsletter if needed
October 12, evening (time to be determined)
Come to Mequon Nature Preserve to view the skies and stars through a number of different telescopes. For more information, contact Kristin at 262-242-8055 x106 or kgies@mequonnaturepreserve.org, 8200 W. County Line Rd.
No charge.
Mequon Nature Preserve

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

***The Friends of the
Cedarburg Bog***

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

When he finds her, he waves his legs and jerks, and then expresses his ardor by leg-tapping. These vibrations produce ripples that spread toward her. If she is interested, she waves, drums her palps (structures near her mouth), and then they spar for a while. His actions defuse her prey drive - somewhat. If she does cannibalize him, it increases the chances that her egg sac will hatch.



Six-spotted fishing spider

Why does she eat her mate? Is it merely nutritional (called adaptive foraging - and she may eat him before they mate) or is it the heat of the moment (aggressive spillover or misplaced aggression)? Experimental results are inconclusive.

Fishing spiders are in the Nursery web spider family, Pisauridae. A female places her eggs in a silken case that she totes around with her. The closely-related wolf spider attaches an egg case to spinnerets at the rear of her body; the six-spotted fishing spider carries them in front of her, with her palps. Nursery web spiders get their name because when her eggs are about to hatch, the female builds a silken "nursery web" for the sac, and the spiderlings hatch out within its shelter. She stays with them for a week or so after they hatch, until they leave the nursery. It takes young six-spotted fishing spiders two winters to mature enough to perform their risky dance on the water.

There are 100-plus members of the genus *Dolomedes* worldwide, and because of their habitat choices, they're also called wharf spiders, dock spiders, and raft spiders. North America has nine of those species - four live in still water; four in streams, and one is found in trees.

A second species of fishing spider that is seen in the Bog is the Dark fishing spider (*D. tenebrosus*). *Tenebrosus* is Latin for dark or gloomy. This one was photographed at the north end of the Bog. They can be found away from water on tree trunks, rocks, under

bridges, and on other vertical surfaces, as well as at pond edges. They also enter buildings, where a female's 3 1/2 inch leg-span and assertive demeanor can create quite a stir.



Dark fishing spider Dar

MASTER NATURALISTS

A large part of feeling connected to my local ecosystems comes from knowing the names of the plants and animals I that encounter and photograph on my walks. Once I know the "Who?" I can find out more about the What, When, Where, Why, and How - questions that address the idiosyncrasies of species, how systems work, and how we all fit into the puzzle.

About 25 states have Master Naturalist programs that aim to teach the ecological basics, starting people on a lifelong path toward familiarity (I hesitate to use the term "Mastery," because after a life in the field, I'm still learning).

The State of Wisconsin has just solidified a Master Naturalist curriculum that includes both classroom time and volunteer opportunities. Riveredge Nature Center and the Wehr Nature Center will be offering Master Naturalist classes, and a Master Naturalist website is being developed where future courses and details will be listed.

Newsletter editor Kate Redmond

INTERNATIONAL BOG DAY

For the past 20 years, International Bog Day has been celebrated on the last Sunday in July, and this year, the holiday falls on July 25. The date is set aside to remind us to celebrate the beauty of bogs and work for their preservation. Have you hugged a bog today?

DO WE HAVE YOUR EMAIL?

If you want to be notified about Friends events, about volunteer opportunities, and about spontaneous events that get scheduled with just a day or two's notice, make sure to send it to us at [XXXXXX where, Cindy?](#)

Please join us for the
Annual Fall Potluck
(and mini-annual-meeting)
at the UWM Field Station
September 29, 2013

3:00 - hikes

5:30 - eats

6:30 very short meeting (optional)

We supply brats, rolls and beverage.

Join us for a 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 at 262-675-6844, at
fieldstn@uwm.edu, or at bogfriends.org (events)

HOW WE WORK

The Friends organization divides its work among a number of committees. Members of the Fund Raising Committee (chair - Bruce Ross), and the Stewardship (Mark Murphy), Membership (Pam Resnick Ross), Events (Kate Redmond), Education (Mary Holleback) and Newsletter (Kate Redmond), committees write grants to fund projects, oversee invasive species control, keep our membership base growing, maintain an ambitious schedule of public events, create interpretive trail signs, and put out a quarterly newsletter.

If any of these sounds like something you would like to help out with, you can contact the committee chairs via the Friends website www.bogfriends.org or by writing to us at the Field Station address.



UWM Field Station
3095 Blue Goose Road
Saukville, WI 53080

ADDRESS CORRECTION REQUESTED

Volume 8, Number 3 SUMMER 2013



Bullfrog

DID YOU KNOW.....?

That bullfrogs are native to the southeastern US? If there's anything better than a frog, it's a BIG frog, and unfortunately, people just love introducing them to new locations.. Bullfrogs now found in most of the US, parts of Canada and Mexico, Europe, Asia, and South America and are considered invasive in many of their new homes. Bullfrogs eat anything they can catch, and they take quite a toll on other species of frogs, both directly, by eating them, and indirectly, by eating their food.

***CROCODILES IN THE DESERT
– monologue by Roger Kuhns***

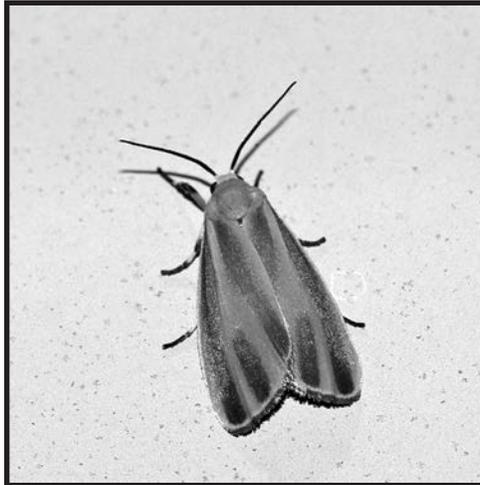
Geologist and writer, Dr. Roger Kuhns witnessed first-hand the changing ecology and climate of the Sahel and the Sahara Desert as our Earth warms. He sought to document indicators of these changes by following the rumors of the last crocodiles in a desert land. This journey, through an exciting story telling monologue, brings these many experiences together in a surprising and poignant conclusion. Join Roger on Wednesday, July 10, 7:00- 8:30 p.m. at Riveredge Nature Center, Newburg.

To learn more about Roger, this monologue and his other work see - www.rogerkuhnsmonologues.com. Registration required.

Fee: \$7, \$5 Members

DID YOU KNOW.....

That July 20 to 28 is National Moth Week? Of the more than 174,000 species of Lepidoptera worldwide, almost 90% are moths, ranging from micro moths to giant silk moths the size of small birds.



Lichen moth