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**“Flying”
Without a Net**

It doesn't matter where we are. It's happened to Carol and me a number of times when a window is near. Picture this. We're sitting at a table in a restaurant by ourselves or in the company of others. The table is situated next to a window. In mid-discussion a fly suddenly zooms past, then hits and buzzes against the pane. There is a flash – no more than a second - of a conversational hitch, as both pairs of eyes lock on the insect. Without mentioning it, each of us stifles a powerful, reflexive instinct to stand up and snatch it off the pane. The conversation resumes.

During daylight hours throughout the summer the back door of our classroom remains wide open. Why? We *welcome* flies. Once they enter through the doorway, they seek to return outside by orienting toward the light. More often than not they find themselves buzzing up and down one of our large window panes. In so doing, they've stumbled into a trap that renders them ripe for picking.

Among a horde of other things, we maintain a unique and complete zoo here of live frogs and toads comprised of all thirteen species native to Michigan and numbering a few dozen individuals in all. Naturally, large quantities of insects - hundreds per day - are required to keep them hopping. By necessity, and through daily routine over the years we've got collecting them down to a science, if not, an art (Really, don't be surprised to see any of us snatch a passing fly out of mid-air.).

On a sunny day a staff person will make the convenient window-to-window rounds. A live fly is pinned against the pane, carefully pinched between the thumb and forefinger, then delivered to the designated hungry frog. Of course, a frog won't recognize food unless it moves, so dropping a live one to it is a must. However, on the regular occasion where a fly is accidentally killed during pursuit, no worries. It won't go to waste. Any of our turtles will gladly down insect matter, dead *or* alive.

To normal people an insect or butterfly net might be construed as a toy, but it's a critical animal maintenance tool at Nature Discovery. Sweep-netting the lawn after sunset is an efficient way to secure tiny flies in abundance to keep the diminutive spring peepers, chorus frogs, cricket frogs as well as small salamanders feeding well after dark. Here's why it works: As the sun shines throughout the day small, winged insects are borne high into the air by columns of thermals. Once it begins to set and the thermals

subside, the airborne insects cool, then float to the ground where they will remain perched, often through the entire night, on the tips of grass blades and other plants.



Using our heads for bait, large quantities of deer flies can be secured as frog food in a matter of minutes with a good insect net. See how it works or try your hand at it during our July 14 open hours. Details in this issue.

and around any large object that passes. Luckily for us, they spend a lot more time orbiting our heads than actually alighting and biting. During peak season, insect net at the ready, any of our staff members will walk around the edge of the lawn next to the overgrowth or down the trail. Our bobbing heads are the bait! We swing the net over our heads in a continuous figure-eight. Just a few minutes later, fifty to one hundred deer flies have been trapped at the bottom. We pinch the net closed with a fist to trap them inside, return to a frog or toad tank, carefully crack the screen top, turn the net inside out to release the flies, then quickly replace the top. As the tank hums with deer flies, the frogs are in a snapping frenzy. Amazingly, within only five minutes, only a few remain. The frogs are instantly stuffed, and, as a bonus, a special satisfaction accompanies the realization that all the victims were *biting* flies.

As August progresses and the biting fly numbers subside until next summer a switch in prey items for our frogs is in order. Ground cricket season arrives just in time. We have a daily technique that helps us net over one hundred of these, small, brown, easily-overlooked insects off the lawn in less than an hour. Here's testament to their sheer abundance... By late September, after cumulatively collecting thousands of them for nearly two months we notice no dent in the yard's population.

This is what a healthy, chemically-untainted, biologically-rich lawn looks like. The nesting bluebirds, who take nearly all of their insect prey from the same productive lawn to feed themselves and their offspring, surely agree. Long live the insects, and, by extension, so many larger fauna that would fail to thrive or survive without them!

Who, in their right minds, look forward to biting fly season? We do!

Deer flies and horse flies are most abundant around wetlands because, like mosquitoes, their larvae are aquatic. In late spring mature larvae crawl from the water, bury themselves and pupate in the soil near the wetland's edge, then emerge as adults - most abundantly through July. Also, like mosquitoes, only female deer flies and horse flies bite in order to secure necessary protein for eggs to develop within them. We just started seeing the first individuals over the past two weeks. In another couple of weeks, deer fly abundance should be at its peak.

Females perch on the leaves of low tree branches and shrubs and are then stimulated to fly toward and around any large object that passes. Luckily for us, they spend a lot more time orbiting our heads than actually alighting and biting. During peak season, insect net at the ready, any of our staff members will walk around the edge of the lawn next to the overgrowth or down the trail. Our bobbing heads are the bait! We swing the net over our heads in a continuous figure-eight. Just a few minutes later, fifty to one hundred deer flies have been trapped at the bottom. We pinch the net closed with a fist to trap them inside, return to a frog or toad tank, carefully crack the screen top, turn the net inside out to release the flies, then quickly replace the top. As the tank hums with deer flies, the frogs are in a snapping frenzy. Amazingly, within only five minutes, only a few remain. The frogs are instantly stuffed, and, as a bonus, a special satisfaction accompanies the realization that all the victims were *biting* flies.



White Clover and Least Hop Clover are two of over two dozen wildflowers (Don't dismiss 'em as weeds!) that thrive on our chemical-free lawn. Very simply, plant diversity generates insect abundance and diversity. Insect A & D, in turn, generates far more zoological diversity in any yard.

-Jim McGrath

Feeding Frenzy!

*Sunday, July 14
1 to 5pm \$5/person*



Feeding time is popular for kids as well as adults in any zoo. Same here! That's why we've set up a whole afternoon of nothing but... With over 100 Michigan reptiles and amphibians of 42 species, plus an always-hungry red-footed tortoise, plus a "farm" of hungry giant silk moth caterpillars, there will be a LOT of feeding. Throughout the day, our staff will mingle with visitors, giving everyone up-close opportunities to watch snakes, turtles, frogs, salamanders and lizards eat a wide variety of foods – fruits and vegetables and many kinds of small animals, including worms, slugs, insects galore, fish, frogs, toads and even mice.



- Hold large, medium and small specimens of Michigan's largest snake, the black rat snake, then watch some of them eat frozen-thawed mice.
- Pick wild berries for box turtles and our ever-hungry red-footed tortoise.
- Watch Polyphemus, Cecropia, Luna and Prometheus Moth caterpillars devour leaves of a variety of native trees.
- Arrange to take caterpillars to rear at home with written care instructions (see next page).
- Our staff is always on hand to help you make the most of your visit!

- Catch your own insects around the yard and on the trails to feed to individuals of the only complete collection of 13 Michigan frog species in the state!
- Feed food sticks, worms and fish to 22 aquatic turtles as they swim in small pools on the patio. Some of the small ones can take food right out of your hand!
- Learn to identify all 3 species of garter snakes found in Michigan, then watch them gobble up live worms, fish and frogs.
- Watch a hognose snake eat a toad.



Raise Larvae of Huge & Beautiful Giant Silk Moths Now!



The Giant Silk Moth family has the largest and most beautiful species in the world. However, those found in Michigan and in Eastern North America have declined dramatically over the past few decades.

Here's a unique and limited opportunity to raise larvae of any or all of Michigan's largest species: The red Cecropia is the largest moth on the continent. The golden, eye-spotted Polyphemus is a close second. The green, tailed Luna is the rarest of them in mid-Michigan. The Promethea, while not quite as large, possesses a number of fascinating characteristics that makes it stand apart from the others.

Detailed care instructions are provided for each species, including a list of native trees or shrubs, the leaves of which must be supplied to the caterpillars. Get ready... The largest moths on the continent rise from the largest, most impressive caterpillars! They eat ravenously and grow huge!

A fantastic summer project for kids as well as adults.

RATES

POLYPHEMUS, CECROPIA or PROMETHEA: 3 larvae of one species for \$5, with care instructions. \$1 each for additional larvae while supply lasts.

LUNA: 3 larvae for \$10, with care instructions. \$2 each for additional larvae while supply lasts.

FOUR SILK MOTH PACKAGE: 3 larvae of each species for \$20, with care instructions.



At its largest, this Polyphemus caterpillar will eat 10 or more whole leaves a day!

*Contact us to make arrangements to pick up yours today.
Larvae for 2013 will only be available until mid-July.*

Catch Nature Discovery on WLNZ Radio's Coffee Break on July 19

Jim is scheduled to appear on Friday, July 19 at 9:15am, discussing giant silk moths and more. The show airs weekdays from 9 to 10am on 89.7 FM. Listen live online at lcc.edu/radio/onair/ or watch it live (or later in the day at 6pm) online at lcc.edu/tv/watch. We'll post a reminder on our Facebook fan page.



Around the State in July



- ❖ *Thursday, July 4: 7:30pm. MI Turtles Presentation; Hartwick Pines State Park, Grayling.*
- ❖ *Friday, July 5: 1:30pm. MI Snakes Presentation; Hartwick Pines State Park, Grayling.*
- ❖ *Saturday, July 6: 1-4pm. Michigan Reptiles Exhibit; Ludington State Park.*
- ❖ *7pm. MI Reptiles Presentation; Ludington State Park.*
- ❖ *Thursday, July 11: 7pm. MI Snakes Presentation; Benzie Audubon Society, Benzonia.*
- ❖ *Saturday, July 20: 10:30am. MI Snakes Presentation; Huron County Nature Center.*
- ❖ *10am. MI Frogs Presentation; Wittenbach-Wege Center, Lowell.*
- ❖ *Saturday, July 27: 10:30am-12:30pm. MI Reptiles & Amphibians; New Buffalo Performing Arts Center.*

Climate Change Realist

The Indigenous Environmental Network, established in 1990, was formed by grassroots indigenous peoples and individuals to address environmental and economic justice issues. In recent years, they've gotten both feet into organizing resistance to the fossil fuel-based status quo. Check out this informative fact sheet for starts. http://www.ienearth.org/docs/FACTSHEET_IEN_Trees_Forest_Offset.pdf

Ecosanity.org amasses hours of viewing and reading related to climate change, and, more broadly to injustices perpetrated on the world by big business, often with the blessings of our own government. Here's a link to get you started: <http://www.ecosanity.org/category/science-censorship>.

Become a fan of *Nature Discovery* on Facebook!

Check out our Youtube channel, *Wild Williamston*, too!

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