

Missouri Master Naturalist



Confluence Chapter
St Charles County, Missouri

May 2016, Volume 10, Issue 02

Your key to discovering the **Natural Missouri**



From
Our
President

nities to get out give of yourself to the community.

You are all invited to our June Annual Picnic which this year will be held June 14 at Broemmelsiek Park.

Alberta

Alberta McGilligan
President, Confluence Chapter



Master Naturalist
2016 Certification Pin

Eastern Collared Lizard
Crotaphytus collaris collaris



I hope you have had a chance to enjoy the sights and sounds of the long beautiful spring we are experiencing.

We have transitioned our meeting to the Weldon Springs Interpretative Center and find it fits us pretty well.

Word of the dedication and skill of Missouri Master Naturalists has led to us being approached by some new organizations for assistance. There are some very interesting projects that need assistance. Riverlands has asked for assistance and Babler State Park is asking for volunteers with some of their programs. In the next month or so you will be hearing about a Citizen Science Program. And of course there are our on-going projects that require volunteers to make sure they continue to succeed.

The Boat House has been cleaned from the river flood debris and a new driftwood sculpture has been donated by Martha Hessler's husband Jeff. I encourage you to swing by and take a look.

Missouri Natives Gardens at O'Fallon and Quail Ridge also need continuing care as well as bluebird monitoring, forest ecology etc. So many, many opportu-



Spring Bend
Has Babies!



Master Naturalist Gail Gagnon

Master Naturalist Allison Volk snapped this photo of a pair of red-breasted juvenile mergansers at Innsbrook Resort. A rare but pleasant site to see!



A partnership of the [Missouri Department of Conservation](#) and [University of Missouri Extension](#)
To engage Missourians in the stewardship of our state's natural resources through science-based education and volunteer community service.

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Milestones, Certifications, Annual Pins, and Other Recognitions



March



Bob Lee presented **Lee Phillion** with two appreciation letters and a plaque for her tireless effort on the Missourians for Monarchs project

since the beginning last year. She is stepping down from this project, and we wanted to show our gratitude for her dedication and commitment.

—Member Awards:

Paul Robbins presented the 2015 certification award to Bob Siemer.



Glen Bish received an award for 500 hours of service.



Members Jeff and Maria Bonney were presented a baby gift of a special "Master Naturalist in Training" bib and "blankie" for their newborn son Theo Bonney. It was made by Alison Robbins.



April

Chapter President, Alberta McGilligan, presented Sarah Pitzer with an honorary chapter membership and a book "The Warbler Guide."



As part of National Volunteer Week, the St. Charles County Parks Department recognized volunteers for their extraordinary service and dedication at Volunteer Appreciation Night. The celebration was held at the Lodge at **Quail Ridge Park** near Wentzville on April 14. In 2015, more than 500 community volunteers contributed 5,312 hours of donated time to the St. Charles County regional parks system.



Our chapter was represented by Connie and Larry Campbell; Leslie Limberg; Steve and Barbara Thomas; and Carmen Santos and her husband Russ Walker.

May

The following Master Naturalist completed the requirements for the 2016 Master Naturalist Certification.

Lee Phillion, Alison Volk, Cliff Parmer, Steven Thomas, Nancy Newcomer, Kathy Murray, Steve McCarthy, Pat McCoy, and Mark Williams

Lee Phillion, Steve Thomas, Allison Volk, and Mark Williams were present to receive their award.



MN Lee Phillion



MN Steve Thomas



MN Allison Volk



MN Mark Williams

The Missouri Department of Conservation encourages motorists to give turtles crossing roads a brake -- such as this three-toed box turtle. Check for traffic and then move turtles across the road in the direction they are traveling.





Meet Master Naturalist Valerie Geile

Written by
Master Naturalist Lee Phillion



She's witnessed the mating dance of Blue-footed Boobies, snuggled a Saw Whet owl, and banded buntings by the bunch. Valerie Geile (MN since 2007) is a birder extraordinaire—one of those “rare birds” among us who can identify a host of feathered friends by their songs.

But that's not all. Since taking the Tree Keepers class in 2008 and volunteering at Forest ReLeaf since then (to the tune of 100 plus hours a year), Valerie is darned good at identifying trees, too.

In fact, Valerie is well known for her “all hands on deck” approach to whatever piques her interest. When her daughters, Adrienne and Morgan, now 28 and 25 respectively, were young, Valerie led their Girl Scout troops from kindergarten

through high school. Both daughters attained the Gold Award as high school seniors.

Birding became a big part of Valerie's life when her daughters began to work on Girl Scout birding badges. “We did a bird hike with an expert and I was absolutely hooked on birds,” said Valerie. In 2005, she started volunteering at the World Bird Sanctuary, where she continues to work with the bird banding team.

“If you are a birder, you become a conservationist,” is how Valerie explains why she became a Master Naturalist. Her interest in trees is a logical outgrowth of her interest in bird habitat.

But that's not all. Remember the part about going all out in pursuit of interests? Valerie also likes jigsaw puzzles. It didn't surprise her husband of 37 years, Dave, when Valerie commandeered a chunk of floor space in their home to put together an 18,000-piece jigsaw puzzle.

Yes...18,000 pieces!

“My daughter Morgan found the puzzle at a flea market when she was studying in Germany,” said Valerie. “She used 40% of her luggage weight allowance to cart it home for me as a Christmas present!”

It took Valerie 585 (compulsively tracked) hours to finish the huge cardboard creation, which will be disassembled as soon as daughter Morgan gets to see it in person.

But that's not all. Remember the part about compulsive counting? In 2012 Valerie reached her goal of doing 10,000 pushups in a single year. That's just over 27 push-ups a day for 366 days (it was a leap year)! “Some days I did more so I could take a day off now and then,” noted Valerie, subtly flexing a toned bicep.

I knew she didn't get those arms weighing warblers!



Praying Mantis

The larger picture shows the native *Stagmomantis carolina* eating a monarch larva in transition to a chrysalis (or perhaps just molting to the next larval instar). There is a lot of concern about Chinese mantises eating monarchs, which is legitimate,

According to James Trager, climate issues and habitat loss have immensely greater impact on monarch populations than does the activity of any single predator.

Interestingly, all instances of predation by Chinese mantises on

(adult) monarchs that he has observed have been on *Liatrix scariosa* or *L. aspera*. Trager thinks we can agree this does not mean we shouldn't plant these species in our native plant gardens.

James Trager
Shaw Nature Reserve



Praying Mantis Cocoon





Master Naturalists in Action

Thank you to all of the MMNs who have volunteered at the **Nature Explore Classroom** during our eleven field trips in April and May. **Leslie Limberg** has contributed the most time to giving children the opportunity to discover nature! Kudos to this grand educator!



Glenn Bish informed youngsters about the kinds of fish they will find in Missouri waters and how to catch them. Who knows which of those children have caught the "fishing bug" from him?



Alberta McGilligan, Alison Robbins, and **Jean Harmon** have again aptly informed the students about plants and animals found in and around the classroom area. **Allison Volk** has been our new volunteer who has shared her vast knowledge of the outdoors with many children. Giving time to share nature with a child is an activity that gives a lasting legacy. Thank you to these volunteers!



MN Connie Campbell

Conservation Day

Seven members of the Confluence Chapter spent a rewarding day with the third graders at Heritage Intermediate School in Wentzville on April 8, 2016.

Jim Middleton taught the children about animal tracks and had them make a relief picture of a track of their choice. They attached a picture and description of the animal to the track and took this home as a reminder of what they had learned.

Allison Volk informed the students about Missouri Eagles and was able to show them videos of the pair of eagles nesting on her property. (Check out the eagle on her hat!)



Alison Robbins and Martha Hessler gave a program called "Heads or Tails" and showed the youngsters skulls, pelts, mounts, and



pictures of various Missouri animals.

Leslie Limberg enlightened the students about how to attract birds to their backyards. She brought many "show and tell" items to illustrate what she was saying.

Tom Nagle told the children how to plant and care for young trees and gave each student his/her own tree to take home!

Connie Campbell had the young people using all sorts of tools to show how birds with different kinds of bills eat different kinds of food. MDC educational mounts and materials were used by many of the presenters.

Cuivre River employees brought live reptiles and amphibians to show. The students and teachers were very appreciative of the expertise shared during this annual day of bringing nature to the students in this school.

Thank you to all who participated!

MN Connie Campbell

Wetlands for Kids

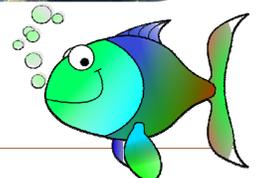
MN Leslie Limberg

Again for the 7th year in a row, the Confluence Chapter teamed up with other conservation groups at Busch Wildlife for April's Wetlands for Kids. Estimates say around 2,000 visitors attended the windy Saturday event.

Thanks to the Cliff Parmer and Glenn's (Bish) leadership, we taught kids of all ages how to cast for fish (plastic fish on a tarp) with a real fishing rod and reel. Aquatic habitat posters added to their understanding of wetland ecology. Even the adults learned good tips. It was fun.



Go fish!





It's Not Just Noise That Makes City Birds Sing a Different Tune

May 3, 2016, Conservation This Week Univ. of Washington, Used by Permission

Scientists know that bird song sounds different in cities than it does in rural areas. For example, birds tend to sing at a higher pitch in urban habitats because higher frequencies carry better over the rumble of traffic, construction, and other noise in cities.

But noise isn't the only salient characteristic of city habitat, and other qualities of bird song also vary between city and country sites. Yet so far, few studies have investigated what other environmental features might drive how city birds sing.

A new study by Ohio State University researchers is the first to simultaneously assess multiple potential explanations for urban bird song changes. The researchers recorded the songs of 66 male northern cardinals in 9 forest patches—some heavily urbanized, some rural, some in between—in the Columbus, Ohio area.

Male cardinals sing both to attract females and to keep other males off their territory. Cardinals do well in human-dominated habitats, breeding successfully in both the city and the country. In fact, the birds can be found at four times higher densities in urban compared to rural areas, especially on sites with thick, shrubby understory vegetation. Many other generalist bird species also reach higher population densities in cities.

The researchers visited the study sites weekly from March through August, the cardinal breeding season, they report in a recent paper in



Behavioral Ecology. Spectrograms of the recorded songs show that, as expected, urban cardinal songs are higher pitched, with minimum, maximum, and peak frequencies increasing along the rural-to-urban gradient. The data also show that urban territories are noisier and songs are higher pitched in noisier territories, all in line with previous findings.

Urban songs are also longer and faster than rural ones, the researchers found. Longer, faster songs have also been reported in previous studies of urban birds, although no one has investigated why these shifts occur. In fact, these findings have puzzled scientists because slower songs would be expected to carry better over urban background noise.

But the new study was able to pinpoint the reason. The population density of cardinals is higher in urban areas, and song length and speed increase along with population density. "The longer and faster songs of males from sites with high densities may be a behavioral consequence of increased territorial interactions between neighbors," the researchers write. In other words, male cardinals in crowded urban environments have to defend their territories against more potential intruders, and this causes them to sing longer songs and sing more rapidly.

Most previous studies of urban bird song have only looked at how the physical environment differs in cities, and have missed the social context, the researchers point out. But social life in cities differs for birds just as it does for people. Future studies should investigate multiple possible explanations behind "urban" changes in wild-life behavior, they say.

Narango D.L. and A.D. Rodewald. "Urban-associated drivers of song variation along a rural-urban gradient." Behavioral Ecology

Brown-Headed Cowbird

Molotbrus ater



MN Carmen Santos

This winter I saw a solitary male cowbird (as the one pictured above) sharing one of my birdfeeders with all the other birds. I had never seen a cowbird on my feeders. I noticed that he was standing in one leg and I wondered if he had lost his other leg or was sick.

He continued to visit the bird-feeder every day. He would join every-one and the other birds did not seem to mind. I sort of felt sorry for him and kept watch.

Later in the winter I saw him standing at the bird feeder on two legs! I was happy for him. After a while he never came back. I would like to think that he was well enough to fend for himself and did not need my feeder.

Cowbirds are named for their habit of following cattle to catch the insects that the mammals stir up from the grass. The birds originally followed bison but switched to cows when herds of cattle replaced bison on the plains. Many people do not welcome cowbirds into their yard, because they arrive in flocks and quickly devour food put out for smaller, more colorful birds.

Cowbirds are nest parasites: they do not build nests but lay their eggs in other birds' nests. The cowbird finds a nest where the parent bird is laying and slips in an egg or their own. Often the foster parent ejects the strange egg or abandons her clutch to start a new one. If the cowbird is accepted, it hatches sooner than the others, and the cowbird nestling outgrows its nest-mates.





Say Hello to Our New National Mammal!

The American Bison officially joined the ranks of the Bald Eagle as the official symbol of the U.S. when the National Bison Legacy Act was signed into law. And much like the eagle, the bison is one of the greatest conservation success stories of all time.

WHY PLANTING WILDFLOWERS COULD HELP FEED THE WORLD

Many studies have shown that planting strips of wildflowers amidst croplands can help replace some of the biodiversity that is lost in the quest to feed a growing, global population. More recently, studies have demonstrated that the increased biodiversity found in these strips includes species of insects and birds that act as an all-natural pest control, reducing or eliminating the need for pesticides.

How these strips affect crop yields, however, has been largely unexplored. That's the topic researchers tackled in a study published recently in the journal *Agriculture, Ecosystems and Environment*. They found that the presence of nearby perennial, species-rich wildflower strips increased winter wheat production by 10 percent as compared to control fields.

"Farmers care about biodiversity and they likely also know about the importance of natural enemies of crop pests,"

said lead author Matthias Tschumi. "But what is mostly decisive for the farmer is what he gets in terms of yield at the end of the day."

Scientists from Agroscope, the governmental Swiss Centre of Excellence for Agricultural Research, conducted the research on Swiss winter wheat fields, which are often plagued by the cereal leaf beetle—a major pest in Europe, Asia, and parts of North America. They took advantage of the many farms that have implemented wildflower strips as part of a government subsidy program that aims to boost biodiversity on farm lands.

The researchers selected ten pairs of fields that were similar in terms of their landscape and how they are managed. In each pair, however, one field was adjacent to a previously established wildflower strip and the other to a crop field. (Pesticides were not used on any of the fields.) Over the course of a few months, they measured cereal leaf beetle eggs and larvae, crop damage and crop yields, at 5 meters and 10 meters from the border of the wildflower strip. They found a 44 percent reduction in beetle eggs, putting it under the threshold for pesticide application, a 66 percent reduction in larvae, and 40 percent reduction in crop damage, all at 5 meters. Crop yields, however, increased at both the 5 and 10 meter marks.

The wildlife strips provide habitat for natural predators of other known wheat pests, so reductions in pests other than the cereal leaf beetle—not measured in this study—may have contributed to the increased yields, Tschumi said. While Tschumi said he was surprised at how big of an effect they found on crop yields, the paper did

not take into account any losses in yields that farmers would incur if they set aside arable lands for wildflower strips. He also cautioned that while the range of effect of 10 meters is significant for the scale of Swiss farms, it may be "rather ridiculous" for the scale of many American farms. That said, some of the natural predators present in the wildflower strips are highly mobile, he said, and effects may well extend to greater distances and should be assessed in future studies.

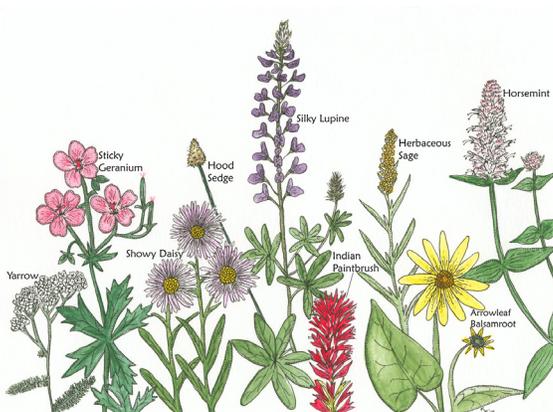
Even still, Tschumi hopes that the findings in this study, which constitute a win-win for biodiversity and farming, will sway more farmers to incorporate wildflower strips into their farmlands.

From Conservation Magazine, University of Washington; Used by permission

"Keep close to Nature's heart... and break clear away, once in a while, and climb a mountain or spend a week in the woods. Wash your spirit clean."

John Muir

Born April 21, 1838, Muir has become America's most famous naturalist and conservationist. He shared his love of the outdoors through writing and inspired people to protect our country's wild places—earning him the nickname the Father of the National Parks. His passion for these special places fueled the formation of the National Park Service, which will celebrate its 100th anniversary this year.





Follow Your Nose to Healthy Soils

Jodie Reisner, agronomist with the USDA's Natural Resources Conservation Service.

Do you want to know where some of the healthiest soils in Missouri are located? Some rural residents and motorists are learning that all you have to do is follow your nose.

Cover crops are a key management tool that farmers use to maintain and improve soil health. Some of the cover crops die out during the winter, which can produce a bit of an odor.



The odor, sometimes confused with the smell of natural gas,

has resulted in calls to authorities in several Missouri farming communities from citizens who suspected a gas leak. However, Reisner says there is no danger associated with the smell of decaying cover crops.

Cover crops are an integral part of a cropping system that sustains soil health because they develop an environment that sustains and nourishes plants, soil microbes and beneficial insects. Cover crops help increase organic matter in the soil, improve water infiltration, and reduce the need for chemical fertilizers, herbicides and pesticides. Along with crop residue above ground, cover crops protect the soil against the erosive impact of raindrops and strong winds. They trap excess nitrogen, keeping it from leaching into water supplies and preserving it for later use by crops. Cover crops can provide grazing opportunities, and they provide winter food and cover for birds and other wildlife.

Cover crops are typically planted in late summer or fall around harvest and before spring planting of the following year's cash crops. Examples of cover crops in-

clude cereal rye, oats, turnips, oilseed radishes, triticale, and legumes such as clover.

The main culprits for producing odor, oilseed radishes, are also among the most beneficial cover crops.

Oilseed radishes develop a unique tap root that reaches depths up to 20 inches and has smaller roots that can reach down into the soil 4-5 feet. Those roots can penetrate compacted soil layers and access nutrients for the following crop. Radishes and other cover crops suppress weeds, and as the plants die they provide an excellent seedbed for the following crop. Like other plants in the mustard family, oilseed radishes exude chemicals that help suppress soil pests like nematodes or soil borne diseases.

After the radishes have disintegrated over the winter, the plant leaves macro pores which are excellent for water infiltration and capturing spring rains. Rainwater getting into the soil and reducing soil erosion is an important benefit.



Oilseed radish. Photo provided by Dr. Ray Weil, University of Maryland.

Oilseed radishes also make an excellent forage for cattle. Many farmers utilize them to provide forage for their cattle after their pasture grasses have gone dormant.

There are four basic principles to improve soil health and sustainability. They are: 1) Use plant diversity to increase diversity in the soil; 2) Do not disturb the soil by tilling it; 3) Keep plants growing throughout the year to feed the soil organisms; 4) Keep the soil covered as much as possible.

Healthy soils are alive. In fact, one teaspoon of healthy soil contains more living organisms than there are people on Earth.

Just like people, the earth-

worms and organisms that are prevalent in healthy soil need to eat. Plant roots are their buffet. Unfortunately, sometimes their buffet doesn't smell so good to us.

Indian Pink

An uncommon native wildflower that grows in rich, moist woods and along wooded stream banks. A clump-forming herbaceous perennial reaching a height of 12 to 18 inches. The leaves are emerald green, ovate to lance shaped, opposite each other along the stem and do not possess leaf stalks (pedicels).

It is one of our most attractive wildflowers. The flower (inflorescence) is a one-sided cyme (flower head) of upward facing brilliant red tubular flowers that are constricted near the top of the flower where it then flares out to reveal 5 short tips that are that reveal a bright yellow interior. Indian Pink flowers in late spring during May and early June. It belongs to the tropical Logania family (Loganaceae).

The native plant nursery trade has taken some interest in cultivating Indian Pink because it is perennial, will grow in shade, has a fairly long blooming period and is pollinated by hummingbirds. It is easily grown in average, medium wet well-drained soil in full to partial shade.

http://www.fs.fed.us/wildflowers/plant-of-the-week/spigelia_marilandica.shtml



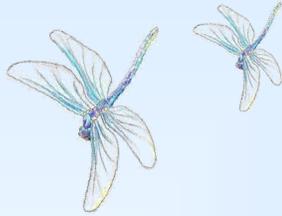
Photos by Carmen

Come visit this MO Native flower at our O'Fallon Public Works Project





Thank You!



♥ To the Quail Ridge Park Controlled Burns Experts Tony Peper, Nick Dziuba, and Chuck Collins for helping our team burn all the grasses and other plants at our Quail Ridge Prairie Demo project.



♥ Alberta for juggling her MMN presidency with her grandson Ben. Thanks to her, he has new teeth, a new doctor, and is well on his way to kindergarten. Alberta is the steward of future stewards.

♥ Thanks to Connie Campbell for her continued commitment to our Nature Explore Classroom. She has again successfully managed outdoor education for 580 students and 175 adults.

♥ Thanks to Allison Volk for her authentic enthusiasm for the Confluence Chapter

♥ Thanks to Joe Veras for stepping up to another year of Bluebird Care. Our Quail Ridge birds are safe from House Sparrows and are fledging as we speak.

♥ Thanks to Alison Robbins for taking good care of us with clothing and food while juggling households and her church group.

♥ Weatherman Steve Thompson for his excellent May presentation



Our Leadership



- President—Alberta McGilligan
- Vice President—Tom Nagle
- Secretary—Martha Hessler
- Treasurer—Peg Meyer
- Advanced Training—Jim Middleton
- Volunteer Coordinator—Glenn Bish
- Membership Services—Allison Volk
- Communications—Leslie Limberg
- Web Site—Rick Gray
- Photography—Don Moyer
- Newsletter—Carmen Santos

Advisors

- University of Missouri Extension, Rich Hoorman
- MDC, Colleen Scott, Colleen.Scott@mdc.mo.gov

Project Leaders:

- Daniel Boone Hays—Bob Coffing
- Matson Hill Park—Bob Coffing
- Cuivre River and Don Robinson State Park—Bob Coffing
- Confluence Chapter Stream Team #3612—Cliff Parmer
- Babler State Park—Alberta McGilligan and Bob Coffing
- Lewis & Clark Boathouse and Nature Center— Leslie Limberg
- Quail Ridge Prairie Demo and Rain Garden—Carmen Santos
- Bluebird monitoring - Mindy Batsch
- Nature Explore Classroom Education— Connie Campbell
- O'Fallon Public Works Project— Carmen Santos
- 2014 Capstone Project at Rotary Park— Bob Lee and Gail Gagnon.
- Rabbit Habitat—Nancy Newcomer
- Missourians for Monarchs—Bob Lee
- Birding Club—Gail Gagnon



Did you spot the Lady Bug (Coccinellidae) larvae in the front page?



The Confluence Chapter was founded in 2005 as the fifth Master Naturalist chapter in Missouri. The chapter was formed by 24 individuals from St. Charles County, St. Louis County, and St. Louis City after completing the Missouri Master Naturalist™ training program. We share a common interest in nature and in volunteering to help protect, preserve and restore Missouri's natural heritage. Most of our members live in the region West of the Missouri-Mississippi Confluence and from both north and south of the Missouri River.

We operate according to the bylaws and operating handbook of the Missouri Master Naturalist Program developed by the Missouri Department of Conservation and University of Missouri Extension.

Visit us at <http://www.mmnconfluence.org/>

