



An Eastern Milksnake constricts a Deer Mouse.

THIS ISSUE

*Visit Our Nature Center by Appointment
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Around Greater Lansing in February
Of the People, By the People,
For the People*

Country Garage Ecology

We should have erected a shed for storage here years ago.

These days, rolling up the sectional door of our unheated, two-car garage reveals a view more typical of a U-Store-It unit. Over the decades, as Nature Discovery has grown - and our free time grown short - it has evolved from housing two vehicles, to one, and in most recent years, none.

Yup, our old garage is a *bona fide* repository; an ever-morphing stacked and shuffled accumulation of indoor and outdoor residential and business ‘stuff.’ Narrow aisles between the irregular stacks enable access to what we may need on any given day and circumstance.

On a smaller scale the complex physical structure provides a veritable labyrinth of irregular nooks and crannies. Miniature passageways by the hundreds zigzag among and between recycling bins, storage boxes, surplus aquariums, bicycles, mowers, shovels, rakes, and *so much more*. They split, cross and merge enroute to any of a plethora of dark, snug hiding places along walls, behind cabinets and under shelving units. It’s a magnet to any wandering organism, hamster-sized or smaller - be it vertebrate or invertebrate, warm-blooded or cold - that seeks refuge from the elements and safety from larger predators. This is often evident when we need to move or remove various items; physical clues that they not only rest, but definitely digest and nest here, too.

The opening pages of an Intro to Ecology text identify food, water and cover as the raw necessities that enable the survival of individuals of a given animal species in a given locale. When our cluttered garage ‘habitat’ is evaluated through this basic lens it wouldn’t score very high. The first two listed necessities are largely absent. Not to say that feeding does *not* go on in our garage...

Abundant and varied plants (i.e., producers) and their byproducts make up the *first* trophic level of energy flow - represented as the broad base of a ‘pyramid’ of energy moving through an ecosystem. We purposely keep any vestige of the pyramid base *out* of the garage. For instance, we choose to keep covered buckets of seed for the bird feeders not there, but inside the back door of the nature center.

Therefore, much of the feeding activity we witness in the garage takes place *above* the first trophic level, further up the pyramid. Abundant and varied members of the second trophic level (a.k.a., first level consumers) find plant-based sustenance outside the garage. They enter it for the primary purpose of seeking cover between foraging events. Here they may fall victim to members of the third trophic level (second level consumers), predators that enter the garage to forage on *them*. Even these hunters of protein would be wise, though, to not let their guard down too much. Although substantially less common, a few third level consumers - predators of the predators - enter the garage to evaluate the menu. If it suits their needs they may choose to stay a while.

The following list of living members observed within our garage's particular ecology is hardly a complete one. Yet, insights are included as to how each species in its own way utilizes the structure in its struggle to survive and reproduce.

INVERTEBRATES

Many of the invertebrate denizens through the seasons are far from spectacular, but part of our garage's current ecological puzzle all the same. Most are arthropod consumers of plant matter outside the structure which then gravitate to it for shelter from the elements. They typically generate little notice or are only mildly irritating as long as they don't accumulate to full-blown annoyance.

Cue the Boxelder Bug, Brown Marmorated Stink Bug, Western Conifer Seed Bug, Asian Lady Beetle, and Cluster Fly. All seek cracks and crevices within which to hide and escape the cold. The outside walls of a house or garage have plenty; an old one like ours, even more. The garage's interior acts as an extra large winter haven. As the days warm in the spring, individuals become evident again as they crawl into the open and on to the sun-bathed east or south-facing outer walls. A bit of background on each...



From left to right, Brown Marmorated Stink Bug, Cluster Fly, Asian Lady Beetle, Boxelder Bug.

If you happen to spot **Boxelder Bugs** crawling up the walls of the house during the warmer months of the year, at least one Boxelder Tree surely grows nearby. Sippers of plant fluids, females lay eggs, and the newly-hatched nymphs feed exclusively on the soft tissue of seeds - small, green samaras - that cling in clusters from the outermost sprigs of a female tree. This species is native to Michigan, but the following two plant-sipping true bugs are alien invasives here that similarly seek refuge from the cold.

The **Brown Marmorated Stink Bug** (<https://www.stopbmsb.org/stink-bug-basics/life-stages/>) of Asian origin has entered Michigan relatively recently - and explosively. Adults and nymphs sip on a huge variety of plants including the leaves and fruits of crops in fields, orchards and yards, making it, by far, the most damaging from ecologic and economic perspectives. Adults seeking shelter have become increasingly abundant outside and inside the garage.

A leaf-footed bug species, the **Western Conifer Seed Bug** (<https://www.canr.msu.edu/resources/western-conifer-seed-bug>), has steadily spread to the eastern half of the country over the past few decades and is often spotted among larger accumulations of the aforementioned bugs. Just as the Boxelder Bug cannot reproduce without the trees they're named for, the Western Conifer Seed Bug cannot reproduce without coniferous trees (A huge Norway Spruce towers above our garage's north wall.). The female lays eggs in the spring on tender new needle growth. Nymphs sip and grow on these and on the green ripening cones.

The invasive **Asian Lady Beetle** seems to have nearly wiped out many of the native 'ladybug' species. To wit, I haven't seen the smaller Two-spotted Ladybug - abundant in my youth - for over a decade.

Unlike the first-level-consumer true bugs discussed above, the adult and larvae are predatory toward smaller insects (e.g., aphids, tiny lepidopteran larvae). I can easily envision what would happen if a large Asian Lady Beetle larva, while foraging for aphids on green foliage, were to encounter the smaller larva of a Two-spotted Ladybug. In the fall adults gravitate to human structures in large numbers for shelter.

The **Cluster Fly** (<https://www.canr.msu.edu/resources/cluster-fly>) is a grayish brown native fly that is more robust than a House Fly but often mistaken for one. A House Fly is incapable of overwintering in cold environments and would never survive a Michigan winter either hidden in an outdoor crack or crevice or in our unheated garage. The Cluster Fly can.

In the winter months - particularly in older rural houses like ours - a Cluster Fly joins the others in finding its way through the walls and into our living quarters. Still, with a body not nearly as warmed as it would be on a summer day, it is commonly attracted to the light of a lamp, where it may perhaps crawl lethargically on the shade. Since it is often seen in this circumstance, many observers perceive this species as 'clumsy.' However, encounter one when it alights on a sunlit outer wall of the house or garage on a warm summer day, and you'll find it to be as adept at evading a hand or flyswatter as any other fly.

This is another species, the larva of which feeds as a second-level-consumer. It does so in parasitic fashion on earthworms. The adult fly lays eggs in the soil. The hatched larva then seeks a host. In combination with the others discussed, adult Cluster Flies are a regular component of the outer wall 'sun-bathing' community.

Sometimes on a winter day, we may retrieve a box or bag of supplies from the cold garage and bring it indoors. Minutes later as the contents steadily warm, a sluggish Cluster Fly emerges. With a Michigan native-herpetological zoo on site here, few found Cluster Flies escape the fate of becoming frog food. Dropped into a tank, they disappear with the flick of a tongue.

This is reason enough in our world to perceive this nuisance-to-most as an actual asset - free, convenient frog food whenever one appears - even in the dead of winter. The same can't be said for the true bugs and lady beetles. All secrete noxious chemicals when disturbed rendering them distasteful to nearly all insectivores.

However, the spiders don't seem to mind. I've witnessed individuals of all of the above bug species as well as the Asian Lady Beetle trapped in the webs of the **Long-bodied Cellar Spider** and **House Spider**, both of which construct messy webs in the garage, but only seasonally. Fitting to their common names, neither an adult spider, a spiderling, nor an egg mass of these species is capable of withstanding the cold of a Michigan winter. Every spring as the weather warms, young ones that hatched from eggs in the warm house disperse into the garage. Here, they will feed, grow rapidly, and attempt to reproduce as long as warm temperatures hold sway.



Bold Jumping Spiders regularly hunt in and around the garage over the summer.

The robust **Bold Jumping Spider**, an actively hunting species, is black and sports one large white spot next to two smaller ones atop its abdomen that may remind you of an emoji face. Spiderlings as well as some adults are capable of surviving within a suitable crevice through the cold season. An individual is seen with fair frequency crawling across the garage's floor, walls and ceiling rafters in search of small prey through the warmer seasons, including any of the above-mentioned insects.

In any natural community the component organisms are in constant flux over time. Specific populations increase and decrease. Species appear, and some disappear in response to environmental change - these days, overwhelmingly generated by human activity.

Throughout the 90s, our first decade at this location, on any winter day a scrupulously-targeted scan through the garage's old rafters would produce the eventual sight of a dormant, overwintering **Milbert's Tortoiseshell**, a colorful little butterfly no larger than the familiar Cabbage White. The top surface of spread wings reveals merging bands of yellow to burnt orange hues on a rich brown background.



From Golden Guide to Butterflies & Moths, St. Martin's Press.

One winter I was thrilled to find six different individuals scattered throughout the garage - every one clinging upside down from the ceiling. With wings closed, the tan to brown hues on the underside match the bark of a tree - or the dark grain of aged, rough-sawn lumber, perhaps fashioned into ceiling rafters - nearly perfectly. Come spring, amid daily openings of the overhead door they

would flutter out in turn to search for freshly-sprouting nettles on which to oviposit (Read 'The 180 on Stinging Nettle:' <http://naturediscovery.net/pdf/WILD%20TIMES%20June22.pdf>).

These butterflies and their larvae were such a common sight here back then, their presence could easily have been taken for granted. I never would have predicted that in a matter of years the local population would crash - never to recover. I have not seen a Milbert's Tortoiseshell overwintering in the garage in over twenty years; not a single butterfly in our yard, nor a single larva of this species feeding on the abundant nettle here in at least fifteen.

VERTEBRATES

As long as the doors are closed, our garage is generally impermeable to any vertebrate larger than, say, a **Red Squirrel**. Over decades here, we have never seen evidence that one has taken up residence. In a natural community, this species occupies tree hollows in all seasons. We notice that a foraging individual may sometimes enter the garage during the day when the door is open, only to quickly assess that it is devoid of any seeds or nuts, then exit.

Ditto for the **Eastern Chipmunk**. This species nests, rests and spends its months of dormancy in underground burrows. A foraging individual enters the garage then leaves with no apparent inclination to return.

Now, the relationship of the **Deer Mouse** to our garage is an entirely different story, if not, a saga. In all seasons this most abundant of native mice is active within it: in summer a relative few; in winter a veritable slew! This, despite the fact that, again, there is basically no food to be found here. Surely, the importance of cover cannot be underestimated!

Like so many other small mammals the Deer Mouse is highly nocturnal. Those that have need to move about during the day, do so furtively and manage to avoid detection by humans. Thus, we definitely don't assess their abundance throughout the seasons via direct sightings, but mostly by how often we capture them alive in our aluminum box traps (Read 'My Mouse Trap Espousal,': <http://naturediscovery.net/pdf/WILD%20TIMES%20Feb18.pdf>).

A trap set overnight between late fall and early spring - far more often than not - yields a captured mouse by morning. We may then use it educationally, to show and discuss in a school classroom lesson or presentation. In the end, a trapped mouse is never released back into the garage. It is fed (with or without an audience) to any of about fifteen individuals of three species of Michigan-native constricting snakes maintained in our nature center.



Deer Mice are abundant in the winter garage.

One particularly mousy winter I purposely set a trap night after night to get a sense of how many mice had moved into the garage. An entire month elapsed before I finally checked the trap one morning to find it unoccupied. The snakes ate well!

A trap that is set overnight during the warmer months of the year may yield a capture only once every week or two. A significant portion of the fair weather victims are young ones, evinced by the gray color over a white belly instead of the brown-over-white seen in adults. Some captures are especially small, seemingly only a day or two out of a nest likely hidden in some recess not immediately accessible to us.



A Short-tailed Shrew consumes a worm.

Another mouse-sized mammal shows up in the trap on occasion. In the winter, perhaps about one out of every twenty captures produces a **Short-tailed Shrew**. This voracious little protein hunter is not a rodent, however. Along with moles it occupies the mammal order, Insectivora. In fact, many homeowners who see a shrew creeping around their garage often mistake it for a mole. Notably larger and physiologically-designed for burrowing, a mole moves above ground infrequently and with obvious effort. An active shrew creeps nimbly and tirelessly all over the place.

Rarely do we capture a shrew in the garage during the summer. There exists such a glut of insects, worms and other ground-bound sources of protein in the outside environment, it has no special need to forage here. Come winter, however, nearly all of these sources diminish appreciably. If unable to find the specific foods that it needs a shrew can starve to death in a matter of hours.

Therefore, any individual that finds access to our winter garage stumbles upon a wonderful combination of sustenance and sheltered security. The protein *du jour* is mouse flesh (Read 'A Short-tailed Shrew Lives Life in the Fast Lane': <http://naturediscovery.net/pdf/wild-times-feb-19.pdf>).

Predation comes in all shapes by many methods through the seasons. The mice that remain in the garage over the summer to nest and breed may have fewer shrews to contend with, but the warm temperatures stimulate the **Eastern Milksnake** to stir from its winter dormancy deep within a hidden crevice.

We encounter a few milksnakes every summer inside and around the immediate perimeter of the garage. Just as there is no place a mouse can hide into which a same-sized shrew cannot follow, the same applies to its pursuit by a slim predator with a rope-like physiology. This one just happens to subdue its victim by constriction rather than envenomation. Additionally, a mouse's nest contents, while hidden to us, are an especially easy-to-find, no-fuss meal for the snake.

We love having the awareness that milksnakes thrive here, despite seldom setting eyes on one. They're our garage's natural Roombas for mice, and we rejoice whenever we are granted a chance encounter.

In late spring a milksnake lays its own eggs in a hidden place within the garage's confines, too. Then, come late August we often find a few scattered, starkly-colored and patterned hatchlings, their bodies not much longer and wider than a seven-inch string.

When any milksnake, including a hatchling, finds itself exposed and vulnerable, it vibrates its tail rapidly. Many homeowners, uneducated about snakes, mistake it as venomous then needlessly kill it (Read 'It's September: Got Milk Snakes?': <http://naturediscovery.net/pdf/WILD%20TIMES%20Sept14.pdf>).



There is no small space where a Deer Mouse can hide where an Eastern Milksnake cannot follow.

The garage remains closed and inaccessible to most other, mostly larger vertebrates. Of course, we wish to keep it that way given the potential destruction some may cause. By default, then, it is also inaccessible to birds that may otherwise take advantage of the cover it provides. The Barn Swallow immediately comes to mind.

In the opening column of our May 2017 newsletter I wrote about the recent northward expansion of the **Carolina Wren** into Michigan, including its recent arrival to our own backyard (<http://naturediscovery.net/pdf/WILD%20TIMES%20May17.pdf>). In fact, one is in view as I write, picking at the suet mounted outside the window.



Carolina Wren. Photo by Greg Smith.

Interestingly, this species seems to have a special affinity to human enclosures - like a garage - in which to nest provided it has some means to get in. In the spring, a pair will enter the building then choose one of the oddest locations - often an item stored on a shelf or hung from a hook - in which to stuff grass and other soft materials for nesting. An internet image search for 'Carolina Wren nest' provides plenty of examples as well as this affirming video: https://www.youtube.com/watch?v=y_1gnGXJiX4

So far, we've only known the resident pair to nest deep within a wood pile in the overgrowth on the north side of our yard. Would they prefer our garage if we made it accessible to them? Two small vinyl windows are situated on the north wall. I recently cracked one open from the top, no more than an inch; a gap small enough to keep the rain out but large enough for a wren body to squeeze through.

Should the wrens move in, the addition of this new piece to the jigsaw puzzle that is our garage's little ecosystem creates the potential to alter the food chain in either direction. The various distasteful insects remain relatively safe, but few spiders - both, in and out of webs - will escape the wren's keen eye and sharp plucking bill. On the other hand, the security that a garage may ostensibly offer to a Carolina Wren's nesting success is far from a sure thing. The milksnake is an accomplished climber.

-Jim McGrath

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Visit Our Nature Center by Appointment

**Suggested Minimum
Donation: \$5/person/hr**



The sky's the limit for natural science learning here – with a Michigan twist! Adults, couples and individual families are welcome to schedule an intimate indoor or outdoor visit to what we call “The Biggest Little Nature Center in Michigan,” and “Home to the Largest Zoo of Michigan-native Reptiles and Amphibians.” The unique, in-person, hands-on experiences here are unrivaled at any other nature center or zoo! We will bring snakes, turtles, frogs and salamanders out of tanks to interact with adults or students of any age or grade-level.



Our yearling Leopard Frog will snatch a cricket right from your fingers.

Identify and feed “the grand slam of Michigan turtles” - all ten species native to our state! Meet, pet and feed “Milberta”, our always hungry Red-footed tortoise.

Handle any or all of Michigan’s three species of garter snakes while learning how to tell them apart, then watch them gobble up worms and tadpoles. Hold or “wear” a gentle 6-foot Black Ratsnake – the largest in the state!

Many more snakes, turtles, frogs and salamanders to identify and feed. Identify birds at the feeders. Take a guided walk on our trails to identify birds and their songs, as well as trees, vines, and invasive plants.

SCHOOL SNOW DAY? Arrange a same day visit! Ask about scheduling a special evening visit. Weather-permitting we can step outside and attempt to attract a wild screech-owl with recordings.

Contact us for additional information or to make an appointment most any day.

*We're grateful for all those who share our cause and value our mission.
A special thank you to our most recent donors...*



*Grand River Bait & Tackle * Gregg Landick * Okemos Nursery School
Dave Sluyter * Greg Smith * Lyric Stock*

American Tree Sparrow.

ND Around Greater Lansing in February

- ❖ ***Thursday, February 20: 6:30-8pm. MI Reptiles & Amphibians Exhibit; Marble Elementary School Science Night, East Lansing.***
- ❖ ***Wednesday, February 26: 6-8pm. MI Reptiles & Amphibians Exhibit; Glencairn Elementary School Science Night, East Lansing.***
- ❖ ***Thursday, February 27: 5:30-7:30pm. MI Reptiles & Amphibians Exhibit; Ralya Elementary School STEAM Night, Haslett.***
- ❖ ***Friday, February 28: 6:30-8pm. MI Reptiles & Amphibians Exhibit; Cornell Elementary School Science Night, Okemos.***



Of the People, By the People, For the People

Our democracy's forest of security is burning before our eyes by way of a well-crafted blitzkrieg (see Project 2025). The many freedoms citizens have enjoyed - and that too many have taken for granted - are being brazenly stolen in a wide scale oligarchic snatch-and-run. All other issues and concerns have suddenly become moot. They're banking on our complacency. United we stand..., we all know the alternative. Two new logos and a link have been added to causes we regularly support in the closing page below.

'What is a Sociopath?'

<https://www.healthline.com/health/mental-health/sociopath>

Political historian and educator, Heather Cox Richardson, produces regular recorded discussion and explanation about current American political events. Here is her latest, dated February 11:

<https://www.youtube.com/watch?v=G LR9gDeYhrA>

Record January Warm Puzzles Climate Scientists

<https://www.bbc.com/news/articles/cwyjk92w9k1o>

Claim '2 Degree Target is Dead' Triggers Debate Over Climate Scenarios

https://www.sciencealert.com/claim-2-degree-target-is-dead-triggers-debate-over-climate-scenarios?fbclid=IwY2xjawIdPpVleHRuA2FlbQIxMQABHYz28hVgLLLeMKh-XtGD101qN788E8CZ0IZWtBmaATTwD5RAIkBmDnHFkLQ_aem_FPwSi9i3GqHE2vcypCA4SA

A Sticky Solution for Microplastics

https://www.interlochenpublicradio.org/podcast/points-north/2025-01-31/a-sticky-solution-for-microplastics?fbclid=IwY2xjawIdRAtleHRuA2FlbQIxMQABHXeBlqZ57F46jxE2b-tYxovku1KHKwR--9kTnoDSzrAbzg63syV1BcZfxw_aem_DrfRXrzDXY92I-WlZewMFQ

Amid all the choreographed chaos, here's a sustainable social lifestyle that all of us - and the planet - can live with...

https://legacyproject.org/7gen/bioregional.html?fbclid=IwY2xjawIdQNlleHRuA2FlbQIxMQABHTxIO7nkQ3pJpao6ep_iUGXMMSPN4X7CCHwwxbtRKgs2X_bWXUzjqM3S0Q_aem_jc4wuUcaJsleUDxNiXGsrA

-JM

The next generation would be justified in looking back at us and asking, "What were you thinking? Couldn't you hear what the scientists were saying? Couldn't you hear what Mother Nature was screaming at you?" -Al Gore

I don't want you to be hopeful. I want you to panic. I want you to feel the fear I feel every day. I want you to act. I want you to act like you would in a crisis. I want you to act like your house is on fire, because it is. - Greta Thunberg

The personal actions that cut climate pollution fast are to go flight-, car-, and meat-free. Start with the one that feels most feasible for you; if you can't totally go without, aim to cut your consumption today at least in half. - Kimberly Nicholas, Under the Sky We Make

What if we had storytelling mechanisms that said it is important that you know about the well-being of wildlife in your neighborhood? -Robin Wall Kimmerer



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