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This Long-bodied Cellar Spider has thrived in a jar in our nature center for nearly a year.

I love the challenge of showing a wild organism that people generally disdain or fear, then, trying to get them to like it...; well, at the very least, getting them to accept its existence - to let it live. In last month's newsletter I gave readers multiple reasons to embrace the growth of stinging nettle (<http://naturediscovery.net/pdf/WILD%20TIMES%20June22.pdf>), and in the July 2019 newsletter, reasons to tolerate horse flies (<http://naturediscovery.net/pdf/WILD%20TIMES%20July19.pdf>).

ARACHNO-UNEASE

We might not all suffer from full-blown arachnophobia, but I would wager that most adults feel at least some level of unease when encountering one. However, a chance encounter with a spider while walking through, say, a natural area by someone who tends toward "phobic" may be enough to keep this person from ever returning. The person is far less able to appreciate all the other aspects of the natural community that gives it its worth. As a result, the potential for alienation from the entire ecosystem develops to such a degree that nature itself is regarded with dread rather than as something of value that requires conscientious protection.

Naturally, the same holds true with fears of snakes or insect/invertebrate life, in general. My mother clung firmly to her uncomfortability with natural life through all my years of knowing her: "I'm not going into the woods... It's full of bugs, spiders and snakes!" Ironically, for how I constantly craved to visit and explore these settings, I have no memory of walking in the company of my mother through a forest or field, as a child or ever.

Education is the key to fixing or avoiding such a fractured relationship with life around us. I'm not talking about singing *The Itsy Bitsy Spider* or reading Eric Carle's *The Very Busy Spider* here. I just don't see that doing the trick. Demonstrate to a child that a spider is a leggy little predator, the physiology, function and behavior of which is darn fascinating to observe. How? Provide daily exposure to a real, three-dimensional spider. Yup, keep one as a pet!

Familiarity overcomes fear. A person who owns a dog is not afraid of dogs. One who owns a snake is not afraid of snakes. Indeed, familiarity on a daily basis from an early age never allows fear to gain a foothold in the first place.

A therapist who works to break a patient from a long-standing phobia might suggest *exposure therapy* (https://en.wikipedia.org/wiki/Exposure_therapy). This type of exposure therapy, however, is totally preemptive; good for the growing child's mental well-being, good for the person's attitude toward spiders in their environment; and so, ultimately good for the environment.

THE EASIEST OF PETS

Before you start firing off excuses for not acquiring a pet spider, let me assure you that the amount of effort required is almost laughable in its simplicity. This may well be the easiest pet you ever kept. Don't go to a pet store to buy anything – spider or supplies.

We are currently keeping three native spiders in our nature center: a cellar spider (female), a jumping spider (female), and a fishing spider (male). Each one was not necessarily sought, but caught opportunistically, then dropped into a clean, dry, pint-sized or larger jar. When the inclination strikes Carol or me, one of us picks a fly off the window and drops it into a spider. I'll never grow tired of watching the arachnid inside capture, subdue and consume the little buzzer, each in its species-specific manner. We show them to visitors who come by appointment to our nature center and to kids attending our summer day camps. We also take them on the road to schools, libraries and daycare centers, then drop a live fly to each of them to the tune of excited exclamations by young observers and staff alike.

THE SPECIES

The female **Long-bodied Cellar Spider** occupies houses and tends to scale walls on her spindly legs to the highest reaches, often just under the ceiling. She spins a messy, thin web then waits days or weeks for a fly or other small insect to venture into it. She quickly approaches the tangled victim, and with her hind legs swiftly rotating, begins to wrap a continuous, nearly invisible strand of silk around and around the victim. Within a minute or two, the fly is helplessly wrapped in a thin, silken sac. The spider then pulls it to its piercing beak where almost on contact the struggling fly goes still. Over the next several hours her



Our cellar spider holds a globular egg mass in her mouth. Keeping her in the jar upside down aids viewing, feeding and cleaning.

digestive venom will liquefy the inner tissues of the fly. She sips the contents within the fly's exoskeleton like a juice box until it is empty. She then discards the remains by cutting it from the web and letting it drop. On the next pass of a broom or vacuum, it is swept or suctioned away by an unwitting human housekeeper.

This entire process can easily be observed with eyes only inches away through a glass jar. If you find a cellar spider hanging high on a wall, you don't even have to touch it. Just clamp the jar and lid around it. Within a day or two it will spin a fresh web inside. (Note: Whether high on a wall or in a jar, when disturbed a cellar spider will often pump and pulsate back and forth in the web, trampoline-like – an action obviously meant to deter would-be creatures who would like make *her* the prey.)

How easy is it to care for one? At the end of this month, with the bare minimum of maintenance, the cellar spider in our nature center will have occupied the jar for a full year! On three separate occasions she has laid a tight ball of about twenty eggs. After they are laid she holds the ball with her mouthparts and will not let go – not even to feed – until they hatch some 6-8 weeks later. From

this spider's perspective life in the jar must be pretty fine. Every few days (give or take) a fly is delivered with apparently-adequate regularity by her servant, James.

Although all spiders spin silk and use it for a variety of purposes and structures, jumping spiders are active hunters. I capture and keep one of the larger species found here, a mostly-black female **Daring Jumping Spider**, every summer. It is not difficult to find one - about 3/4 inch in total length - crawling up or down an outside wall of our country house or even on an inside wall of our nature center or living quarters.

Its size makes this spider very watchable. It exhibits an awareness of its surroundings that is not so easily noticed in members of many other spider families. When you get close to one crawling freely, don't be surprised to see it stop where it is headed, turn, and eyeball you. One kept in a jar may do the same thing as you get your face close to observe it. Drop a fly in and watch the spider stalk the prey like an eight-legged cat, then pounce in a flash upon its victim. As with the cellar spider's bite, the victim is instantly immobilized. The jumping spider injects stomach acid to liquefy the inner tissue then sucks the contents dry and discards the hollow exoskeleton at the bottom of the jar.



The active-hunting Daring Jumping Spider sports a white emoji-like marking atop its black abdomen.

This past May while collecting a sample of aquatic invertebrate life from one of our vernal ponds I netted a young male **Six-spotted Fishing Spider**. About an inch wide with legs fully spread, the female grows to over twice this size with far more girth. Fishing spiders bask and crawl effortlessly across the heavily-



Our male Six-spotted Fishing Spider rests spread-legged in its jar atop a floating bed of duckweed.

vegetated pond water's surface. Active hunters, they catch small insects that land on top of, or emerge from under the water's surface. They routinely slip under the surface to either hide from perceived danger or to actually hunt tiny aquatic invertebrate life and even small tadpoles from time to time.

I placed this spider in a pickle jar half-full of murky pond water on which floats a layer of bright green duckweed. The spider perches with legs splayed most of the time motionless on the green-speckled surface. When I open the lid and drop a fly in, the spider flashes toward it with lightning-speed and engulfs it within a literal basket of legs before the lid is back in place.

THE IMPACT

One week each summer we offer a half-day camp for a small roster of only six 5-6- year-old children. At the start of last summer's camp one girl's grandparents asked if they could stay through the duration. On the first day I showed my two jars to the kids, one each with a cellar spider and a jumping spider. The worried grandmother discreetly whispered that her granddaughter is very afraid of spiders. The look on the little girl's face confirmed it. I grabbed a buzzing fly off the nature center window and told the kids to watch how the jumping spider will stalk it when I drop it into the jar. When I moved to open the lid the girl yelled with alarm that the spider would get out. I assured her it wouldn't, then promptly opened the lid, dropped the fly in and closed it before she could say any more. She joined her camp mates gathered around the jar, then cheered with them when the spider pounced on the fly. Then, we fed the cellar spider.

When I asked how many of the campers would like to keep their own pet cellar spider, all hands went up except hers. I told the kids to talk with parents about it and if they said okay, to bring a large jar to camp the next day. Then, I led the kids through the upper and lower levels of the nature center to see how many cellar spiders we could find near the ceiling. We found more than enough to go around as future spider pets for all interested campers.

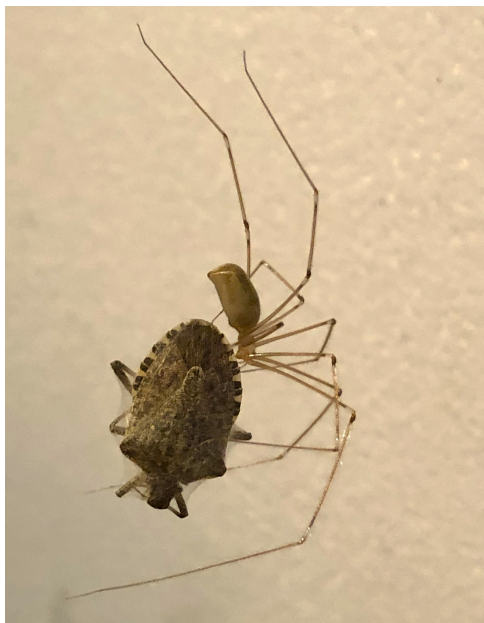
The following morning, every child arrived with a jar, including this girl! The grandfather told me off to the side that his granddaughter couldn't stop talking about getting a pet spider after she had left the day before. At the end of the second camp day all the kids went home with their own spider in a jar.

The following day the girl returned with her jar to show me that it had spun a web overnight. I caught a fly and let her drop it in. The spider promptly wrapped it up while everyone watched. At the end of the camp day each of the kids took live flies in jars to feed to their pet spiders at home.

After the camp week was over I received an email from the girl's grandmother. She was astounded by her granddaughter's complete turnaround in demeanor about spiders. She had named her spider pet, and spent time every day looking for flies *and* looking for more spiders.

Last week I gave a presentation to a group of young children at a learning center in Ann Arbor. The topic was butterflies and bugs, etc., in their neighborhood. When I got to the spiders and held the two species in jars in front of the kids, one of the adult staff who sat immediately behind the kids looked concerned. She silently motioned to me and pointed to a boy in front of her while mouthing the words, *He hates spiders!*

After talking about the spiders, how they lived, and how (I purposely added) keeping one as a pet makes people who don't like spiders start to like them, I pulled a live fly out of a different jar and dropped it into the jumping spider. The kids, including this boy, watched in rapt attention as the spider slowly crept down the glass to the unsuspecting fly, then pounced and caught it. The kids cheered.



A cellar spider in our house takes on even fairly large insect nuisances like this invasive Brown Marmorated Stinkbug.

At the presentation's conclusion I asked how many of them would like to keep a spider as their own pet. In addition to all the rest, the one-time alleged spider-hater's hand was raised high above hopeful eyes. I then invited them to visit our nature center with a parent, and added that I would personally help them secure one if they bring their own jar.

NOT JUST "KID STUFF"

Any teacher could easily incorporate, say, a cellar spider into a classroom community with minimal fuss. This is not just a project for young children, either. Imagine introducing one to older elementary students or even to a middle school or high school science/biology classroom, combined perhaps, with a unit covering spider classification, diversity, physiology and ecological significance. It creates the potential to develop objective and healthy perceptions of spiders in students of any age that may likely last a lifetime.

In fact, why even limit the experience to our youth? There are plenty of adults who have lived with uncomfortable feelings toward spiders for decades. No expensive therapist required... Just a clean, dry jar and a will to become "comfortable" with them. Make an appointment. We'll send you home with your new tenant.

-Jim McGrath

Nature Discovery

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Visit Our Nature Center by Appointment

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



The sky's the limit for natural science learning here – with a Michigan twist! Individual adults, couples, individual families and small groups are welcome to schedule an intimate outdoor or indoor 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, hands-on experiences here are unrivaled by a visit to any “standard” zoo or nature center! We will bring snakes, turtles, frogs and salamanders out of tanks to interact with adults or students of any age or grade-level.

Identify and feed “the grand slam of Michigan turtles,” all ten species native to our state, as they swim in pools at your feet. 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 live frogs. Hold or “wear” a gentle 6-foot Black Rat Snake – the largest in the state!



Check out our caterpillar “farm.”

Many more snakes, turtles, frogs and salamanders to identify and feed. Take a guided walk on our trails to identify birds, insects, trees, vines, and invasive plants.

Ask about arranging guided interpretive experiences or guided birding outings, for your small group of kids, adults or families at a local natural area of your or our choosing.

Contact us for more information or to make an appointment.

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Polyphemus



Luna



Cecropia

LCC Summer Day Camps

This summer Carol is teaching 4-day science camps for students entering grades 2-8 at LCC's East Lansing Campus. Openings still remain in the a.m. and p.m. sessions for the weeks and camp titles below. Morning classes, 9am-noon. Afternoon classes, 1-4pm.

July 25-28 AM: Fun with Physics (Gr 2-3). PM: Build a 'Bot (Gr 4-5).

August 1-4 AM: Carnival Games (Gr 4-5). PM: Miniature Golf Challenge (Gr 5-8).

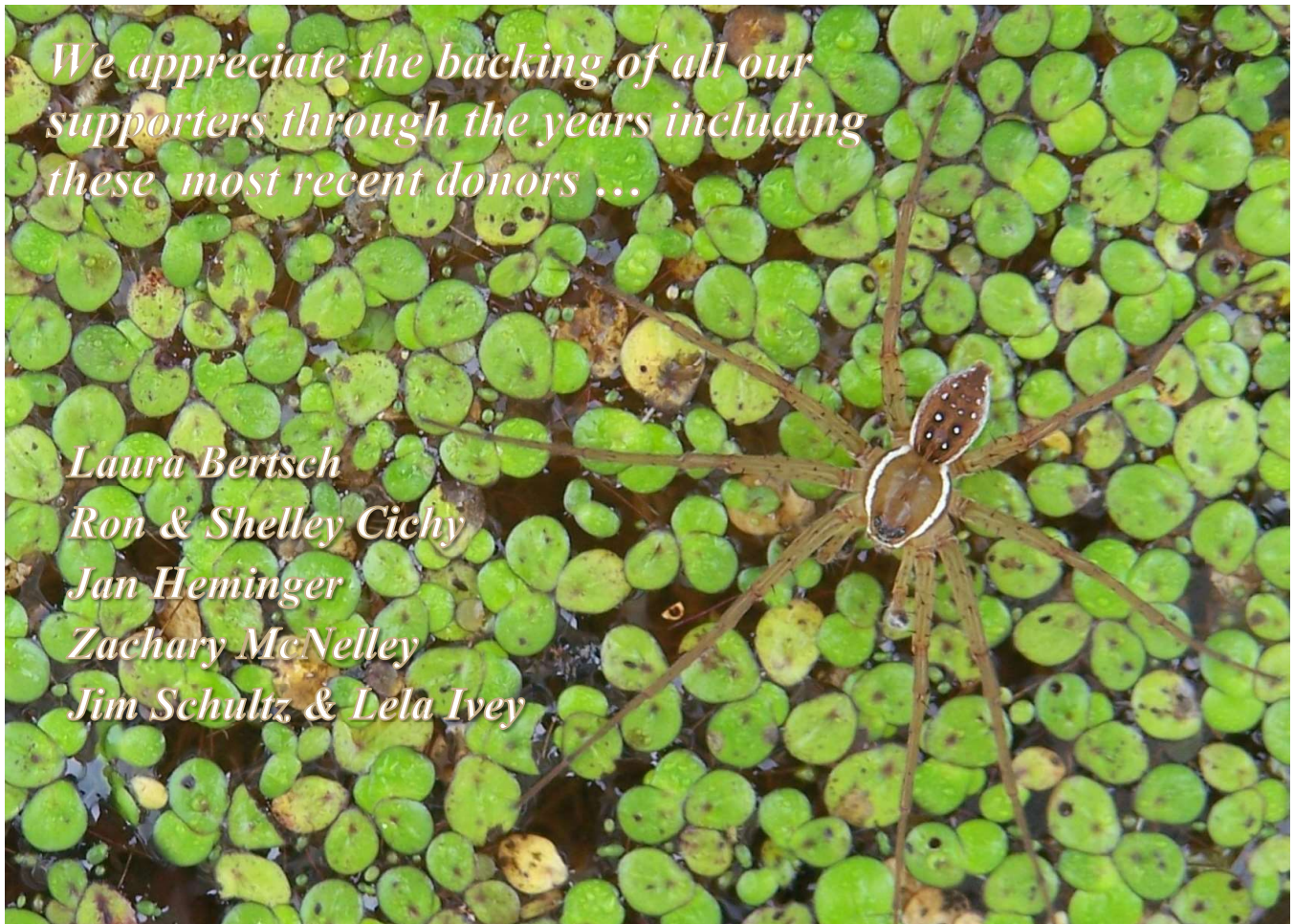
For more details or to register for Summer Youth Camps, visit lcc.edu/seriousfun.

Around the State in July

- ❖ ***Friday, July 15:** 11am to 2pm. Michigan Reptiles & Amphibians Exhibit; MDNR Outdoor Adventure Center, Detroit.*
- ❖ ***Saturday, July 16:** 10am to 3pm. Michigan Reptiles & Amphibians Exhibit; MDNR Outdoor Adventure Center, Detroit.*
- ❖ ***Saturday, July 16:** 10pm. Michigan Amphibians Presentation; Huron County Nature Center, Port Austin.*
- ❖ ***Sunday, July 24:** 10am to 2pm. Michigan Snakes Exhibit; Eastern Ingham Farmers Market, Williamston*

We appreciate the backing of all our supporters through the years including these most recent donors ...

*Laura Bertsch
Ron & Shelley Cichy
Jan Heminger
Zachary McNelley
Jim Schultz & Lela Ivey*



The “How-To” of Climate Change Conversation

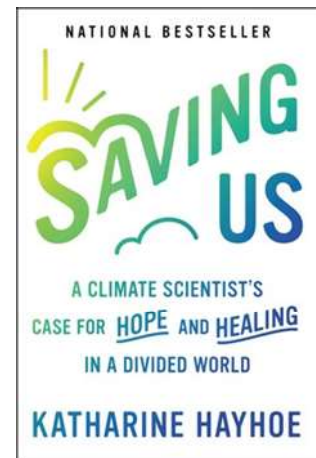
What I’m reading...

Saving Us: A Climate Scientist’s Case for Hope and Healing in a Divided World, by Katherine Hayhoe

From www.simonandschuster.com:

Called “one of the nation's most effective communicators on climate change” by *The New York Times*, Katharine Hayhoe knows how to navigate all sides of the conversation on our changing planet. A Canadian climate scientist living in Texas, she negotiates distrust of data, indifference to imminent threats, and resistance to proposed solutions with ease. Over the past fifteen years Hayhoe has found that the most important thing we can do to address climate change is talk about it—and she wants to teach you how.

In *Saving Us*, Hayhoe argues that when it comes to changing hearts and minds, facts are only one part of the equation. We need to find shared values in order to connect our unique identities to collective action. This is not another doomsday narrative about a planet on fire. It is a multilayered look at science, faith, and human psychology, from an icon in her field—recently named chief scientist at The Nature Conservancy.



Drawing on interdisciplinary research and personal stories, Hayhoe shows that small conversations can have astonishing results. *Saving Us* leaves us with the tools to open a dialogue with your loved ones about how we all can play a role in pushing forward for change.

Here’s an interview with the author:

<https://www.youtube.com/watch?v=8xfEGL5ImPg>

-JM



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