

# CENTER LINE

A Publication of Waukesha County's Retzer Nature Center

Fall 2012

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That Is

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## Upcoming Events:

\*"Welcome to Retzer"-  
Saturday Programs

\* Wildlife on Snowshoes  
Program

\* Waukesha JanBoree

\* Wild Winter Night

\*Aldo Leopold Day  
March 2

\* Earth Week Celebration  
April 21 -27

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## DRAGON, OR DAMSEL-FLIES, THAT IS...

More than 240 million years ago, predating the dinosaurs by more than 100 million years, members of the order Odonata appeared on this earth, the dragonflies and damselflies. Unbelievable as that may seem, and I'm not pulling your leg along new nature trails, as of today there are 450 species of dragonflies found in North America, and at least 46 species of damselflies found in Wisconsin. For those who wish to be super-informed, true dragons belong to the suborder (Anisoptera) while damsels belong to a suborder (Zygoptera). So be it.

The member of these two groups within the order Odonata do not realize how ancient they really are, nor do they care for that matter, but I will dig up some up-to-date gossip on these beautiful relics.

As with all insects, the dragonfly body is divided into three main parts: head, thorax, and abdomen. The abdomen is long and slender, usually black or brown, and often has brightly decorated markings (dragonfly bodies are larger and thicker than the damsels). Wings are transparent and held straight out from the body when resting. The hindwing is a bit wider at the base than the forewing. The two pairs of wings have many net-like veins. The thorax of the dragonfly contains the attachment of wings and the legs. The head of the dragonfly is a work in progress. The eyes will take the prize. A straight-on stare will bring into focus two very large compound eyes, each made up of thousands of individual units. The insect's eyes are so large they often touch each other. Not to be outdone, they are supplemented with three smaller, simple eyes. When you hear the phrase "the eyes have it", think of the dragonfly! They can process visual information with the blink of all those eyes, and dinner is served.

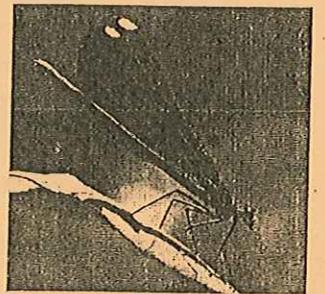
Simple or compound, a soberly interesting fact: The name Odonata comes from the Greek word "odon", which is the word for tooth. The title refers to the toothed jaws of these colorful predatory insects. Observers in the field need not to be afraid. The formidable mandibles are used only on pesky insects such as mosquitoes and midges. While the dragons are out dining, let's zero-in on the damsels (Suborder Zygoptera). Damselflies are smaller, and they are weaker fliers.

The wings of most damselflies are held closed along the body when at rest. Of course, there is one in every group who will not conform. Good riddance. Dragonflies have a serrated, prehensile lower jaw. The lower jaw is adapted for grabbing, and is the chef's way of catching a meal on the fly. To date, it's called fast food. Dragonflies, like all insects, have antennae, but these are difficult to see because they are so tiny. In our pond, the Emerald Spreadwing is the culprit, and this damselfly can be spotted in the Waukesha area if one is lucky.

Did you know that damselflies spend less time in flight and rarely are they in the air for more than 30 seconds at a time? Well, it's a true fact. Another interesting fact found, defining suborder differences (and the eyes still carry it), is that the damsel's wide-set, compound eyes will never touch. However, with its wide-set compound eyes, that damselflies too have accurate stereoscopic vision. Seeing dinner becomes instantaneous and no recipe required. The damselflies are helpful neighbors; they do not sting nor do they bite, and they aid in controlling the mosquito population. How green is that!

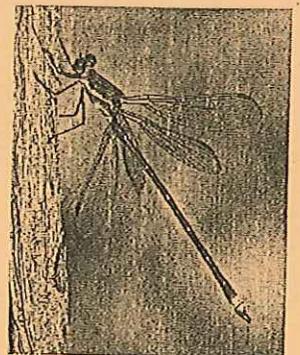
The order Odonata completes a life cycle in one or two years. They undergo what is called an incomplete metamorphosis with an aquatic nymphal stage. A great portion of their life is always spent under the water. After the female lays her eggs, the eggs will hatch, but they do not go through the larva and pupa transformations. The hatchling is called a nymph, and it is predacious. It will gobble up aquatic bugs, mosquito larvae, or daphnia. Any tiny mite venturing near will be gobbled up with the modified lower jaw. Nymphs grow and shed their skins, going through 10-12 stages called instars. With each instar they nymph becomes darker. Finally the nymph is ready to swim toward shore and crawl onto vegetation. Clinging to the vegetation, the nymph's skin will break along the wing case. Then, as if by magic, out crawls a shortened version of the adult. Before taking flight, the spanking-new adult must pump body fluids into its abdomen and wings. If all goes well, in the nature of things, the adult will fly away to explore the new environment, find a mate, and enjoy the rest of its life. Fortunately, adult dragon and damsel (flies that is) never realize how short their lives are in nature's scheme. Take time to visit them in their natural habitat. As the beguiling creatures are always found either under the water, above the water, or around the water, the trekker should follow a water trail. Puddle to pool, brook to river, river to lake, fen to marsh. It's always an adventure, and you will probably get your feet wet along the way. If possible, improve identification skills with a good field guide before leaving dry ground.

Wisconsin's blend of damsels fall into three main groups: 1. broad-winged, 2. spreadwings (the damsels that dared to be different), and 3. pond damsels.



1. The most common broad-winged damsel found in Wisconsin is the Ebony Jewelwing. This black-winged damsel can be found along forest clearings and underbrush, near shallow moving waters. Its iridescent green body and jet-black wings give this damsel an ethereal refinement, whenever sunlight happens to embrace it. Carry a camera to take a shot of this beauty, so all can enjoy seeing an ancient flyer.

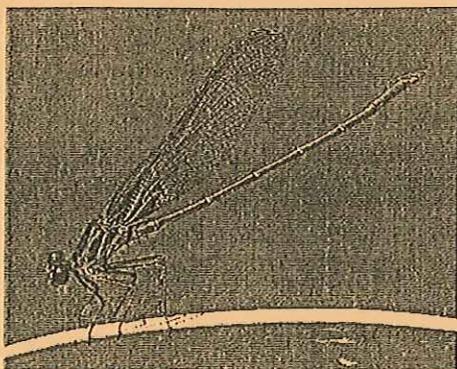
2. Spreadwings are the odd flyers that hold their wings at an angle when they are at rest. This group prefers smaller, shallower lakes or ponds. Unlike the first group, females in this group lay their eggs while attached to their mates. In Wisconsin Natural Resources magazine, April 2004, the Amberwinged Spreadwing was listed in the Wisconsin Natural Heritage Inventory, as a species of special concern. The amber-winged damsel is the largest-bodied spreadwing, and appears huge compared with the pond damsels. A curious note: observers have seen the amber-wing cannibalize others in their group. Wonder if that habit could be working in their favor?



3. Wisconsin's largest group of damselflies is the pond damsels. These are very small; the largest may be only 1.5 inches in length. This group is narrow in body and has clear wings. Pond damsels can be difficult to observe, yet alone identify. Females vary in color; they can be yellow, green, or shades of blue. The Bluet may be easiest to recognize just by its color. the largest and oldest flying insect on our planet earth. Fossil remains clearly define Meganeura monyi as the ancestor of our present-day dragonflies. The Odonata go back to the Carboniferous age, which means that insects were flying more than 300 million year ago, predating dinosaurs by at least 100 million years, and birds by some 150 million years. The whole idea seems incredible to me, but could it be possible, that the Odonata order made it through all the ages by simply shrinking?

An exciting historical illumination was found while browsing through reading material concerning the order of Odonata. Predecessors of our modern day dragonflies were exposed to the light. Fossils of giant dragonflies were discovered with wingspan of 2 ½ feet. Someone named them Meganeura monyi and the Odonata order claimed. The Eastern Red Damsel could be spotted along waterways, the only red damselfly in the entire group. Female pond damsels, like the spreadwings, lay their eggs in plant material while the male is still attached... so with the last attachment, his genes will be passed on to the next generation. The method has worked for more than 240 million years!

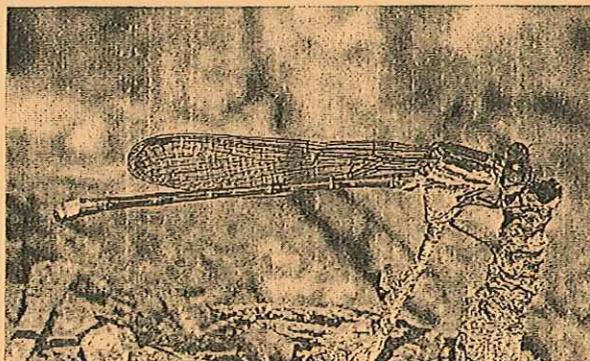
Before wrapping up the ancient fossils, mention must be made of the incredible aerial abilities of old fossil dragonflies. Hummingbirds had not yet appeared on the scene, nor had any birds, for that matter, migrated



onto earth's habitat. So the first insects must have been self taught. Maneuvers find them flitting and darting, up and down, to and fro, hovering and zig-zagging...movements that pilots and engineers find difficult to believe, even when they watch the exhibitionists. The insect's ability to eat on the fly is also displayed with refined aerial movement. What more can be said of the latest descendants of the dragon flyers.

Up-to-date statistics show there are now 6,500 species of dragonflies known throughout the world. They couldn't all have gotten here on their good looks... or could they?

When Mother Nature parceled-out what we consider beauty, why did she give so much to something so small? As the millions of years passed, however, the dragons and damsels shrunk and the Odonata order has been piled with earthy elegance. Bright sparkling colors, and delicate tracery in their wings, make the damsels beauty in motion. All colors in the rainbow, and every shade of each color, make a statement for the damsels' community. Names have been given which aid in the identification of the many species. Most are colors, related to the earth, or to gems found in the earth. Some of these names (found in Wisconsin) are Emerald Jewelwing, American Rubyspot, Stream Bluet, Blue-Fronted Dancer, and Ebony Jewelwing, Eastern Red Dancer, Variable Dancer (violet in color).



A spot of sun on the water, and the dragons will be seen in the loupe. Iridescent sparkles flit as the more active flyers tour their territories. Here again, their names will carry the clues as to who they might be. Knowing your colors will be helpful too, but a pictorial field guide will be your ace in the hole! The dragons have been given names such as the Common Green Darner, Red-Waisted Whiteface, Shadow Darner, Cherry-Faced Meadowhawk, Saffron-winged Meadowhawk, and White-faced Meadowhawk. Imagine how beautiful they all are when you see them eye to eye.

Iridescent gems sparkling beside old farm ponds, wings reflecting rainbows, flashing along the Brandybrook. A watery trail can become addictive.

Oh, and by the way, be they dragon or damsel (flies that is), always look for these tiny gems around your neck of the woods.

See you on the trail,

*Shirley Blanchard*

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## HEART-WOOD

### GOOD QUESTIONS—UNLOCKING EXPERIENCES OF DISCOVERY!

Hands-on exploration of nature gives a naturalist (or teacher, or parent, or grandparent) the chance to lead and guide children in exciting discovery experiences of nature. Whether it's looking for wildflowers, netting insects, making a leaf collection, catching frogs, searching for shells, or finding winter tracks, kids have a vivid sense of surprise, wonder, and enthusiasm. It's the adult's job to help kids organize and make sense of their discovery, take them farther into it than they could go on their own, and add value to it. The goal is for kids to eventually reach the point where they know how to organize, make sense of, go farther into, and add value to discovery experiences on their own.

The key is for the adult to ASK GOOD QUESTIONS about whatever the kids are finding. Questions aren't just "what's this?" or "what's that?"; there's a whole universe of great questions, which will help any nature exploration come alive! A valuable source for good questions comes from Bloom's Taxonomy, a classification system developed in 1956 by educational psychologist Benjamin Bloom of the University of Chicago (and updated during the 1990s by Lorin Anderson, one of Bloom's students).

The question headings below come from Bloom's Taxonomy, and examples of cool questions are provided...

#### QUESTION STRUCTURE ACCORDING TO BLOOM'S TAXONOMY—

##### I—KNOWLEDGE (REMEMBERING)—

- 1--Describe what happened, what did you observe?...
- 2--What is the name of the thing we saw?...
- 3--How many \_\_\_ did we see?...
- 4--What were they doing when...?...
- 5--Do you recall \_\_\_?...

##### II—COMPREHENSION (UNDERSTANDING)—

- 1--Explain what happened in your own words...
- 2--Who do you think did \_\_\_?...
- 3--What do you think will happen next?...
- 4--Can you tell the difference between \_\_\_ and \_\_\_?...
- 5--Can you give an example of \_\_\_?...

### III—APPLICATION (APPLYING)—

- 1--Do you know another time when this happened?...  
(Could this have happened in \_\_\_ (at another time)?)...
- 2--Do you know another place where this happened?...  
(Could this have happened in \_\_\_ (in another place)?)...
- 3--What things would change if \_\_\_?...
- 4--What questions would you ask about \_\_\_?...
- 5--How would you make use of \_\_\_?...

### IV—ANALYSIS (ANALYZING)—

- 1--Why did \_\_\_ happen?...
- 2--What was really going on?...
- 3--What happened before \_\_\_?...
- 4--What will happen after \_\_\_?...
- 5--What could have happened?...
- 6--What was \_\_\_ before?...
- 7--What will \_\_\_ turn into after?...
- 8--How is \_\_\_ similar to \_\_\_?...
- 9--Can you tell the difference between \_\_\_ and \_\_\_?...
- 10--What are some of the problems of/with \_\_\_?...
- 11--How is \_\_\_ like/different from \_\_\_?...
- 12--What are the parts that make up \_\_\_?...
- 13--What is the most important thing about \_\_\_?...
- 14--What is wrong with \_\_\_?...
- 15--What conclusions can we draw from \_\_\_? What does \_\_\_ tell us?
- 16--How could we prove \_\_\_?...

### V—SYNTHESIS (SYNTHESIZING OR CREATING)—

- 1--What would happen if \_\_\_?...
- 2--How would you do \_\_\_?...
- 3--How would you use \_\_\_?...
- 4--What is the story of \_\_\_?...
- 5--Can you write a story for \_\_\_?...

VI—EVALUATION (EVALUATING)—

1--What do you think about \_\_\_?...

2--Is there a better way to \_\_\_?...

3--How does \_\_\_ make you feel?...

4--Which \_\_\_ do you feel is better/more valuable?... Why?

5--Do you think \_\_\_ is a good or a bad thing?... Why?

Good Questions allow discovery to happen!

Larry

Sources used here include—

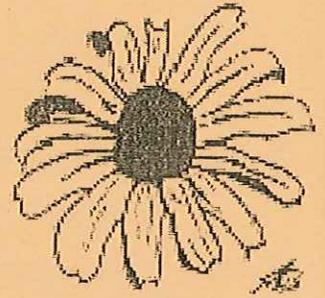
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<http://www.marylandpublicschools.org/MSDE>

<http://www.lep.org/strides/>

## THE LAST PRAIRIE

### Progress Report



At the time of this typing, most of us would really like some rain... please. Folks tell me this is not as bad as the 1988 drought, and they are right. Not one rainfall in Milwaukee for fifty-five straight days! So, the Texas Drought blows this out of the water (o glorious water), and do I even dare mention the Dust Bowl? Anyway, start practicing your rain dancing (or snow dancing) in earnest. As you plead for precipitation with your graceful yet aggressive motions, attend the following text, which tells of Retzer's recent changes and challenges. Transport yourself to the southern parts of the Nature Center grounds, where we begin a journey back to the entrance. Did we mention you cannot leave until we receive at least an inch of rain? I suppose ten inches of snow will do in a pinch.

You find yourself at the famous Brown's Fen observation platform, on the far reaches of the Boardwalk Trail. It is early morning, but the grass is dry as the nighttime low never approached dew point. Walking west, and eventually turning to the north by the bridge, you spy the sections of boardwalk and... they no longer lean! I mean, nothing is perfect, but they are... level! A fair amount of elbow grease must have gone into that repair—and a fair amount did. Some fantastic volunteer groups gave us their all this spring. Crossing the marvelously level boardwalks, you notice they also chipped the trails. Smiling now, you begin the lung-expanding trek up to the Vista Prairie. Hey, you're in pretty good shape! Still, you take a seat on the overlook bench for a breather and... well, this world is full of surprises. There is a newly-installed fence around the viewing area. You venture that the same volunteer group put in a few hours on this also (and as it turns out, you're right).

Fully rested, you head west along the Yellow Trail, depart it on the unofficial connector across the Tractor Lane, and check out the Legacy Forest. The first two acres, each supporting eighteen Bur Oak (*Quercus macrocarpa*) trees, are in fine form. Legacy 2 (the second acre planted) is a little young yet, but the trees and prairie are showing some maturity in their form. Just to the east of Legacy 1, you notice that Legacy 3 has some nice trees and a brand (does 'brand' really apply here?) new ground layer. Judging by the species composition and growth, this must have been a dormant seeding. It looks like people cast seeds over light snow, allowing the spring frost heave to settle them in. You think back to see if Retzer has ever started a prairie this way. If memory serves, this is the first time for a 'snow seeding'. You make a mental note to keep an eye on it in the near future.

Heading back to the building, you are not ready to go home just yet. You see that the Oak Opening Demo has indeed expanded with three zones all within the split-rail fence: 1) Restoration by transplants. 2) Restoration by seeds. 3) Passive invasion of an old-field (where they allow native seedlings to establish by natural means only). Continuing down the Blue Trail, the new design of the Children's Garden is growing nicely (also in its new split-rail fence). The first change you notice at the Teaching Pond is the beautiful new bridge that the county carpenters installed.

Spanning a few dozen feet (and then some), the mostly wooden structure is covered in composite plastic decking boards for durability. When you lean on the bridge railing, you have a good view of the area. The shape of the pond itself has changed! They rebuilt it, making the middle deeper and the edges shallow for safety (it also mysteriously seems to be retaining more water). There are new plants coming up around the pond, and newly planted trees and shrubs growing along Road DT.

Ok, now its time to go. Before you get to your car, you must walk past the new Native Species Lab/Maintenance Building with its three garage bays and four new rain gardens (they're young yet—give them time). You also notice the new brick paver walkway, ingeniously engineered to allow rain into the soil. One last look at the main building reminds you of the new geothermal heating and cooling system now conditioning the inside climate. This, you realize, is now quite enough change to deal with for one visit. You get [IN/ON] your [INSERT VEHICLE HERE], and [PEDAL/RIDE/DRIVE] yourself out of here!

But wait, you're not done yet (you would have noticed this stuff already, but we decided to start at the south end for this article). As you drive along our medians and ditches, take intense note of the "taller than you" stalks of Compass Plant (*Silphium laciniatum*), and Prairie Dock (*Silphium terebinthinaceum*). This is year eight for the roadside prairies, which is right on target regarding the timeline for the giant Silphiums. These areas have had some bloom before now, but not en masse. Taking even longer for some reason, are the Pale Purple Coneflowers (*Echinacea pallida*). You see a few flowers this year, but many more are on the way. Spiderwort (*Tradescantia ohioensis*) are beginning to show their hand; they will be a force of indigo color in the years ahead. These species add their presence to the already-established troupe of Asters, Mints, and Legumes. Watching a planting through the years is one of the more fulfilling rigors of this natural life. The tenth year is 'judgment day' for native plantings, and although these are looking great, time will tell. They are close now; very close.

You can now see the sign at the main entrance and hope to all that is good and right, that there is nothing new there! Nope, it's the same old sign for the most part. Whew, now hit your [LEFT/RIGHT] directional and prepare to turn [WEST/EAST] for home. Wait, are you not forgetting something? Did it rain yet?

Thank you for taking this virtual tour with us. Please do not fret about the change. As usual, the more things change, the more they stay the same. We're the same old (and new) Retzer Nature Center, with the same goals, and always trying our very best to improve the natural world around us. Oh, and one more thing [SPOILER ALERT], keep a lookout for the new Astronomy Platform coming soon! Just what you needed; one more reason to visit.

Mike



## RETZER NATURE CENTER

WAUKESHA COUNTY PARKS & LAND USE  
S14W28167 MADISON STREET  
WAUKESHA, WI 53188

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### Friends of Retzer Nature Center

The Friends of Retzer Nature Center is a registered, 501 (c)3, organization dedicated to encouraging, perpetuating, and promoting the work of conservation and natural resource education.

The organization seeks the involvement of the community in the form of financial and volunteer support to work toward the continued growth and improvement of Retzer Nature Center. If you would like to become a member or view some of our projects and activities, please visit our web site at <http://FriendsOfRetzer.org>.