

Habitat Herald

A Publication of the Loudoun Wildlife Conservancy

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Moldering flies Photo by Cliff Fairweather

Zombie Insects and Their Mind-Controlling Parasites

by Cliff Fairweather

few years ago at the Rust Nature Sanctuary near Leesburg, I came across a number of flies perched on blades of Japanese stiltgrass. None of them were moving, even when I moved in close to them. On closer examination, it was apparent that many were in various states of decay, although others were quite fresh looking.

I collected a few specimens for further study and photography and began to ponder what was going on. I was aware that many animal parasites manipulate the behavior of their hosts, and I expected some sort of parasitic wasp to emerge from my specimens. Instead, their bodies simply turned to lumps of mold; I was perplexed.

The parasitic life style might seem pretty gruesome to us, but it is an ecologically important one in terms of its large influence on plant and animal populations and communities. Parasitic relationships are common and have arisen among a wide variety of organisms throughout evolutionary history.

Parasitism is a form of symbiosis, which is an intimate, usually long-term relationship between organisms of two different species. In a parasitic relationship, one species, the parasite, benefits and the other, the host, is harmed. In cases where the host is killed by the parasite, the parasite is termed a parasitoid.

In general, the host provides a habitat, including a food supply, during some part of the parasite's life cycle. A major survival challenge for a parasite is getting into the right host species at the right point in their life cycle, and an important way that many parasites do this is to manipulate the behavior of their host.

Zombies are the stuff of horror movie classics such as the Invasion of the Body Snatchers or the various incarnations of *The Night of the Living Dead*, but real-life zombies dwell among us in the form of parasitized animals. An outbreak of pod people is pure science fiction, but many animals, including humans, are susceptible to behavioral manipulation by parasites. Insects are frequent parasite hosts, and parasitized insects aren't too hard to find.

Even if they weren't mind controlling parasites, Gordian worms (aka horsehair worms) are pretty bizarre beasts. The adults occur in freshwater and I have occasionally encountered them while collecting other aquatic organisms. Their long, thin, rather stiff bodies form into complicated knots as they cluster for mating. Each mated female lays millions of eggs on the bottom and dies soon afterwards.

The larvae hatch out and make their way through their life cycle, if they're lucky, in a complicated and seemingly improbable chain of events. First, an aquatic insect larva ingests an egg, matures to become a land-dwelling adult and dies. A cricket then feeds on the aquatic insect carcass, ingesting the now encysted Gordian worm larva. The worm larva

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A Word from the President: Really Scary!

by Joe Coleman

The Halloween season is here when it's fun to have scary things around. Ghosts, goblins, witches and jack-o'-lanterns will be part of our landscape. All in fun, it will be mandatory to act scared when these creatures show up at your doorstep for treats. However, real-life scary things are happening all around us, and we should be very afraid.

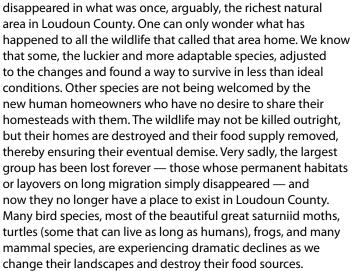
In the mid-1990's, a friend showed me the richness of Loudoun County's natural areas between Belmont Ridge Road and Oatlands. We shared a sense of wonder at how beautiful and naturally diverse this part of the county was at that time. Recently, she called me after she paid a visit to those same areas. She was almost speechless at how developed it was today and how different it looked – and also how much natural beauty had been lost.

Since I am in that area at least a couple of times a week, those same changes had not been as dramatic for me. While some of



Saturniid moths

the uglier developments, which had destroyed what was once one of the county's most beautiful viewsheds had jumped out at me, I had not realized how much had been lost as the change was done gradually over the past two decades. My friend's reaction brought home to me how much wildlife habitat has



While some people may fear the outdoors and wildlife, those of us who appreciate nature deeply value its diversity and marvel at the richness it brings to our lives. We understand without natural abundance, our world is much poorer. What is really scary is living where development occurs without consideration and protection of resources, resulting in permanent loss of our county's natural beauty.

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The Loudoun Wildlife Conservancy Board meets the first Tuesday of each month. Board meetings are open to all current members. For more information, or to suggest topics for discussion at upcoming meetings, contact Joe Coleman.

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■ Zombie, continued

transforms from an encysted form into an active form and draws nourishment from the cricket's body fluids.

As bad as this already sounds for the cricket, its nightmare has just begun. The worm grows, coiled inside the cricket's body cavity, to a length three to four times that of its host. Once it matures, the worm manipulates the cricket's behavior, causing it to wander in a random pattern. If the cricket encounters water, it obligingly jumps in, and the adult Gordian worm, now in its breeding habitat, departs its drowning host.

The Lancet Liver Fluke, a trematode or primitive worm, has a similarly complex life cycle that ends badly for one of its hosts. At various points in its life cycle, the fluke is hosted by a snail, an ant and a cow or other herbivorous mammal. In this sequence, the ant is the victim of behavioral manipulation by the fluke. This happens after an ant ingests the fluke's larval stage by feeding on a ball of mucous coughed up by an infected snail.



Once inside the ant, the fluke larvae cause the ant to ascend a grass blade or other plant each night and remain there until morning, clamped in place with its jaws. During the rest of the

day, the ant behaves normally. While mounted on vegetation, however, the ant is susceptible to being eaten by a cow, sheep, or other grazing animal, thus delivering the fluke to a suitable reproductive habitat.

As for my moldering flies, it turns out that parasitic mind control isn't exercised by animals alone. In an especially creepy twist, fungi get into the act. Many insects and other arthro-

pods are affected by entomopathogenic (insect-infecting) fungi. Many of these fungi cause their hosts to take up positions that increase the dispersion of fungal spores, such as at the end of a leaf.

Grasshoppers infected by entomopathogenic fungi are manipulated to climb tall meadow plants to release spores into the wind. The flies I observed at the Rust Nature Sanctuary were probably also shedding spores into the air, but spores can also be transmitted by direct contact with other flies. Male flies are not especially finicky about mating partners and will attempt to mate with a dead, fungus-infected female. Indeed, infected females often die with their wings apart, exposing their abdomens in a manner especially enticing to the males.

The exact mechanisms by which parasites exercise mind control are the subject of current research, but alteration of the host's neural chemistry appears to play an important role. For example, some parasites cause their host to produce neuromodulators, substances such as serotonin, that alter the transmission of nerve impulses. Some parasites also appear to enlist the host's immune system in altering host behavior.

Host species are not entirely defenseless against parasitic mind control. Cockroaches and other insects use "behavioral fever" to kill parasites, meaning that they find warm places or bask to raise their body temperature above what their parasites can endure. Other hosts simply eat right. Some tiger moth caterpillars kill parasitic tachinid fly larvae in their bodies by eating plants high in alkaloids or glycosides.

When you're contemplating ghosts, ghouls and demons this Halloween, consider the real-life zombies about in the world and the parasites that control their minds...and hope that you're safe from their reach. Sleep tight!

Cliff Fairweather is the naturalist for the Audubon Society of Northern Virginia, where he manages the Audubon at Home program.

Meet our newest board member **Robert Bavis**

We are thrilled to have Robert take the chair for Stream Monitoring!

obert has been a resident in Virginia since 1978, is an avid outdoorsman with a keen interest in helping to preserve and improve environmental conditions in Loudoun County. When Robert is not fishing, he works for IBM as a senior partner in the media and entertainment industry advising Fortune 500 companies on business and IT strategy. He is a former partner in the firm of PriceWaterhouseCoopers and lives in Ashburn with his wife, Karen, and their three children, Chris, Danny, and Lauren. Robert and Danny both recently completed the stream monitoring training and certification.



Robert Bavis

🦺 Hab

The Snickers Gap Hawkwatch Needs Your Help

awks are in the air! Every fall thousands of hawks migrate south, many of them following the Blue Ridge Mountains on their journey.

There are several official hawkwatches in Virginia which monitor their numbers from year to year. The Snickers Gap Hawkwatch is a local opportunity to participate in the count. It is affiliated with the Hawk Migration Association of North America (HMANA), which compiles migration data from over 200 sites located in the United States, Canada, and Mexico, thereby providing us with valuable information on the health of raptor populations.



Red-tailed Hawk

Typically, about 12,000 raptors are counted at Snickers each season with an all time high count of 23,000 counted in 1998. Birds are generally observed traveling in a southwesterly direction either directly over the ridge line or just off to either side, at varying heights and distances depending on weather conditions. Many can be seen with the naked eye, but binoculars are required for identification and, when possible, age and sex.

Snickers Gap is a great place to observe and learn about these magnificent birds. The Hawkwatch invites anyone who

would like to learn and all those with experience to help with the count. Hawkwatching season has officially begun and will continue until December 1. This is an all volunteer project and there are many days still not covered. Please help with this important and fun citizen science project if you can!

If you are interested, contact Joan Boudreau or Bob Abrams at 703-734-1238 or icepeep@aol.com. You are also welcome to visit at any time - if no one is watching when you arrive, start counting! The

Hawkwatch is about 10 minutes west of Purcellville where Rte 7 crosses the Loudoun-Clarke County line and the Appalachian Trail (AT) near Bluemont. The watch is adjacent to the highway: from Rte 7, take a left at the top of the ridge on Rte 601 and an immediate right into the parking lot. The count is conducted in the parking lot serving both commuters and AT hikers.

Butterfly Count Report 2011

by Nicole Hamilton

he butterfly count this year started out as touch-andgo. In the days leading up to the count, the weather forecast became bleaker with predictions including conditions such as "cloudy" and "70% chance of thunderstorms". Now, if we were doing amphibian monitoring it would have been a terrific forecast, but butterflies prefer temperatures at least in the high 70's and they do not fly in the rain.

When morning broke, however, the cloud cover was high and we were hopeful. Eight teams totaling 59 people, gathered at their meeting spots a little before 9 am. With starting temperatures about 75 degrees, it was still cool for butterflies and with the exception of the Blue Ridge Center, the morning

had a slow start.

Fortunately by about 10 am, butterflies began to appear. The cloud cover and slight breeze made for a more comfortable day than we've seen in past years, and temperatures by mid-day reached the mid-80s – perfect for butterflies! But where were they? Across the board, numbers were down. In terms of

diversity, we had 43 species, compared to 47-49 in past years. Worse, the number of individual butterflies counted was profoundly sobering as we recorded just 2,312 individuals. This is the lowest count we've seen since 2004 and a huge decrease from the past two



Red-banded Hairstreak Photo by Liam McGranaghan

years when we counted well over 4,000 individuals.

While numbers were low, we especially noticed swallowtails, fritillaries, and sulphurs were almost absent in some locations where they are typically seen, and in general we saw only about half the number we had seen in the past. Monarch numbers were discouragingly low at just 52, compared to 193 in 2009 and 82 in 2010.

There were some highlights: Red-banded Hairstreak was found in higher numbers than in past years and American Copper showed up at a couple different locations, giving many participants a "lifer". The Common Buckeye, Eastern Tailed Blue, Silver-spotted Skipper, Dun Skipper, and Zabulon Skipper had healthy numbers on par with past years.

Continued on page 5



Common Buckeye Photo by Nicole Hamilton

Central Loudoun Christmas Bird Count

Por over a century, thousands of people leave the warmth of their homes and venture outside during the Christmas season to count every wild bird they can find. The information from these bird counts is sent to the National Audubon Society (NAS), which works with the Cornell University School of Ornithology to create a database of the sightings. This data has been collected since 1899, making the counts not only invaluable in monitoring bird populations, but also the largest and longest example of citizen science in the world. These bird counts are not only science, they are also fun. Counters explore the country's natural and not-so-natural areas and share the wild beauty of feathered creatures in winter. Sometimes, truly rare birds are sighted!

Join us for the Fifteenth Annual Central Loudoun Christmas Bird Count (CBC) on Wednesday, December 28. Our count-circle has a 15-mile diameter and covers 177 square miles of Loudoun's countryside: north to Waterford, south to Al-



Downy Woodpecker

die, east to Ashburn, and west to Purcellville. The circle includes a number of very special natural areas such as the Banshee Reeks Nature Preserve, the Dulles Greenway Wetlands Mitigation Project, Beaverdam Reservoir, Morven Park, Ball's Bluff, several private large estates, about five miles of the C&O Canal and Potomac River in the vicinity of White's Ferry, and much of still-rural western Loudoun County. Everyone is welcome — beginners are teamed up with experienced birders, and every eye helps! If you are interested in participating for the whole day or just a portion, contact Joe Coleman at 540-554-2542 or jcoleman@loudounwildlife.org.

There is a \$5 fee for adult participants (over 18) which LWC pays for its members. This fee helps offset the cost of the database and the publication of the CBC issue of *American Birds*.

Calmes Neck Christmas Bird Count – Monday, January 2, 2011. There are other CBCs in Loudoun County besides the Central Loudoun CBC which you can find out about by visiting www.audubon.org/bird/cbc/. The Calmes Neck CBC includes much of farwestern Loudoun County as well as Clarke County. Its count area includes a wide variety of habitats ranging from mountain forests to rural subdivisions to old farm fields and meadows, with the Shenandoah River running through it. If you can help with the Calmes Neck CBC, contact Margaret Wester at 540-837-2799 or margaretwester@hotmail.com. Joe Coleman (contact information above) and Phil Daley (540-338-6528 or pedaley@verizon.net) are sector leaders. Phil's area includes Round Hill and north, and Joe's area includes Bluemont south to Bloomfield. If you are interested in joining either of them, please contact them directly.

To see what has been found on previous Central Loudoun counts visit www.loudounwildlife.org/PDF_Files/CBC_Summary_Years. pdf; to see other CBC findings visit www.audubon.org/bird/cbc/.

■ Butterfly Count, continued

All in all, it was a nice day for the count, but the lack of butterflies had many of us asking what happened? The cloudy day wasn't ideal but it was warm enough for butterflies to fly if they were around, and the showy swallowtails could not have been missed. Butterflies are very sensitive to habitat and weather. Perhaps adults were affected by the cool spring and rain. Then, the intense heat of July may have affected the growth and development of caterpillars/chrysalids. In the weeks leading up to the count, I scoured the listserv and across the country fellow butterfly counters were reporting low numbers and asking the same questions we were. I just wondered if our count would bear out the same results - and sadly, it did.

What are the butterflies telling us on a national level? The North American Butterfly Association will have the national data compiled from all counts and will release its findings in the fall. It will be interesting to see the conclusions they draw. You can view our data from 1997 to 2011 on our website: www. loudounwildlife.org/Butterfly_Count_Summary_Data.htm.

Our thanks go out to the volunteers who came out to help count butterflies, and especially to the team leaders:

Bob Blakney, Richelle Brown, Jo-Anne Burlew, Kevin Cahill, Joe Coleman, Bill Cour, Casey Crichton, Karen Davis, Cliff Fairweather, Karen Fairweather, Elinor Fischer, Suzanne Fisher, Ann Garvey, Tony Garvey, Nancy Goetzinger, Mary Ann Good, Nicole Hamilton, Dirck Harris, Sonia Hunt, Maria Hunt, Zoe Irwin, Bruce Johnson, Lydia Johnson, Sharon Kearns, Lori Kruse, Karen Lauzier, Dee Leggett, Joanne Levy, Dodie Lewis, Jon Little, Karen Lowe, Bob Lyon, Brian Magurn, Angie McDe-

vitt, Gabrielle McDevitt, Isabelle McDevitt, Laura McGranaghan, Larry Meade, Gary Myers, Matt Myers, Kim Myles, Natalie Pien, Praba Raja, Praju Raja, Tom Ramsey, Eric Raun, Del Sargent, Roy SeGuine, Anna SeGuine, Ray Smith, Ron Staley, Susan Stevens, Lisa Taylor, Helen Van Ryzin, Jenny Vick, Marcia Weidner, Ramy William, and Angela Zappalla.



Zebra Swallowtail on Butterflyweed Photo by Laura McGranaghan

Habitat Restoration Projects

by Joe Coleman

ast November we helped establish a rain garden in Leesburg's Freedom Park. Over the years we have learned that if we want our habitat restoration projects

to be successful, we have to periodically survey them. As a result, we put additional plantings down this past May and added a fair amount of gravel and river stone where the runoff from the parking lot first enters the rain garden. We watered the garden a couple of times in July and August. When we surveyed the rain garden in mid-August, we were quite impressed with how the plants were thriving, including a number of invasives that did not belong! As a result, 13 volunteers showed up at the rain garden on August 23 with a lot of work to do.

Though it was hotter and harder work than some of us had expected, we finished in two and a half hours, removing 31 large bags of invasive plants and spreading 40 bags of mulch to help retain moisture, stop soil erosion and prevent invasive plant growth. Volunteers were rewarded with the wonderful sight of numerous native pollinators as well as honeybees nectaring in the garden. Huge thanks to all who worked to keep the Freedom Park Rain Garden thriving!

This fall we plan to return to Waterford's Phillips Farm to remove the nasty, invasive alien, Mile-a-minute. Mile-a-minute will literally grow over and smother other plants. Fortunately, this plant is an annual vine and easy to pull up when wearing protective clothing and gloves. It's very satisfying to see right away the

extensive results of getting rid of this noxious plant.

For years we have been visiting the vernal pools that are high on the ridge at Morven Park. In recent years these pools

have been drying up before the amphibians were mature enough to leave them. This fall, working with the staff at Morven Park, we would like to assist in the restoration of a couple

of the pools to help amphibian inhabitants thrive in this environment again.

LWC has also been working with the Blue Ridge Center for Environmental Stewardship on a Wildlife Habitat Improvement Plan (WHIP) developed by the Virginia Department of Game and Inland Fisheries and USDA's Natural Resources Conservation Service (NRCS). Both LWC and NRCS have pledged funds to help with the proposed WHIP project, and work should begin this fall. Volunteers will be needed to help remove invasive, alien shrubs such as Autumn Olive from two of the fields near the Education Center. This will allow native, warm-season grasses to establish themselves. If left alone, Autumn Olive will overtake a field in two to five years and destroy valuable wildlife habitat by pushing out everything else.

On November 5, LWC, Loudoun County, and the Town of Leesburg are planning a tree-planting project at Ida Lee Park. Volunteers are needed to help plant the trees, which will improve the water quality of Big Spring Creek and create new wildlife habitat in the park. Please bring work gloves and, if you have one, a shovel with your name on it. Questions: contact Scott Sandberg at 571-258-3304 or scott.sandberg@loudoun.gov.

Please consider helping with these and other fall projects. For

updated project information such as meeting times and dates, please check www.loudounwildlife.org.





Volunteers remove invasive plants at Freedom Park Photos by Sheila Ferguson



Plant ID: Mile-a-minute

(Persicaria perfoliata, previously Polygonum perfoliatum)
by Helen VanRyzin

Mile-a-minute is listed by the Plant Conservation Alliance in the invasive alien plant group "Least Wanted."

ile-a-minute is a rapacious invasive which grows up to six inches a day and quickly covers other plants with a blanket of vines. The vines prevent photosynthesis in covered plants by blocking out sunlight, which eventually kills the smothered plants below. Mile-a-minute is an annual weed and is killed by frost, but its seeds can persist in soil for up to six years. The best way to control the plant is to pull it up before it produces seeds in August. However, wear gloves and be careful when pulling Mile-a-minute! It has nasty, skin lacerating barbs along stems and on the underside of its leaves. For this reason, it is also known as Devil's Tail and Tearthumb.

Mile-a-minute was first reported in Portland, Oregon in 1890, but it did not survive to spread. In 1930, the Asian plant was unintentionally brought to a nursery in York County, Pennsylvania. Seeds were cultivated accidentally with Japanese holly seeds, and, unfortunately, it was allowed to grow and produce seeds. Mile-a-minute is a vigorous grower and has unusual triangular leaves. The stems turn red and the plant produces highly attractive blue berries in late August. No doubt the grower observed the plant's attractive qualities but could not foresee the consequences of his action. From York County, PA, the plant has spread and naturalized north to New York, south to Virginia and west to Ohio.

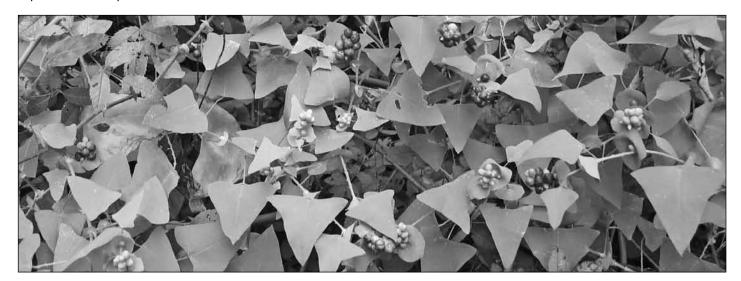
Mile-a-minute prefers to grow in a sunny spot on riparian land and does not grow in deep shade. When the plant trails over a stream it drops its seeds, and the water helps spread them. Birds, squirrels, chipmunks and deer eat the berries and inadvertently also distribute the seeds.

Like many invasive alien species, Mile-a-minute was introduced by humans and then dispersed by wildlife. The worst thing about alien invaders is that their vigorous growth can crowd out and kill native plant species. Native plants are needed by native wildlife at the bottom of the food chain, like caterpillars. Dependent species cannot switch to a different food source and are then lost with the native plants.

If you see Mile-a-minute growing near a stream or pond, put on a thick, long sleeve shirt and some gloves and pull up the vines before they produce berries. Remember to check back the next year, as you will have to do this again for up to six summers to completely eliminate this nasty alien invader. Plants can also be controlled by mowing before August when the seeds are set. Left unchecked, it is predicted the plant could spread throughout most of the United States and seriously decrease biodiversity.

References:

www.nps.gov/plants/alien/fact/pepe1.htm www.dcnr.state.pa.us/forestry/invasivetutorial/mile_a_minute.htm http://umaine.edu/publications/2533e/



Mile-a-minute in fruit Photo by Liam McGranagha*n*



Snapping turtle sunning on a log Photo by Gerco Hoogeweg

Common Snapping Turtle

(Chelydra serpentina)

by Nicole Hamilton

ommon Snapping Turtles, North America's snapping turtle, are the largest turtles we have in Loudoun and can live up to 40 years in the wild. At full size, their shells grow to 19 inches in length and they can weigh as much as 35 lbs. They can be found in muddy ponds, lakes, and shallow streams – and unfortunately, sometimes near roads.

Signature characteristics include husky heads, shields along their legs and tail, and small eyes with star-shaped pupils. Their nostrils are at the tip of their nose, acting like a snorkel so the turtle can rest in the mud and use its long neck to stick its head up for a gasp of air and remain inactive.

A snapping turtle's diet consists of aquatic plants, fish, frogs and

tadpoles, salamanders, insects, snails, leeches, worms, snakes, and small mammals. While camouflaged in the mud, the turtle will open its mouth, showing a small growth on its tongue that looks like a wriggly worm. As a fish comes by to investigate, it snaps it up! Snapping turtles have very sharp mandibles and strong jaw muscles. This, combined with their fast snapping action, provides them with a great ability to catch fish and other prey that move quickly through the water. Their long necks and quickness makes them a creature to approach with caution!

People often ask, "Do snapping turtles eat baby ducks?" and yes, being omnivorous they do, but they prefer the other foods mentioned and actually eat a lot of vegetation. They will also eat carrion (dead animals). An interesting fact is that snapping turtles sniff out carrion and have been used by police to find corpses!

In springtime, after heavy rains when it's a bit easier to move on land, adults will move to new territories or search for places to lay eggs. Mating takes place in April through November and the female can store sperm for a few years, allowing her to lay her eggs when conditions are right. Eggs are laid in springtime and hatch in fall, with young often being eaten by herons, crows, raccoons, fish, and other animals.

Snapping turtles behave very differently in water than they do on land. In water, they are very comfortable, having broad webbed feet and good places to hide. They have great vision and can see as well as hear under water. Even with these advantages though, they are very shy and try their best to avoid people. Because the plastron (underside of the shell) is relatively small on snapping turtles, it doesn't provide much protection, leaving their heads and limbs unprotected. On land in particular, they are very vulnerable. Because of this, when a predator or an unwise person tries to grab them, they pull out all the stops and defend themselves. This includes snapping or biting, hissing, releasing a foul odor, and standing tall on all four legs to look as fierce as possible. Contrary to what you might think, snapping turtles are actually gentle and shy creatures. They only act fierce to warn off creatures who venture too close. If you inadvertently have a close encounter with a snapping turtle, back off and maintain a respectful distance; it is simply a frightened turtle trying to save itself.

Snapping turtles are an important part of the ecosystem and should be left alone to play their role in ponds and waterways. But, there are situations where they get in trouble and need our help. If you see a snapping turtle in the road or about to cross a road, there are ways to move it without being bitten. Please call animal control or, if you are experienced in animal rescue, we have included an address for a YouTube video below demonstrating how to safely move a snapping turtle.

Sources and referenced video:

www.fcps.edu/islandcreekes/ecology/common_snapping_turtle.htm www.holoweb.com/cannon/snapping.htm www.critterzone.com/magazineresource/common-snapping-turtle-Chelydra-serpentina.htm www.youtube.com/watch?v=sc7pB6VvJT8&NR=1



Common Snapping Turtle Photo by Nicole Hamilton



You CAN make a difference!

Let your voice be heard – help protect Loudoun's beautiful natural areas by renewing or joining Loudoun Wildlife Conservancy today.

The difference you make when you support Loudoun Wildlife Conservancy:

- Restoring valuable wildlife habitat and streams in key threatened areas.
- Planting thousands of trees, shrubs and native plants throughout the county.
- Fledging over 700 bluebirds yearly from bluebird trails.
- Contributing over 2500 hours of sightings for the county bird survey.
- Leading over 600 people on walks and field trips each year in beautiful county parks and wetlands; delighting hundreds more in our free educational programs.
- Inspiring new naturalists by sponsoring programs such as the Roger Tory Peterson Young Naturalist Program, the Lovettsville After-School Nature Club, and, in partnership with the Piedmont Environmental Council and Loudoun County Parks and Recreation, the highly praised Summer Nature Camp.
- Mentoring college environmental studies students in our summer intern program.
- Reaching out to the community at local fairs and through our website, blog, Facebook, Twitter, and newsletter, the Habitat Herald.
- Raising awareness of the county's urgent environmental issues and representing your concerns.

Memberships start at just \$10!

 100% of your tax deductible donations go directly to supporting Loudoun Wildlife Conservancy's activities such as our free educational programs, habitat restoration and citizen science projects.

 Members receive our quarterly newsletter, a 10% discount on purchases at Rust Sanctuary Nature Gift Shop and advance notice of our many free programs and field trips.

 All donations are 100% tax deductible.

Your membership shows you care about Loudoun's wild places and native residents. Help us keep Loudoun beautiful and protect our living legacy!

Make a difference! ~ Please join or renew today at www.loudounwildlife.org/Join. htm ~ Your membership will be active until 12/31/2012.







Space is limited for many of these programs and field trips. Please call the designated program contact for further information and to reserve your spot.



LWC Board Meeting — Board normally meets the first Tuesday of every month at 7:00 p.m. All LWC members are welcome. *Contact Joe Coleman at 540-554-2542 or jcoleman@loudounwildlife.org for additional information.*

Birding the Lucketts Area — **Wednesday, October 12, 8:00 a.m.** – **11:00 a.m.** Join LWC on one of our mid-week birding trips. Gerco Hoogeweg and Mary Ann Good will lead as we drive some of the roads around Lucketts looking for migrants and other signs of fall. Meet at the Lucketts Community Center parking lot and car pool from there. This trip is co-sponsored with the Northern Virginia Bird Club. *Questions: contact Gerco Hoogeweg at drgerco@hotmail.com*.

The Fascinating World of Bats — Wednesday, October 12, at the Carver Center in Purcellville, 7:00 – 9:00 p.m. Leslie Sturges of the Save Lucy Campaign will describe the fascinating and enchanting world of bats, our only flying mammal, and how important they are. She will also introduce the seven species of bats, some of which are common and some of

Birding Banshee



oin LWC and the Friends of Banshee Reeks at the Banshee Reeks Nature Preserve for the monthly bird walk. Because of its rich and varied habitat, it is a birding hot spot. Please bring binoculars. Questions: Contact Joe Coleman at

540-554-2542 or jcoleman@loudounwildlife.org.

Saturdays at 8:00 a.m.:

October 8, November 12, December 10, and January 14

which are rare, that call Loudoun County home. This free adult program is sponsored by LWC. The Carver Center is located at 200 Willie Palmer Way, Purcellville. *Questions: contact Joe Coleman at jcoleman@loudounwildlife.org.*

Family Stream Day — Saturday, October 15, 11:00 a.m.

– **3:00 p.m.** Join Loudoun Water for the 10th annual Family Stream Day. Come and experience the many ways you can help keep Loudoun's streams clean by smart landscaping, stormwater and erosion control, water conservation, stream assessment and monitoring, and more. Rain or shine. Location: Loudoun Water, 44865 Loudoun Water Way, Ashburn, VA.

Identifying Hawks: A Class and Field Trip to Waggoner's Gap, Pa. — October 27 and 29. Registration Required. Each fall, hawks migrate south along the Blue Ridge. On Thursday, October 27, at 7 pm, Liam McGranaghan, a master falconer, licensed bander of raptors, and educator, will teach a class on how to identify in the field hawks and other birds of prey. On Saturday, October 29, we will take a field trip to Waggoner's Gap in PA, about a 2.5 hour drive. Waggoner's Gap is one of the premier hawk-watching sites in our area, and if the weather cooperates, we should see a wide diversity of birds of prey, including Golden Eagles! While the field trip will be free, and one does not need to take the class to go on the field trip, there is a fee for the class (\$10/member or \$15/non-member). Sign up online or contact Laura McGranaghan at Imcgranaghan@loudounwildlife.org.

Plant a Tree — Saturday, November 5, 9:00 a.m. Join LWC, Loudoun County and the Town of Leesburg at Ida Lee Park for a tree planting event designed to improve the water quality of Big Spring Creek and create new wildlife habitat in the park. Please bring work gloves and, if you have one, a shovel with your name on it. Questions: contact Scott Sandberg at 571-258-3304 or scott.sandberg@loudoun.gov.

Reading the Land — Saturday, November 5, 10:00 a.m. – 1:00 p.m. Registration Required. Join Emily Southgate at the Blue Ridge Center for Environmental Stewardship (BRCES) on a walk to discover man's impact on the land. The 900-acre Blue Ridge Center is comprised mostly of meadows in the valley and heavily forested slopes today; however, people have lived and used the land there for centuries and have had a tremendous impact on it. Dr. Southgate, a historical ecologist, will describe what and how we can learn from studying man's impact on the land and ecology. The Blue Ridge Center, which is

Continued on page 11



■ Programs & Field Trips, continued

co-sponsoring this field trip, is located just north of Neersville at 11611 Harpers Ferry Road (Rte 671). Meet at the Education Center. Detailed directions can be found on the website, www. brces.org. *To register, sign-up online or contact Joe Coleman at jcoleman@loudounwildlife.org or 540-554-2542*.

Exploring Nature during a Changing Season — Sunday, November 13, 1:00 – 4:00 p.m. Registration Required. Join Phil Daley on this free, family walk as he explores the Blue Ridge Center for Environmental Stewardship, looking at how plants and animals prepare for winter. Enjoy the fall foliage in this heavily forested preserve. The Blue Ridge Center comprises 900 acres of fields, forests, and wetlands on the west side of Harpers Ferry Road in northwestern Loudoun County. Meet at the Education Center, which is located just north of Neersville, at 11611 Harpers Ferry Road, Rte 671. Detailed directions can be found on the website, www.brces.org. To register contact Phil Daley at 540-338-6528 or pdaley@loudounwildlife.org.

Birding the Blue Ridge Center



n the fourth Saturday of each month (except December), LWC leads a free bird walk at the Blue Ridge Center for Environmental Stewardship. This beautiful 900-acre preserve is located on Harpers Ferry Road, Rte 671, in northwestern Loudoun County. Only a few miles south of Harpers Ferry and the confluence of the Potomac and Shenandoah rivers, the property includes meadows in the valley and heavily forested slopes on the Blue Ridge. Meet at the visitor center. The Blue Ridge Center is located just north of Neersville, at 11611 Harpers Ferry Road, Rte 671. Detailed directions can be found on the website, www.brces.

org. Questions: contact Joe Coleman at 540-554-2542 or jcoleman@loudounwildlife.org.

Saturdays at 8 a.m.: October 22, November 26 and January 28

SUNDAY IN THE PRESERVE

oin a naturalist from the Friends of Banshee Reeks and LWC for a free informal, family walk around the preserve. Search for the many natural wonders that make this such a special place. For information call the Banshee Reeks Nature Preserve at 703-669-0316.



Sundays, Oct. 16, Nov. 20 and Dec. 18 and Jan. 22 at 1:00 p.m.

Bird Walk at Dulles Greenway Wetlands — Sunday, December 4, 8:00 a.m. Registration Required. Join LWC on a bird walk at the Dulles Greenway Wetlands Mitigation Project where we will look for ducks, raptors, and sparrows. Waterproof footgear recommended. To register sign-up online or contact Joe Coleman at jcoleman@loudounwildlife.org or 540-554-2542.

Birding Hotspots in Loudoun County — **Sunday, December 11, 8:00 a.m.** – **4:00 p.m.** *Pre-registration required.* Join Joe Coleman and Laura McGranaghan on a daylong search for sparrows, hawks, waterfowl, and other seasonal birds at some of Loudoun County's richest birding destinations. he group will meet at ANS's Rust Nature Sanctuary in Leesburg and then travel to Beaverdam Reservoir, Banshee Reeks, and the Dulles Wetlands, before ending the day at Lucketts. All levels of birders are welcome. This program is co-sponsored with the Audubon Naturalist Society. Fee: members (ANS & LWC)/\$30; nonmembers/\$42. *To register contact ANS at 301-652-9188 x16.*

Sharing Your Enthusiasm for Nature — Sat, December 10, 10:00 a.m. – 1:00 p.m. *Pre-registration required*. Join naturalist Phil Daley for this informative seminar, co-sponsored by the Blue Ridge enter for Environmental Stewardship. Participants will discuss the 'how to's' on leading small groups exploring the out-of-doors. We will discuss reference materials and equipment that will enhance a groups experience whether it is for children, family or adults. The basic purpose of this program is to increase the participants' knowledge and confidence in sharing their enthusiasm for nature with

Continued on page 12



others. Classroom: 1½ hours; followed by an interpretive walk; 1½ hours. Limited to 15 participants. Meet at the Blue Ridge Center's Education Center, located just north of Neersville, at 11611 Harpers Ferry Road, Rte 671. Detailed directions can be found on the website, www.brces.org. *To register contact Phil Daley at 540-338-6528 or pdaley@loudounwildlife.org.*

Annual Central Loudoun Christmas Bird Count — Wednesday, December 28. Join LWC as we participate in the National Audubon Society's Annual Christmas Bird Count. Started in 1899, these surveys are held all over the country, with the results used to better understand bird populations and dynamics. Our count-circle has a 15-mile diameter and covers 177 square miles of Loudoun's countryside: north to Waterford, south to Aldie, east to Ashburn, and west to Purcellville. This part of Loudoun County includes beautiful scenery and a variety of birds. Everyone is welcome, both beginners and expert birders (amateurs are teamed with experienced birders). If you are interested in participating for the whole day or just part of the day, sign up online or contact Joe Coleman at 540-554-2542 or jcoleman@loudounwildlife.org.

Calmes Neck Christmas Bird Count — Monday, January

2. The Calmes Neck Christmas Bird Count area, in far western Loudoun County and Clarke County, includes a wide variety of habitats, ranging from mountain forests to rural subdivisions to old farm fields and meadows, with the Shenandoah River running throughout. If you are interested in helping with this count, please contact Margaret Wester at 540-837-2799 or margaretwester@hotmail.com. Joe Coleman, jcoleman@loudounwildlife.org or 540-554-2542, and Phil Daley, pedaley@verizon.net or 540-338-6528, are sector leaders. Phil's area includes Round Hill and north, and Joe's area includes Bluemont south to Bloomfield. If you are interested in joining either of them, please contact each directly.

Butterflies in Winter — **Sunday, January 15, 1:30** – **3:00 p.m.** Location TBD. Where do butterflies go in the winter? How does a miniscule egg form into a beautiful creature of flight? Can you raise butterfly eggs to adulthood for release? These and many more questions will be answered by The Butterfly Lady, Mona Miller. Learn how you can help butterfly populations and encourage butterflies to over-winter in your very own backyard. This free program is sponsored by LWC. Please sign up online: www.loudounwildlife.org/SignUp.htm. *For questions, contact Nicole Hamilton at nhamilton@loudounwildlife.org.*

Winter Bird Walk at Bles Park — **Saturday, Jan 21, 8:00 a.m.** Join Andy Rabin for one of LWC's free bird walks at Bles Park in eastern Loudoun County. A mostly level, gravel path makes it easy to explore this park, which contains wetlands and is bordered by the Potomac River and Broad Run. Please bring binoculars. We will meet in the parking lot on Riverside Parkway. Directions can be found at www.loudoun.gov/Default.aspx?tabid=924. Admission to the park is free and there is ample parking. *Questions: contact Andy Rabin at stylurus@ amail.com.*

Searching For Birds Of Prey — **Sunday, January 22, 1:00 p.m.** *Registration Required.* Join Liam and Laura Mc-Granaghan on a winter raptor search. After meeting at a location TBD, we will drive the back roads of Loudoun County with frequent stops to find and identify the many hawks and an owl or two, who over winter here. *Sign up on-line or contact Laura McGranaghan at Imcgranaghan@loudounwildlife.org.*

Questions about the above programs?

Contact Joe Coleman at 540-554-2542 jcoleman@loudounwildlife.org

For up-to-date information on our programs, check our web site at:

www.loudounwildlife.org



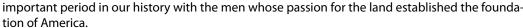
"I long for rural and domestic scenes, for the warbling of Birds and the Prattle of my Children...
As much as I converse with Sages and Heroes, they have very little of my Love or Admiration. I should prefer the Delights of a Garden to the Dominion of a World."

John Adams, Letter to Abigail Adams, July 3, 1776

Chirps

Founding Gardeners by Andrea Wulf by Donna Quinn

ur first four presidents — George Washington, John Adams, Thomas Jefferson and James Madison — saw themselves first as gardeners and farmers. They instilled love for the land into their vision of a strong and free country; their gardens not only helped shape America, America shaped their gardens. Andrea Wulf's **Founding Gardeners** takes us on a garden tour of our past, melding the politics of the most



Wulf describes the hot summer of 1787, when fifty-five delegates came together in Philadelphia to forge the legal framework on which the country would be built. The group of delegates sat in misery together day after day in stifling heat with closed windows to prevent eavesdropping. The stakes were high as failure to come to agreement would "show that we have not the Wisdom enough among us to govern ourselves" (Benjamin Franklin in a letter to Thomas Jefferson, 1757). By July, it seemed the Convention was on the verge of collapse with no accord on how the states'

interests would be fairly represented in a federal government. Perhaps to break the tension, at dawn on Saturday, July 14, a group of delegates decided to visit John Bartram's world famous garden to see his unrivaled collection of American flora. John greeted the prestigious visitors barefoot and with sleeves rolled up and together they strolled the beautiful grounds laid out to imitate the natural habitats where plants were found:

In Bartram's Garden, the delegates could see how the manifold flora of each state thrived together, their branches intertwined in a flourishing horticultural union... Never before in their entire lives had they seen so many different species of trees and shrubs...Here in Bartram's Garden, America's spectacular flora prospered in a vigorous horticultural embrace.

Two days later on Monday, July 16, compromise was reached and the plan approved.

Wulf admits we can only speculate the visit to Bartram's garden helped delegates gain perspective on issues, "But what we do know is that the three men who changed sides and made the Great Compromise possible that day had all been there (in Bartram's Garden) and marveled at what they saw." Perhaps political leaders today could find inspiration in the past and make long walks in gardens and forests part of their decision making process...

Our founding conservationist, James Madison, spoke of 'the economy of nature' and the reciprocity between plants, atmosphere, soil, and water. He exhorted farmers to give back what they took from the soil and understood, while plants derive their nutrition from the soil, they can also return it. He believed Americans were committing a 'calamitous' error in cutting down trees and was proud to preserve some of his own forest. He understood if America was to survive, its forests had to be protected.

Our founding fathers saw America as a robust and fertile land. The natural beauty of America inspired and guided them in their creation of a great nation. Readers today will enjoy rediscovering the firmly rooted spirit of America in Andrea Wulf's **Founding Gardeners**.

A "Spooky" Children's Nature Book Club Recommendation

by Carolyn Unger and Ellie Daley

re you a Spider? Backyard Book series by Judy Allen and Tudor Humphries, published by Kingfisher Books (other insects such as ant, bee, butterfly, etc. are covered in the series as well).

Are you a Spider? begins with exploring what your mother looks like if you are a baby spider and continues through stages of development — where to live, what to eat, who will eat you? At the conclusion, readers will be amazed by interesting facts: "Did you know there are more than 35,000 different kinds of spiders in the world?" and "The Goliath tarantula has a leg span almost as wide as a dinner plate!"

Activities to be shared with children: use hand lenses and 'magi-scopes' to view details of spider anatomy. Act out spider

behavior; make a spider and a spider web. Discuss the difference between a spider and an insect. Go on a spider hunt outside



— look for signs of spiders and spider webs. Ask questions: "Where are spider webs likely to be found?" "Can we see egg cases on webs?" "What did the spider have for dinner?"

These books are a treasure for children from preschoolers through second grade. Look for the series at www.kingfisherbooks.com. Through reading and fun activities, children learn about the natural world in an engaging and fun manner!

Northern Black Widow Spiders (Latrodectus variolus)

by Kerry Bzdyk

rachnophobia, anyone? I admit that even doing the research for this article gave me the creepy crawlies, but as with most things that are scary, black widow spiders are both beautiful and fascinating. I first became interested in researching these spiders after finding one in an overturned flower pot in my back yard. Its striking appearance identified it immediately, and its reputation inspired me to learn more.

The black widow belongs to a group of arachnids generally referred to as "widow" spiders. In our area, the Northern Black Widow (Latrodectus variolus) is most common. Like all spiders their bodies are divided into two parts: the abdomen and the head or cephalothorax. The female can be identified by her shiny black body and red or orange markings on the abdomen. These markings can be the classic hourglass shape but may also be variations of this with some having just red spots. The males and immature females can be brown to orange in color with white spots or stripes on the abdomen. The mature female has a body that measures about ½ inch and legs that also measure ½ inch.



Black widow spider with egg cases Photo by Liam McGranaghan

There is a common misconception that the female widow spider eats the male after mating, leading to the "widow" name. However, this rarely occurs, unless they are in an enclosed space where the male cannot escape. Black widows spin a strong, disorganized orb web in dark, undisturbed places and rarely stray far from it. After spring or summer mating, the female will lay up to 250 eggs in an egg sac about ½ inch in diameter that she guards in her web. She may produce several egg sacs in one summer.

Black widow spiders are not aggressive and are more likely to attempt escape than to bite; however, they will bite if they feel threatened or are handled. Their venom contains a powerful neurotoxin, and black widows are considered the most venomous spider in North America. Initially, the bite may not be painful, but as the toxic effect progresses the victim may feel stabbing pains at the site of the bite, followed by painful spasms of the larger muscle groups in the back and abdomen. Tremors, fever, and nausea may also occur. Symptoms can persist from 12 hours to a few days. If you suspect you have been bitten, remain calm,



Classic hourglass design on black widow spider abdomen Photo by Liam McGranaghan

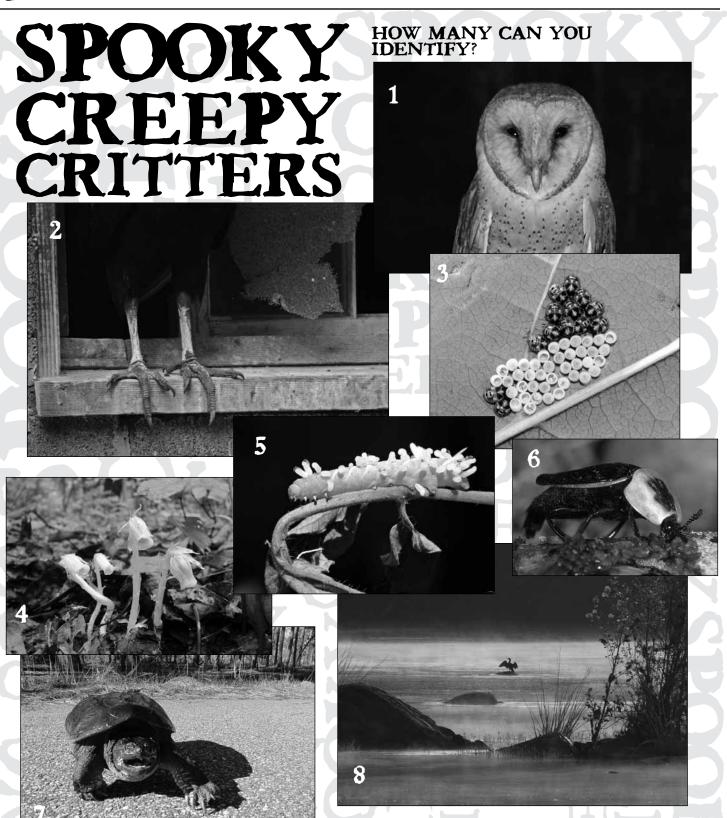
cover the bite with an ice pack to reduce swelling and pain, and call a health professional. Death from a black widow bite is rare (less than 1%), but medical attention is warranted and hospitalization may be necessary in some cases.

Like all spiders, black widows help control the insect population. So what did I do with the one in my flowerpot? I very carefully transferred her to a closed container and moved her to a faraway wooded area, so she could continue her important job of catching insects in her web. If you want to prevent a close encounter with a black widow spider, be wary in places black widows prefer: dark, dry, undisturbed spots like woodpiles, stone walls and remote corners of outbuildings. Also, it is advisable to wear gloves and long sleeves when working in these places.

Resources:

http://pubs.ext.vt.edu/444/444-422/444-422.html http://insects.tamu.edu/fieldguide/cimg368.html http://ohioline.osu.edu/hyg-fact/2000/2061A.html





Snapping turtle crossing the road Photo by Liam McGranaghan
 Double Crested Cormorant in the mist Photo by Gerco Hoogeweg

6. Carrion beetle Stock photo

5 Parasitic braconid wasp cocoons with host, Tomato Hornworm caterpillar Photo by Liam McGranaghan

4. Corpse plant (Monotropa uniflora), aka Indian Pipe Photo by Laura McGranaghan

3. Reproductive nightmare, stink bugs Photo by Liam McGranaghan

2. Black Vulture hide-out Photo by Liam McGranaghan

Answers: 1. 'Ghost' of the night, Barn Owl Photo by Liam McGranaghan



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Go ahead and leave your hummingbird feeders up!

es, it's true! Vagrant western hummingbirds have been reported in Loudoun County during the fall and winter months. While hummingbirds in winter are not common, they are not as rare as once thought. Leaving out nectar for these winter visitors may increase sightings, too.

It is recommended you fill hummingbird feeders half full, changing the nectar weekly. It may be necessary to bring the feeder in at night to keep it from freezing. If you are lucky enough to have a winter visitor, please share your sightings!

And don't worry, leaving your feeders out will not encourage Rubythroated Hummingbirds to stay in the area. Studies have shown Rubys begin to head south when the days shorten - neither food supply nor the weather has any effect on their behavior. However, nectar will provide much needed nourishment for winter hummingbird visitors!

www.rubythroat.org/ResearchHummerVagrantMain.html www.carolinabirdclub.org/hummingbirds/winterhummingbirds.html

