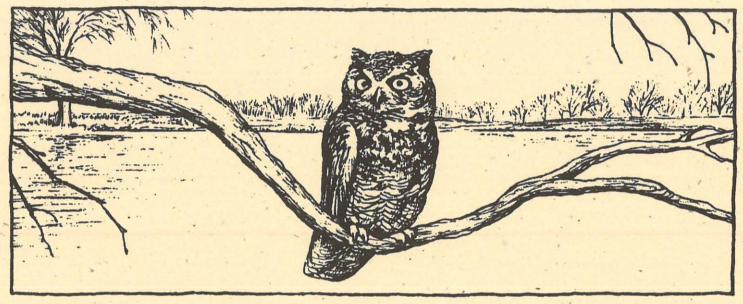
STILLMAN NEWSLETTER



MILKWEED BEETLES & BUGS

-- Mark Spreyer

It is well known that the vibrant monarch butterfly caterpillars are distasteful to predators. This is because fluids in the milkweed plant imbue these insects with a chemical defense.

Guess what? They aren't the only colorful insects that benefit from munching on milkweeds.

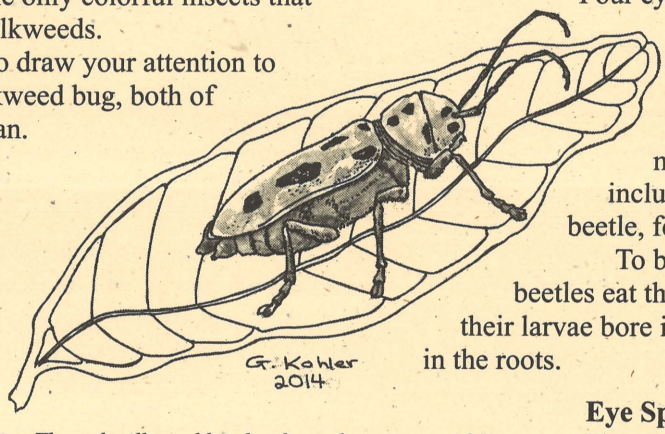
In particular, I would like to draw your attention to the milkweed beetle and milkweed bug, both of which can be found at Stillman.

Longhorn Numbers

Before getting down to the specifics about the red milkweed beetle, I thought it might be interesting to put it in context.

The milkweed beetle, colored red with black spots, belongs to the Family of Longhorned Beetles. This is one BIG Family including over 20,000 species worldwide and over 300 in the northeast U.S. and Canada.

These generally large, herbivorous beetles are often brightly colored or ornately sculptured and, as their name suggests, have long antennae. For a near-sighted entomologist, these insects are a dream come true!



The red milkweed beetle, shown here, is one of the most common species of Longhorned Beetles.

Hey Four Eyes!

Now when that entomologist first got glasses that kid might have been called "four eyes." The child probably had recently seen an optometrist or ophthalmologist. This brings us to the milkweed beetle's scientific name, *Tetraopes tetrophthalmus*. If you look at the latter half of the genus and species names, you see syllables that sound like that kid's doctor. These suffixes refer to eyes. The prefix, *tetra*, means four. So the milkweed beetle's scientific name is "four eyes four eyes."

It turns out that the base of the beetle's antenna splits its compound eye into two portions, an upper and lower eye. Four eyes it is.

Of course, this beetle doesn't need four eyes to track its next meal. The red milkweed beetle snacks on milkweed. Keep in mind that most longhorned beetles, including the infamous Asian longhorned beetle, feed on woody plants.

To be more precise, adult milkweed beetles eat the buds, leaves, and flowers while their larvae bore into milkweed stems and overwinter in the roots.

Eye Spy

The next time you spot one on a milkweed, you might want to take a closer look. Thanks to engineering students at Rutgers, the "beetle" could be looking back at you.

The following passages come from the students' 2012 paper titled *CAD Modeling of Insects and Insect Flight Animation.*

> *Machines that simulate flying insects can be used to maneuver into small complex spaces. An important first step to creating insectoid flying machines is studying how an insect flies and creating a 3-D model that replicates its movements.*
>
> *Therefore, by studying and emulating the flight mechanisms of the* ***red milkweed beetle****, compact flying technology will be improved.*

All I can say is if these flying "insectoids" are successfully deployed, they better not be called drones. The bees would be none to happy.

Red Light District

Both the red milkweed beetle and small Eastern milkweed bug (*Lygaeus kalmii*) are brightly colored. In the bug's case, the adult is black with a distinct orange-red X across its folded wings and a horizontal red band between the head and the wings.

The milkweed bugs are similarly sized and sometimes confused with boxelder bugs. The boxelder bug has more black, lacking the red horizontal band. Also, the boxelder bug just has a narrow red V on the back half of the wings.

If you're studying insects, like visiting second graders from District 220 are, the fun thing about milkweed bugs is that you can see all stages of their life cycle simultaneously. The eggs, immatures, and adults are all on the milkweed plants at Stillman in September.

The young look much like the adults except they are almost all red with just two small black wing buds. Young and adults are often found in groups on the underside of milkweed leaves.

The milkweed bug on the right is marked with a red 'X.' The boxelder bug on the left has a red 'V.'

The group phenomenon is thought to magnify the impact of their red warning signs (aka aposematic coloration). Tests done with domestic chicks show that a single milkweed bug is more likely to get pecked at than a large red group of bugs. It's like adding flashing red lights to a regular stop sign.

All You Can Eat

The milkweed bug belongs to the Family of Seed Bugs which is appropriate since it feeds on the maturing and mature milkweed seeds.

However, they are not as plant specific as monarch caterpillars. Milkweed bugs can be found sucking nectar from the flowers of various types of plants unrelated to milkweed (i.e. bull thistle).

I have often felt that the predator protection provided by the compounds found in milkweed has been overstated. The diet of our little milkweed bug proves that milkweed munchers are not always safe from predators. You see, milkweed bugs use their piercing-sucking mouthparts for more than just seeds.

Seeds take time to develop and hungry milkweed bugs aren't going to sit around and wait. No, in addition to flowers they feed on ants, bees, beetles (including the eggs of the milkweed beetle), each other, AND the larvae and pupae of the monarch butterfly.

That bright monarch caterpillar coloring may warn some predators but for others, like the milkweed bug, it just says "all you can eat."

If you think about, it just makes sense. If you feed on milkweed like the milkweed bug, you have to be immune to the toxins (cardiac glycosides, to be precise) in the plant. So, those same toxins that protect the caterpillars are useless against a hungry milkweed bug.

Milkweed Meditations

The intricate interactions of bugs, beetles, and butterflies on just one type of plant is definitely something to chew on, so to speak. Robert Frost reflected on these interactions in his poem *Pod of the Milkweed.*

Calling all butterflies of every race
From source unknown but from no special place
They ever will return to all their lives,
Because unlike the bees they have no hives,
The milkweed brings up to my very door...

The countless wings that from the infinite
Make such a noiseless tumult over it
Do no doubt with their color compensate
For what the drab weed lacks of the ornate.

Interns Migrate

As autumn approaches, many birds starting packing up to head south. This summer's interns are heading both north and south.

Leah Drennan is headed south to Eckerd College in Florida where she will be in her second year as a biology major. She aspires to become an ornithologist. As you might expect, we kept her busy with either talking about or cleaning up after our birds of prey. She also enjoyed finding other types of wildlife (i.e. snakes and bats) as she worked on trail maintenance and other necessary chores.

Leah was not working alone. Nick Dudek, a forestry student at the University of Wisconsin – Stevens Point, was also clearing brush and spreading chips on the trails. Nick was a big help to the volunteers building our new raptor enclosure.

Here's part of what Nick wrote in his summer summary:

I learned that almost nothing is black and white, including nature. What fits one person's needs will most likely conflict with someone else's. The challenge is finding an appropriate middle ground. For humans to peacefully co-exist among nature a middle ground must be met. As the world continues to change, I hope Stillman Nature Center remains more or less the same because my time spent there was certainly one of the best experiences of my life.

Later this fall,you will receive our annual request for donations. Some groups, like the **Countryside Garden Class**, have made generous contributions to our intern fund. If helping students like Nick and Leah appeals to you, just put intern fund on your check's memo line. Thank you.

PROGRAMS

Program Basics: PLEASE CALL 847-428-OWLS(6957), OR EMAIL STILLMAN AT: stillnc@wildblue.net TO MAKE RESERVATIONS for programs. Remember to include your name, phone number, and the number of people that will be attending.

If less than five people have called two days prior to a program, the activity could be cancelled. So, don't forget to call the nature center in advance. If you discover that you are unable to attend, please call to cancel your reservations. This courtesy will be greatly appreciated.

THURSDAY TREKKERS

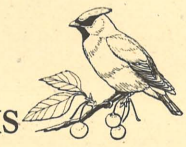
Join us outside for a healthy hour-long walk around a lake, through the woods, and who knows where else? Why not add Stillman to your list of exercise options? Come prepared to hike the trails with hiking boots or sturdy shoes.

Dates: Thursdays, Sept. 4, Oct. 2, Nov. 6 Dec. 4
Time: 9:30AM
Fee: None

BIRD BANDING OPEN HOUSE

Watch Mark Spreyer (a licensed bird bander) measure, weigh and record data about our resident and migratory birds. Catching birds is not always predictable, so come prepared to hike the trails. If it's raining, the activity will be cancelled.

Date: Sunday, Sept. 7 & Oct. 5
Time: 9:00AM to Noon
Fee: None



SUNDAY MORNING BIRD WALKS

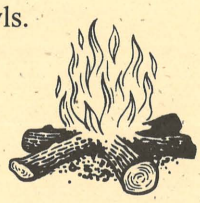
Mark Spreyer and Mike Levin will lead a morning bird walk. Binoculars and field guides are a must. If you don't have any, don't worry, Stillman does.

Date: Sundays, Sept. 14 & Oct. 12
Time: 8:00AM
Fee: None

FRIDAY NIGHT CAMPFIRE

Join us for stories and roasted marshmallows. Say goodbye to summer and listen for the sounds of nocturnal wildlife. Speaking of which, we'll end the evening with a visit to our resident owls.

Date: Friday, Sept. 19
Time: 7:00 - 8:00 PM
Suggested Donation: $2.00



SPECIAL VOLUNTEERS AND MEMBERS EVENT

We have new building housing a spectacular new (to Stillman) raptor, What kind? You'll have to come and find out! We'll provide the main course and beverages. We'd like you to bring along a side dish. ALL of Stillman's members, friends, volunteers and their families are invited. We'd love to see you and introduce you to the new bird of prey. Please do call or email to let us know if you plan to attend and what kind of dish you'll be bringing.

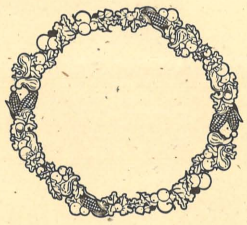
Date: Sunday, Sept. 21
Time: 4:00 - sunset

TREE I.D. OR THIS BUD'S FOR YOU!

As the leaves turn color, join Stillman's naturalist as he shows you how to identify some of our Midwestern trees. Easy to remember tips and simple hand-outs will inspire you to open your own "branch office." Come prepared to be out in the weather.

Date: Sunday, Sept. 28
Time: 2:00PM
Fee: None

FESTIVE FALL DECORATIONS



Susan Kowall and Susan Allman will help you design a centerpiece or door decoration featuring bittersweet, grapevine wreaths and other colorful products from Mother Nature.

Date: Thursday, Oct. 2
Time: 11:30AM - 1:30PM
Member's Fee: $5/decoration
Non-Member's Fee: $10/decoration

NEW YEAR'S DAY WALK

Join us for the annual New Year's Day walk along Stillman's trails. Over the years, we've seen everything from bluebirds and shrikes to the remains of multiple coyote kills. If you like winter, don't like football, or need to sober up; this is the walk for you.

Date: Thursday, Jan. 1
Time: 10:00AM
Age: 10 years and up

Please note that the Stillman Nature Center is also available, by reservation, during the week to school classes. Also, we can bring our raptors to your meeting place. For more information just call, email, or visit our website: stillmannc.org.

Stillman Nature Center
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Susan Allman, President • Jim Kaltsas, Vice President • Mike Levin, Treasurer
Sue Kowall, Secretary • Eva Combs, Legal Advisor • Joy Sweet • Karen Lund
Nat Bilsky • Yvette James • Kristi Overgaard • Doug Saylor

Mark Spreyer, Director & Newsletter Editor
Gillian Kohler, Newsletter Illustrator
Meg Ewen, Webmaster

If you aren't already a member, please consider joining us.

❑ **Yes, I'd like to become or continue as a member of the Stillman Nature Center.**

You can also join online, just visit stillmannc.org and click on "Become a Member or Volunteer." Volunteer opportunities include teaching classes, clearing trails, and fundraising.

Name_____

Address_____

_____

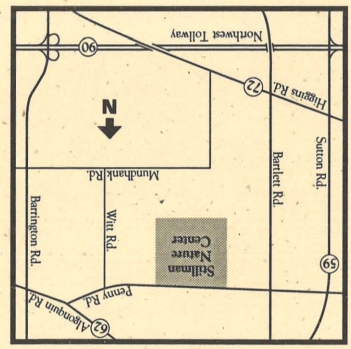
Telephone_____ **Email**_____

Please mail with your check to:

Stillman Nature Center, 33 West Penny Road, South Barrington, IL 60010-9578

Barred Owl	$1000.00
Peregrine Falcon	500.00
Barn Owl	250.00
Great Horned Owl	100.00
Broad-winged Hawk	50.00
Screech Owl	30.00
Student/Senior	15.00
Other	____

Thank you for your donation.



STILLMAN
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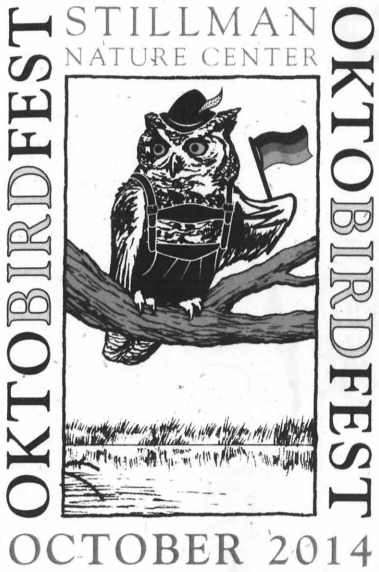


Welcome to OktoBIRDfest!

During weekends in October, Stillman will host five different bird activities. From our Big Sit to the ever-popular Raptor Sunday, there will be something for bird students of all ages. So, depending on the day, bring your binoculars, camera, or just your curiosity and our expert guides will help you celebrate Stillman's fourth annual OktoBIRDfest!

THE BIG SIT

We're happy to once again host the "Lazy Birder's" field trip. No walking is required. We will sit by the lake and let the birds come to us.

Date: Saturday, Oct. 4
Time: 3:00PM to sunset
Age: 10 years and up
Fee: None

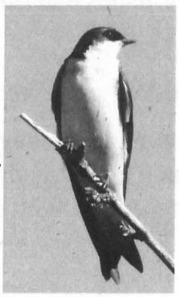
BIRD BANDING OPEN HOUSE

Watch Mark Spreyer (a licensed bird bander) measure, weigh and record data about our resident and migratory birds. Catching birds is not always predictable, so come prepared to hike the trails. If it's raining, the activity will be cancelled.

Did you know the German ornithologist Johannes Thienemann pioneered bird banding and established the world's first bird observatory?

Date: Sunday, Oct. 5
Time: 9:00AM to Noon
Fee: None

SUNDAY MORNING BIRD WALK

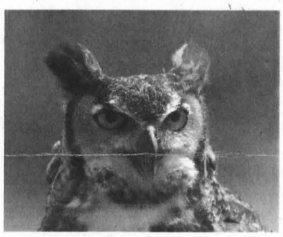


Mark Spreyer will lead a morning bird walk. Binoculars and field guides are a must. If you don't have any, don't worry, Stillman does. Those who join us for this walk wearing lederhosen will receive a year's free membership to Stillman nature center.

Date: Sunday, Oct. 12
Time: 8:00AM
Fee: None
Age: 10 years and up

DON'T MISS RAPTOR SUNDAY!

Now's your chance to meet the great horned, barred, barn, and screech owls. Stillman staff will also present a peregrine falcon, broad-winged hawk, and red-shouldered hawk. We will bring the birds out so you can see them up close. Kids will have a chance to dissect owl pellets. Bring a camera and a friend! Drop by anytime between 1:00 and 3:00 in the afternoon.



Date: Sunday, Oct. 19
Time: 1:00-3:00PM
Fee: $10/car

EXTREME RAPTORS

If Raptor Sunday leaves you wanting more, this is the day for you. How are falcons different from hawks? How are barn owls different from true owls? How have humans used, feared, and honored birds of prey through history? While much of this day will be spent indoors, come prepared to join us for a hike as well. Space is limited so make sure to call 847-428-OWLS (6957) to make reservations.

Date: Saturday, Oct. 25
Time: 10:00AM-3:00PM
Fee: $25/person (includes lunch)

STILLMAN NATURE CENTER
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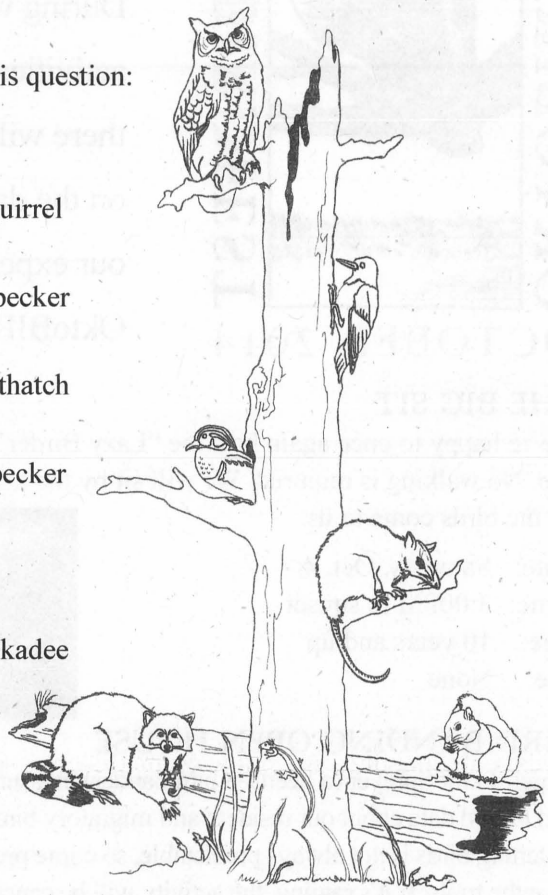
WHAT GOOD IS A DEAD TREE?

Editor's Note: *All the illustrations and much of the text on this page comes from an informative hand-out by the Illinois Department of Natural Resources.*

What good is a dead tree? That is a very good question. But first, answer this question: How many of the animals listed below use dead trees in some way?

wood duck	gray tree frog	southern flying squirrel
black rat snake	fox squirrel	red-headed woodpecker
little brown bat	belted kingfisher	white-breasted nuthatch
opossum	northern flicker	red-bellied woodpecker
tree swallow	white-footed mouse	American kestrel
downy woodpecker	eastern bluebird	black-capped chickadee
eastern screech-owl	hooded merganser	gray squirrel
great horned owl	house wren	raccoon



If you said all of them, you are right. More than 85 different birds, mammals, reptiles and amphibians in Illinois use dead trees. These dead trees are sometimes called snags. Nationwide, more than 300 species use dead trees, and this number does not include the many species of insects, slugs, centipedes and other invertebrates (an invertebrate is an animal lacking a backbone). Also, a multitude of fungi, mosses and lichens call snags home.

How do Animals Use Dead Trees?

Dead trees are important to animals in several ways. Some animals, such as woodpeckers, look for insects and make their own holes or cavities for nests. These snags with cavities soon become "holetels" used by other birds, squirrels, raccoons, and even mice. Several species of bats settle and have their young under a dead tree's loose, hanging bark.

A dead tree can be a perch used by hawks and owls while they search for prey. Smaller birds, such as bluebirds and flycatchers, also use snags to spot and catch insects.

As the limbs and bark of a dead tree fall to the ground, insects will begin to digest the wood. The dead, entangled branches can serve as natural brush piles in which rabbits can hide, If a snag is standing near a stream or lake, the fallen debris creates valuable cover for fishes and other aquatic species.

So Why Do We Need Dead Trees?

Remember, snags have features that live trees do not have, and it is those features that provide many species of animals with some of life's necessities.

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