



The Rectrix

A seasonal newsletter of the Missouri River Bird Observatory

Volume 10 No. 2, Spring 2020



rectrix [rek-triks] noun. (pl. -trices) any of the larger feathers in a bird's tail, used for steering in flight.

MISSION

The Missouri River Bird Observatory is a 501(c)3 non-profit entity dedicated to the conservation of Missouri's migratory and resident birds through scientific research, community outreach, K-12 education and conservation policy advocacy.

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On the cover
Connection by Jacob Walter

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In Memory of Brad Jacobs

We regret the recent passing of avian ecologist Brad Jacobs. Brad (with Saw-whet Owl in the picture below) was a life-long bird expert, enthusiast, researcher and conservationist. He mentored countless numbers of Missouri birders and ecologists including some of the MRBO staff. A wonderful article on his life and some of his accomplishments can be found in the [Columbia Missourian's May 14th edition](#). The LeConte's Sparrow, below left, is a species that MRBO's Dana and Ethan Duke saw for the first time while on a Christmas Bird Count with Brad.



MRBO in the Time of CoViD

by Dana Ripper, MRBO Co-Director

The one topic that's on everyone's minds this spring, of course, is the coronavirus pandemic. I'm sure you've received countless emails from the organizations you're involved with, detailing the ways in which the pandemic is affecting operations. I certainly have! MRBO is no different, though I like to think we have adapted fairly quickly and for that I have the awesome MRBO staff to thank. Immediately upon it becoming apparent that Covid was going to have a significant effect on our activities, the staff got together via Zoom and started revising our plans for field work and education events. We have now spent hours on video calls discussing, revising, improving and adapting our work to current events while maintaining focus on our strategic framework (our "eggs" right).

One of the primary, and most initially disappointing, changes to the MRBO schedule has been the cancelling of education events and public outreach programs. Just like most individuals and organizations, as of late March our calendars were wiped out for the foreseeable future. However, disappointment quickly turned to creativity as we moved all of our outreach efforts to the virtual realm. Paige discusses this in her articles later in this newsletter. Though technology can be a double-edged sword at times, over the last couple of months I have felt very fortunate to have internet-based possibilities for meetings and outreach. Without these modern tools, much of MRBO's work would have come to a halt.

On the field work front, we consulted with and were advised by other organizations across the country as well as our project funders and partners. You can see in the chart below the status of each project. In some cases, we had to suspend field work due to the constant amount of travel involved. In other cases, we are continuing to operate on a geographically limited basis and with well-developed safety guidelines in place. Again, the MRBO staff members, both permanent and seasonal, have been very flexible and adaptable to the ongoing situation. It is because of their dedication and willingness to adjust to the unusual logistics that we are able to operate well and safely.

Drawing back for a larger view, this global situation has caused many people to contemplate our collective lifestyle and resource use. There is an endless stream of stories about people spending far more time in the outdoors for their physical and mental health, as a necessary break from home isolation, and as a relatively safe way to get some human interaction. As a conservationist, moving forward I hope to witness an existential shift in the way people value the natural world. Ideally this value shift would manifest as a reduction in consumerism of throwaway items, in a respect for wildlife and the habitats they need, and in policies that genuinely protect our natural resources.

In closing, I'd like to extend my deepest appreciation for MRBO's supporters, who are more crucial than ever to the organization's continued work. Possibly the most-used phrase for the Covid era is "in these uncertain times". Almost every organization devoted to wildlife and natural resource conservation experiences financial uncertainty at times, but during this pandemic era that uncertainty is greater than ever. In addition to MRBO, there are also other outstanding Missouri organizations with whom we regularly partner to consider supporting during this time; many of them are mentioned in this newsletter. I'd also ask that you please consider contacting your elected officials to express your support for local, state and federal wildlife conservation agencies. Their critical work continues amidst budget upheavals and, frequently, concerted political attacks that undermine their ability to protect wildlife and natural systems.

Quality
Habitats

Feeding the
Flock

Bird-Friendly
Communities

People in
Nature

PROGRAM	CURRENT STATUS
GRASSLAND BIRD SURVEYS & NEST MONITORING	Operating on a limited basis in southwest Missouri only.
WETLAND BIRD SURVEYS	Suspended until 2021 due to the extensive amount of travel required for this project.
BIRDSAFE KANSAS CITY	Operating on a very limited basis by one of the project coordinators; hopefully volunteers will be re-engaged in for the fall migration 2020 season.
YOUNG EXPLORERS CLUB	Offered as an at-home experiential study; so far this has been very popular!
COMMUNITY OUTREACH	Continuing in the virtual realm with webinars, discussion panels, and extensive online resources.

New and Renewing Supporters

Since the publication of MRBO's fall newsletter

Robert Hansen	Kansas City	Mary Wight-Carter & Bart Carter	Midlothian TX
Todd Hartley	Marshall	Bill Moran	Leawood KS
Brenda Christy	Arrow Rock	Valerie Vreeland & Charlie Yazak	Wellsville NY
Jamie Coe	Fulton	Lee & Jacob Walter	St. Louis
Steve & Regina Garr	Jefferson City	Bob & Pat Perry	Rolla
Mariella Kerr	Bellingham WA	Kalen Brady	Rolla
Donna & John Huston	Marshall	Bill & Carol Edson	Naperville IL
Sue Kelly	Columbia	Patricia Wilson	Raytown
Tom Tucker & Tina Yochum-Magaz	Kansas City	Elizabeth Fuemmeler	Lee's Summit
Klaire Howerton	Ozark	Douglas Doughty	Chillicothe
Steve & Anita Byers	Nevada		
Rockne & Luann Corbin	Arrow Rock		
Kathy Gates	Fairway KS		



*With special thanks to
Terri Trantow & Paul Witek
and Burroughs Audubon
Society of Greater Kansas City*

Supporter Spotlight

My name is Klaire Howerton, and I have loved nature, conservation and wildlife preservation for as long as I can remember. I grew up on 15 acres in the woods in Ozark, Mo, and spent a good deal of my childhood on my horse or on foot exploring my home. Hunting, foraging for wild edibles and creating wildlife habitat were things my whole family was involved with, and have continued to play a large role in all of our lives.

I now live on a six-acre farm (Green Thicket Farm) in Springfield, Mo, with my husband, Caleb, and our three Great Pyrenees, one rescue mutt, four cats, a breeding herd of Idaho Pasture Pigs and a small flock of sheep. It has always been important to Caleb and me that we manage our land in the most diverse and sustainable ways possible. We chose to share our home with our pack of working Great Pyrenees not only because they make wonderful, loyal companions, but also because they allow us to employ non-lethal predator control as they guard our stock, helping us to live harmoniously with the neighboring wildlife. Idaho Pasture Pigs were our breed of choice for hogs because they have been heavily selected for grazing tendencies over rooting, which is gentler on our forages and soils. Some of our other sustainable farm management projects include installing crossfence for rotational grazing and planting many different types of native fruit and nut trees through a grant from the Natural Resource Conservation Service.



An ongoing project for our farm is always creating a better habitat for birds. We are fortunate to have a large pond on our property, which serves as a water source, and we have also created some brush piles from cut and fallen tree branches that the resident birds use frequently. There are multiple bird feeding stations and birdhouses around our home, and one of my favorite things to do is birdwatch in the morning while I drink my coffee. We also do not mow our lawn – while some of our neighbors are not fond of this particular conservation strategy, we are proud of it because this year we started attracting Savannah Sparrows with the help of our tall grass!

My sister, Klee, is an avid birder and helps us with bird ID, and we are grateful to have her, my brother Kade and my parents living just up the road. I discovered MRBO through Klee; she participated in the summer intern program in Arrow Rock, and Caleb and I had the opportunity to visit her a couple of times during her stay. I fell in love with Arrow Rock and was so excited to have Klee show us around the birding hotspots! As we learned more about MRBO's mission and saw how wonderful Klee's experience was, I knew I wanted to stay in touch and find ways to support this organization whose ideals lined up so perfectly with mine. When my birthday rolled around in March, I was given a fundraising opportunity through Facebook- I had never participated in the social media site's fundraisers before, but I knew exactly who I wanted to try and raise money for. I shared my MRBO experiences with my friends and family online, many of whom are also passionate about wildlife and the outdoors, and by the end of the fundraiser my people had donated over \$450! I am so thrilled that I could support MRBO in this way, and I hope to continue to be able to do so in the future.

Species Highlight: Rose-breasted Grosbeak

by Matt Longabaugh, MRBO Seasonal Technician

We chose to spotlight a colorful, beloved harbinger of spring migration that many Missourians may have already seen at their feeders: the Rose-breasted Grosbeak!

In Missouri, the first week of May sees more Rose-breasted Grosbeaks than any other week of the year. The number statewide will plummet throughout May as migrants continue to pass through and breeding birds start to settle into deciduous woodland across Canada and the northeastern United States.

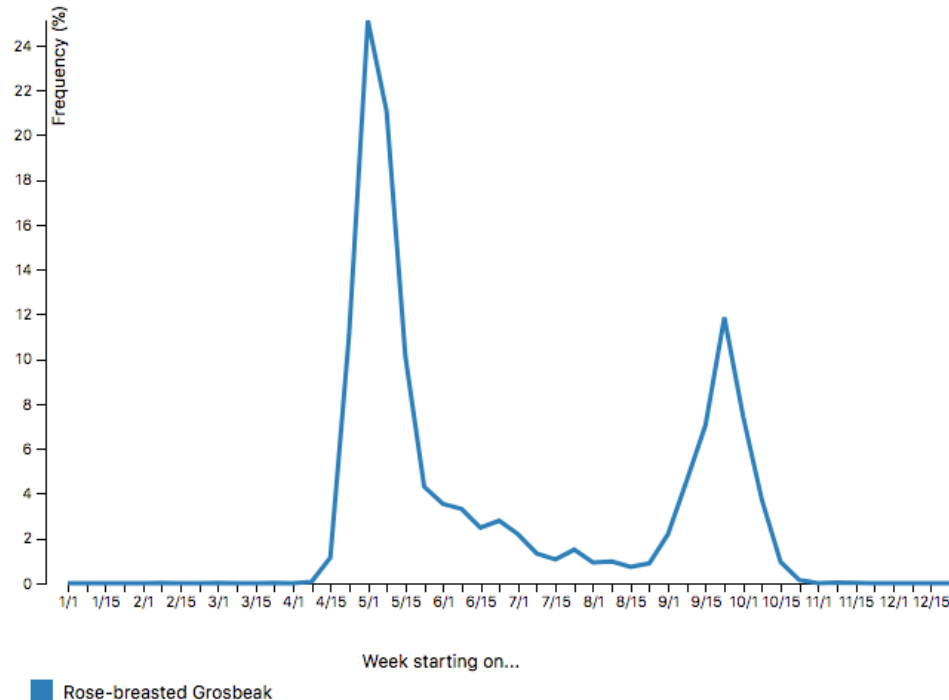
Those who decide to stay for the summer will depart in late September and early October to winter in Central and South America, from central Mexico to the Andes of Ecuador, Colombia, and Venezuela.

In both its breeding range and wintering range, the Rose-breasted Grosbeak dines upon a wide variety of food items: berries, insects (predominantly beetles but also caterpillars, grasshoppers, moths, and ants), seeds, spiders, snails, and flowers. They are surprisingly agile aerialists and can glean insects from foliage while hovering and even catch them midair much like a flycatcher.



Interestingly, it is believed that fire suppression in the 1900s may have facilitated hybridization between Rose-breasted Grosbeaks and their western counterpart, the Black-headed Grosbeak. As forest crept into grasslands of the Great Plains the ranges of the two species began to overlap. Hybrids can show some odd combinations of colors and patterns - keep your eyes peeled!

This spring, take time to learn the song of the Rose-breasted Grosbeak - think American Robin but even more melodic. Males will sing at length to defend their nesting territory, but also have a surprising capacity for physical aggression.



What was the first day you saw a Rose-breasted Grosbeak at your feeder? Let us know by emailing mklongabaugh@gmail.com and we will post all the results on our Facebook page!

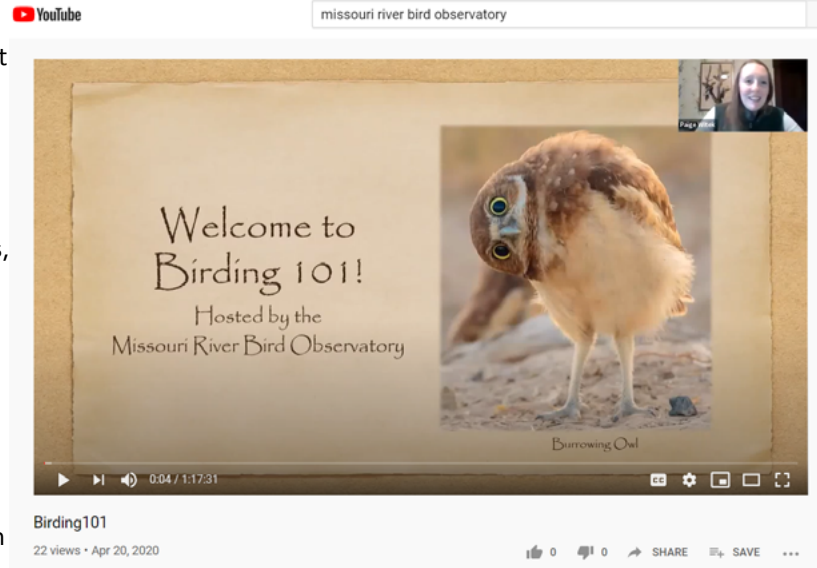
Graph created in

eBird

Education Update: Going Virtual

by Paige Witek, MRBO Education Coordinator

Our organization, like many organizations right now, is beginning to brainstorm various ways to adapt to the current environment. How do we continue to reach people with our mission and our message? How do we do so in a way that meets people where they are? One solution that seemed obvious was to start providing online presentations, or webinars, on various topics we thought people might be interested in. We wanted topics that not only provided facts, but also provided ways to interact with the outdoors while sheltering in our homes. We had the technology capabilities and the presentations made from earlier programs and now was the time to put them together. Our biggest challenge was to figure out the details of the webinar technology. Our organization uses Zoom Webinars for our platform. This is by no means an advertisement, but we have found it to be very user-friendly while still providing useful capabilities. Most of our time at the beginning was spent on the platform pressing different buttons to see what they would do. We were trying to figure out, "What does our audience see when we do this?" and "What is the best way to 're-write' this program for this platform?" It took some time to figure out (and we are still figuring it out), but it has paid off by providing you, our supporters, with more information about birds and our work and it has given us some current and meaningful work to do. The best part is that if you miss a webinar you can find the recordings on our website and YouTube channel.



In addition to these webinars, we have found social media to be a key player in the game of continuing to reach new audiences. In our last issue, we talked about how Wacky Fact Wednesday posts have provided fun information and a continued presence on our Facebook page. Now, we are expanding our thinking into other possibilities. One aspect of social media that we are developing is short, fun, educational videos not only for platforms like YouTube, but for Facebook LIVE, Snapchat, Instagram and maybe even TikTok. We have a lot of ideas in the works so be sure to look out for what we come up with on our various platforms. Stay tuned everyone!

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Webinar Ideas: Have a topic for a webinar you would like tune into? Email it to paige.witek@mrbo.org to make it happen!

Check out our upcoming webinars or watch previous ones at <https://mrbo.org/mrbo-webinars/>

Paige's Top Five Resources for Kids at Home



Have you or your family been getting bored? Are you at a loss when it comes to finding ways to both engage and entertain the kids? Well fear not because MRBO's Education Coordinator and the internet are here to help! Below you will find Paige's top five favorite resources for kids at home, along with some descriptions about what to specifically look for on the sites. You can also find links to these resources on <https://mrbo.org/resources-for-teachers-and-parental-guardians/>.

People in
Nature

1. The Cornell Lab K-12 Education: Science and Nature Activities for Cooped Up Kids
Link: <https://www.birds.cornell.edu/k12/science-nature-activities-for-cooped-up-kids/>

This is my number one resource if you are looking for a continuum of hands-on educational activities that build off each other. The activities have more of a classroom-style structure, but the authors give plenty of ways to adapt the activities to a family fun environment. I highly recommend starting with Week 1 and providing a prize to those who get to the end! Also, there is a 'Family Quests' section at the end of the webpage that you should make sure to check out for community connection.



2. Environment Missouri: Greener Together

Link: <https://environmentmissouri.org/feature/ame/greener-together-0>

This webpage is FILLED with great activities and resources. AND Environment Missouri is (obviously) Missouri-based so you can get local information. This webpage contains a printout of the 'Nifty Fifty Activities', nature in the neighborhood bingo, nature in the neighborhood scavenger hunt, activity pages, coloring pages and so much more! If you are looking for ways to reconnect to the environment, this is YOUR resource.

3. Bird Song Hero by the Cornell Lab

Link: https://academy.allaboutbirds.org/features/bird-song-hero/bird-song-hero-tutorial#_ga=2.263517770.73174069.1588439293-1046537574.1587323320

I apologize for that long link but like I said, you can also find this on our website (link above). This resource is a GAME! A game that helps teach you how to identify bird song. Whoa, so cool. I highly recommend this resource

not only for kids, but anyone who is interested in brushing up on some bird song!

4. Flap to the Future also by the Cornell Lab

Link: https://academy.allaboutbirds.org/features/flaptothefuture/#/_ga=2.100309976.73174069.1588439293-1046537574.1587323320

Flap to the Future is a computer game. A computer game to help players understand the adaptations birds evolved that help them fly. Cool! This is how the website describes it, "How birds evolved flight is still hotly debated by biologists and paleontologists, so what we've presented is a simplification of lots of fascinating scientific knowledge and questioning." I have played it myself and although I found it challenging, it can be fun and worthwhile.

5. Audubon's Six Kid-friendly Field Guides

Link: <https://www.audubon.org/news/six-kid-friendly-bird-guides>

This is an article written by the National Audubon Society that goes through six different field guides that are better suited for kids. Why special guides for kids? Well here's how Audubon puts it that sums it up nicely, "Field guides can be intimidating to any kid who's just getting into birding. There are hundreds of different North American species to flip through, many of which appear dizzyingly alike (I'm talking about you, *Empidonax flycatchers*). There's confusing jargon, from "coverts" and "auriculars" to "riparian" and "hybridization." And then there's the weight: For some of the heftier ones, it's like lugging around an unabridged dictionary. That's why kid-friendly guides are the way to go. Most of them offer a simpler layout—with short descriptions and range map—and only include common species that young birders are likely to see close to home. More importantly, they have easy-to-reference photos and colors that really pop, Casey O'Connor, an employee at Cape Cod's famed Bird Watcher's General Store, says." This is the perfect time to get started with bird identification and having a good field guide is the first step.



ALSO!

This year MRBO's Young Explorers' Club has gone virtual! Each young explorer who registers will receive an 'Exploration Kit' in the mail with all the tools and instructions for individual nature exploration and discovery. Each week's activities will focus on a certain topic pertaining to nature and exploration. In the kit, you will receive written instructions on how to do each activity as well as instructions on how to access video instructions online. There will be an optional Virtual Social Hour on the Friday at the end of each week to discuss what everyone discovered. Then, at the end of the summer, each participant will become a Certified Young Explorer by the Missouri River Bird Observatory! See more and register at: <https://mrbo.org/young-explorers-camp/>

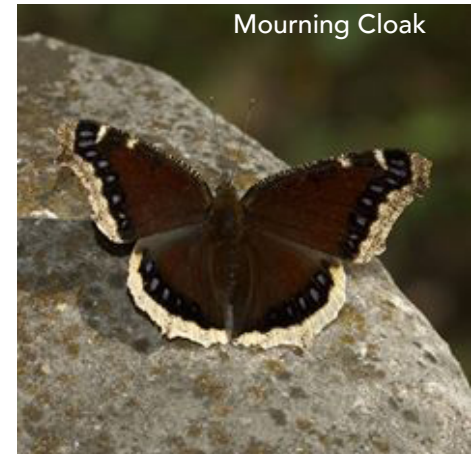
Bold & Beautiful: Meet Some of Missouri's "Toughest" Butterflies

by Elizabeth Stoakes, MRBO Supporter and Burroughs Audubon Society Board Member

Spring brings us the wonders of migration and birders typically spend most of this time with their heads "in the clouds" looking for warblers and other colorful avian friends. But if we search nearer to the ground, warmer temperatures and longer days also reveal other intriguing "things with wings"--our earliest butterflies of the year.

Butterflies are considered the epitome of fragile, delicate beauty. But did you know that several species in Missouri actually survive winter as *adults*? Here are four species to watch for as you roam outdoors; this limerick summarizes their most amazing talent.

**Mourning Cloaks are really tough butterflies;
They can pass the winter as adults--and not die!
When it's cold they just park
Under snug leaves and bark.
On the first sunny day, they're ready to fly!**

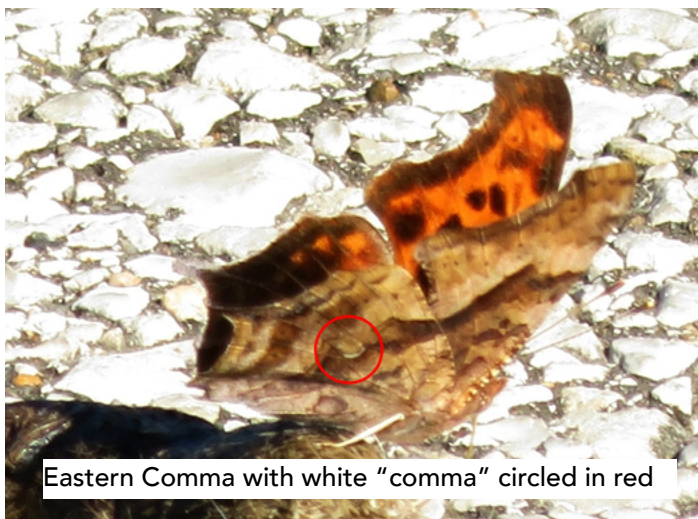


Named for its somber color, the **Mourning Cloak** (*Nymphalis antiopa*) is quite attractive with its contrasting yellowish wing borders and blue spots. It resembles an illustration from a Victorian-era natural history volume; appropriately, the British refer to it as the "Camberwell Beauty". Mourning Cloaks enjoy the distinction of being Missouri's longest-lived butterfly, with some individuals living as long as ten months! Glycerol produced in their bodies allows them to avoid freezing during hibernation, and even to fly occasionally on warm winter days. In spring they consume nectar from the earliest blossoms, such as dandelions and wild plum, but also display a taste for tree sap, rotting fruit, and even carrion and dung.

Following spring mating, Mourning Cloak females deposit as many as 200 eggs in large clusters. Unlike many butterflies whose offspring are restricted to a single type of food plant, Mourning Cloak caterpillars may be found on elm, willow, poplar, cottonwood, birch, and hackberry trees. The spiky black and red caterpillars feed as a group and remain together until pupation--another unusual behavior. If disturbed they all begin "thrashing" simultaneously to deter predators.

Fresh adult Mourning Cloaks emerge in midsummer (June and July) and enter an inactive period lasting until fall. This rest period (called estivation) may be the secret of their prolonged lifespans. Afterwards they feed vigorously, accumulating fat to sustain them during the cold months. Brush and leaf piles created to shelter birds and mammals in winter are also a boon to these fascinating, durable butterflies!

Two closely related species, the **Question Mark** (*Polygonia interrogationis*) and **Eastern Comma** (*Polygonia comma*), share several traits in addition to their overwintering habits. Both have striking orange wings accented with dark lines and dots.



Both have mottled dull-brown undersides that provide superb camouflage when their wings are folded. The shape of tiny white markings beneath their wings gives each species its name; often these field marks are best discerned with binoculars. The Question Mark also boasts iridescent lavender edges on the upper sides of its wings.

Both species prefer feeding on tree sap and rotten fruit to drinking nectar from flowers. They also share a long flight period. Adults may be seen in Missouri from early April to mid-November, but no individual survives the entire season. "Summer" adults live shorter lives than their overwintering offspring. Adults flying late in autumn enter hibernation (briefly resuming activity during winter thaws), emerging to breed the following spring.

Two broods are produced annually. Like Mourning Cloaks, Comma and Question Mark caterpillars have spiky protuberances to

discourage predation, but these spines are harmless to the touch. Caterpillars of both species can eat elm leaves and several species of nettles and hops; Question Marks also utilize the hackberry trees so ubiquitous in Missouri. The Eastern Comma's preference for nettles and hops gave it the nickname of "Hop Merchant" in the early 1900s. Folklore held that the color of the Comma's chrysalis in summer foretold the price of hops at harvest time--a more intense shade of gold meant higher prices.



Goatweed Leafwing

Finally, if you see a startling spark of bright orange whizzing across your path, you have probably encountered the **Goatweed Leafwing** (*Anaea andria*) butterfly! (Sometimes known as the "Goatweed Emperor".) As its name suggests, it blends perfectly with dead leaves when perched. It springs into flight at the slightest disturbance, flashing the colorful upper surfaces of its wings to startle would-be predators (similar to a Mockingbird's wing-patch display). Males are more richly and uniformly colored, while females wear a mottled combination of cream and orange. Both sexes have a small black marking at the front of each forewing; these may mimic "eyespot" when the wings are open, offering further protection.

Goatweed butterflies have a shorter flight season than most of their relatives. Adults are most commonly seen patrolling forest edges

from mid-April to mid-July. Mating occurs in the spring after adults emerge from hibernation. Two broods are produced and this species too has "summer form" and "fall form" adults. Their plump, pale green caterpillars closely match the color of their food plant--and also provide a vital food source for birds and their chicks.

Goatweed (not to be confused with *Goat's Beard*), also known as "Hogwort" or "Doveweed", is a hairy, low-growing plant in the spurge family. Its genus is *Croton* and seven species live in Missouri. It thrives in pastures and tolerates dry, sandy areas of poor soil. Goatweed can be toxic to livestock but mammals are usually repelled by its taste; the hairs can irritate human skin. Some birds consume the seeds. It easily adapts to garden life but requires monitoring to prevent excessive self-seeding. Cultivation may be worthwhile so that you can closely observe the peculiar habits of the Goatweed Leafwing caterpillars. Young specimens attach some of their fecal pellets (called frass) to themselves and their food plant, possibly for disguise and protection.



Goatweed plant

Older and larger caterpillars use silk to fold goatweed leaves into snug tubular shelters (nicknamed "leaf tacos"); they hide inside these and emerge to feed at night when the chance of predation is reduced. The shape and size of their chrysalises superficially resembles that of a Monarch butterfly, and these are generally found on or near their food plant.



Goatweed Leafwing side view

Missouri is home to approximately 170 species of butterflies, and probably ten times as many species of moths (the "unsung heroes" of the lepidoptera world). Enjoyment of lepidoptera and other insects fits "hand in glove" with our appreciation of birds and plants, three cornerstones of our ecosystems. Hopefully the stories of these four species will inspire increased attention to other "things with wings". As author and Kansas Master Naturalist Betsy Betros says: "Remember to Look UP, Look DOWN, Look ALL AROUND!" Happy Butterflying!

For further information:

Betros, Betsy. *A Photographic Field Guide to the Butterflies in the Kansas City Region*, 2008.

Heitzman, J. Richard and Joan E. *Butterflies and Moths of Missouri*, 1987.

Wagner, David L. *Caterpillars of Eastern North America*, 2005.

A note from Dana - The app iNaturalist provides a very useful, fun way to start identifying butterflies and moths. Once you have the app, simply get a picture of the lepidopteran in question with your phone (OK, sometimes this is easier said than done!), enter it in iNaturalist, and the app will help you ID it! Other iNaturalist users will also chime in over time to confirm or refute your ID. In this way, Ethan and I have documented many species of moths in our backyard. We try to use a field guide first and figure them out ourselves, but iNaturalist is our go-to source!



Warbler Migration

article and photos by Matt Longabaugh, MRBO Field Technician



Blackburnian Warbler

It's that time of year again! Migration is in full swing and we'd be silly not to write a little bit about the arrival of one of the most universally-loved families in the bird world: warblers!

Generally speaking, the warblers currently moving through the United States departed from wintering grounds along the Gulf Coast, the Caribbean, and/or Central and South America, but each has its own migration timing, route, and areas in which to breed and spend the winter.

For example, while most Common Yellowthroats are migratory and winter in Central America and the Caribbean, those in California and along the Gulf Coast are year-round residents. Yellow-rumped Warblers, which you may have seen this winter, are unique in their ability to digest large quantities of bayberry and wax myrtle,

resulting in a wintering range much farther north than any other species of warbler. The fan-favorite Blackburnian Warbler, on the other hand, leaves North America entirely in fall for the humid mountain forests of Costa Rica, Panama, Colombia, and Ecuador before returning to New England and the Great Lakes each spring.

For many species, Missouri is but one stop on the way to these northern breeding grounds - sadly, birds like Nashville, Wilson's, Blackburnian, Tennessee, and Magnolia Warblers (among others) will be gone in a matter of weeks. As warblers accumulate in Canada and northern United States throughout the spring and early summer, the northern forests start to produce a cacophony of trills, whistles, and buzzes with male warblers singing and establishing territories.

Luckily for us, fourteen (!!) species of warblers will stay for the summer and breed and raise their young in Missouri. (Can you name them all?) Some, like the Kentucky Warbler pictured above, are widespread, while others like Swainson's Warbler venture no farther north than southern Missouri.



Kentucky Warbler

In a few weeks, perhaps even by the time you receive this newsletter, we'll admittedly be sad on our first morning outing without a migrant warbler, but there is consolation in knowing that Missouri's rich habitat will entice so many beautiful warbler species to stay over the coming summer months.



Magnolia Warbler



Prothonotary Warbler

Notes on a Killdeer Nest in Saline County

by Mark Belwood, MRBO Supporter

I kept tabs on a Killdeer nest on my county road through much of April. The birds have now fledged. Here is the story.

Discovery of the nest on April 10 2020

While checking out a native planting alongside Katydid Lane I noticed a couple of agitated Killdeer. Later in the day, after the birds had gotten used to being in the area, I got the picture below of both birds with one on the nest.



The following picture, taken a few minutes later, shows the nest in relation to one of the main tire tracks of the road. The nest is less than six feet from the tire track. The birds would stay on the nest when a vehicle passed! I guess they thought staying at home was more important than social distancing.

Photo of April 18 2020

I kept going back to the nest every day or two to take photographs. The following photo shows a very cooperative and tolerant Killdeer on the nest.



Eggs hatched by April 19 2020

went back to the nest on April 19th only to find the eggs hatched and the chicks gone! Below are two different views of the empty nest.



Road grading of April 22 2020

The Killdeer family barely escaped a sad fate as Katydid Lane was graded on April 22. The grading wiped out any trace of the nest as shown in the following photo.



Update on May 12 2020

There is currently another active Killdeer nest on Katydid Lane. We have protected this one with boulders!



When Summer Didn't Come

by Mary Nemecek, MRBO Supporter and Burroughs Audubon Society President
all photos by Marquette Mutchler (a.k.a. Marky Birdgirl) of Kansas City



In the remote tundra of northeastern Greenland sits the Zackenberg Research Station. This high arctic research site is located in the southern part of the National Park of North and East Greenland, the largest national park in the world. Scientists at the station conduct research on climate and terrestrial and marine ecosystems from the first of May to the end of September every year. This includes the monitoring of nesting shorebirds such as Sanderlings, Red Knots, Ruddy Turnstones and Dunlins.

As one expects, the summer temperatures in Zackenberg have been increasing over the past decades. This has resulted in insects and spiders emerging earlier. So far Sanderlings have not changed

their nesting schedule to match this new timing of the arthropods they rely upon for their diet. In the summer of 2018, researcher Jaroen Reneerkens from the University of Groningen, was making his 13th trip to Zackenberg to continue his work on Sanderlings, their prey and predators. However, early reports from the station signaled this summer would be different... and it isn't what you would think.

In every other year, around the end of May or beginning of June shorebirds begin showing up in northeastern Greenland, including areas around Zackenberg. Shortly after their arrival the snow will melt and life springs from the tundra. Female Sanderlings rely upon local food after arrival to produce their eggs. By late June Sanderlings are on their nests and the average hatch occurs around July 12. With an incubation time of 22 days, by mid-June the tundra should be mostly free of snow and promoting abundant life with nesting well underway.

In the summer of 2018, almost 100% of the tundra was under a 3ft snow pack in mid-June. No birds were singing. There were no insects. No plants were blooming and the river was frozen and did not run. Unusually high precipitation resulted in more snow than could melt in time for the nesting season.

There was a small area clear of snow around the field station where most birds congregated. Ground up leftovers from the kitchen were discarded in this area and what few shorebirds had arrived were foraging on the scraps. Assessment of Sanderlings, Turnstones and Red Knots showed most were in poor condition, weighing 20% or more below their average in 'normal' years.

Reneerkens wrote, "Because Sanderlings are very site faithful to their breeding territories, and given the snow conditions were similar in the whole range of northeast Greenland, I think the majority of Sanderlings never arrived in Zackenberg but stayed in more southerly regions with better feeding possibilities."

On July 10, an estimated 80% of the area was still covered in snow. Another scientist at the station, Jannik Hansen, surmised only 15% of the area uses by Sanderlings and 2-3% of the area uses by Dunlins for nesting was free of snow. Most of the birds had already left. Knots were reported on July 4, extremely early, in the UK supporting an early return from a summer without breeding.



These species would not only not breed this summer in northeastern Greenland, but in many other areas as well. In Barrow, Alaska in 2018, there was also a late melt and the Red Phalaropes, Semipalmated and Pectoral Sandpipers that did arrive on their breeding grounds, bred a month late. The same was true for far eastern Russia. Fortunately, it



Sanderling

was different in Siberian Russia where a warm summer allowed Red Knots to successfully nest with the first chick hatching on July 8.

There was one, very late Sanderling nest found at Zackenberg that hatched on August 5th. Researchers also noted the absence of arctic fox cubs and close to the same for musk ox calves. Plants did not bloom or reproduce either. It was a system wide shut down of the continuation of life.

Results have not been released for the 2019 breeding season but the pendulum swung in the opposite direction for Zackenberg. Record high temps caused an early snow melt and drier than normal conditions. What this translates to for shorebirds remains to be seen.

Shorebirds make some of the most epic migrations on the planet. This spring a Hudsonian Godwit with a transmitter flew from the southern part of Chile to northeastern Kansas in 6 days, non-stop (reported by Bird Ecology Lab). Scientists warn that it is unknown if climate change was responsible for the amount of snow in the arctic in 2018, but as the planet warms, and precipitation increases, those species nesting at the top of the world will certainly be subject to extremes of weather during future nesting seasons.

A friend recently asked me, "what if we saw Dunlins today and then something happens and we never see them again? What if these were the last Dunlin's you ever saw?" As climate change continues and habitat loss grows, we may be perilously close to this becoming a reality. I'm reminded of the wonder of shorebird migration each time I view these small birds that have traveled incomprehensible distances. This spring I may linger even a bit longer with them as I think what if this is the last time I see this species?

References

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Schmidt NM, Reneerkens J, Christensen JH, Olesen M, Roslin T (2019) An ecosystem-wide reproductive failure with more snow in the Arctic. PLoS Biol 17(10): e3000392. <https://doi.org/10.1371/journal.pbio.3000392>



Sanderling and Red Knots

Native Plants for Bird-Friendly Communities

By Zeb Yoko, MRBO Conservation Science Communicator

Being a friend to the birds can be a worthwhile endeavor in any space. During the springtime, most people want to green up their properties by gardening or purchasing greenery for their yards, patios, and porches. Utilizing native plants for these spaces is one of the best opportunities to be bird friendly. Native plants are bird friendly for several reasons: native plants are generally low maintenance, require few additives, provide hospitable environment for birds and other native species, and are quite beautiful!

Native plants can be harder to find, but there are several organizations in Missouri that can help guide you with sourcing plants. Starting native plants from seed can be a challenge, and right now may not be the best time to start seeds. There are many nurseries that sell plugs (which are seedling plants) or larger nursery stock. Plugs are generally easy to start with, as they are just seedling plants, so you don't have to worry about seeds germinating if you buy in this phase. When selecting plants, it is also important to pay attention to their bloom times; ideally you want to have a mixture of bloom times to create a steady presence of flowers throughout the growing season, to continually feed birds and the bugs that some birds eat.

It is true that starting native plants can be costly at the beginning, upkeep is minimal. They tend to reseed themselves, and you won't need to buy new annuals every year! A key benefit to utilizing native plants for landscaping is the reduced usage of chemical treatments, particularly fertilizers and pesticides. Since Rachel Carson first called attention to unintended consequences of insecticides (particularly DDT), several more studies have called attention to the dangerous negative effects these substances can have. Because native plants have evolved to thrive in the habitats of your area, including the insect pests therein, they generally do not require these additives once established. Many of them when planted in suitable environments (areas with the plants' desired amount of sunlight and water) will not even need regular supplemental watering.

For much more information about how to get started with native plant landscaping, our friends at the Missouri Prairie Foundation have a multitude of resources on their Grownative.org website. Additionally, Missouri Botanical garden has an organized list of native plants, with collections appropriate for growing in containers.¹ They even have designs with lists of plants for containers in full sun, and sets for shady areas. One additional note about containers is that deeper pots will do the best, as many native plants build extensive, deep root systems. Even a few planters in small spaces will still help foster birds in your area! However, if you are planting natives in planters near windows or reflective structures, please take appropriate precautions to prevent window strikes by birds.

If you are considering planting a large area with native plants, local NRCS offices can help: there are potential cost-sharing programs that you may be able to enroll in to help create and preserve a healthy landscape. If you do plan to grow native plants, it is important to note, please do not pick or dig up wildflowers! The US Forest Service has an excellent write-up on reasons not to disturb wildflowers,² which can be summarized as: if you disturb them by taking seeds or whole



Some native wildflowers put on stunning blooms and are easy to grow. This is a blazing star (*Liatris pycnostachya*), just beginning to bloom.

plants, you can affect the stability of the wild population, and no one will be able to enjoy the wildflowers (and that would be bad for birds!).

1. Container Gardening with Native Plants. <http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/help-for-the-home-gardener/advice-tips-resources/visual-guides/container-gardening-with-native-plants.aspx>.
2. Ethics and Native Plants. <https://www.fs.fed.us/wildflowers/ethics/index.shtml>.

**Bird-Friendly
Communities**

**Quality
Habitats**

Upcoming Events

Month of June: **Young Explorers' Camp** at home! Campers receive an exciting kit of outdoor exploration tools that they can use on their own. Each week, educators from MRBO and other organizations will provide an overview of activities, then kids can head to their own backyards or a nearby park and explore! Campers can choose to get together via Zoom at the end of each week to discuss what they've found. *This program may repeat during the month of July if all spots fill up for June!*

June 2nd, 5:30 p.m. **Birds of Prey** webinar. Join MRBO and MU's Raptor Rehab Project for an exciting look at these charismatic species. MRBO Education Coordinator Paige Witek, who has extensive experience with raptors, will host the webinar while Katy Klymus of the Raptor Rehab Project will broadcast from MU with live birds!

June 6th: **National Prairie Day**. Take this opportunity to get outdoors and enjoy a native prairie! Our friends at Missouri Prairie Foundation (MPF) led the establishment of National Prairie Day to raise awareness and appreciation for this unique, highly diverse ecosystem. Visitors are welcome at MPF's properties, which provide rare examples of unplowed native prairie. See more about the importance of prairie conservation and maps and directions to MPF prairies at: moprairie.org

June 9th, 5:30 p.m. **The "Lowly" Sparrow** webinar. Sparrows are often hard to get a good look at, but when you do, you'll see that these small birds are beautifully, ornately colored and have interesting behaviors! Join us for an up-close look at the sparrow family and its Missouri representatives.

June 16th, 5:30 p.m. **The Story of Plastics**. MRBO is teaming up with Missouri River Relief, Stream Teams United, and Johnson County Community College to bring everyone a free, at-home screening of the movie The Story of Plastic. You can sign up and stream the film at your convenience, then join us for a panel discussion via Zoom on the evening of June 16th. This movie provides an excellent overview of the critical problems with plastic production, supply and waste and inspires us all to take action.

Sign up for all webinars and the Story of Plastic screening and panel at: mrbo.org/mrbo-webinars/
Sign up for the Young Explorers' Camp at: mrbo.org/young-explorers-camp/

More events (likely virtual) will be added as we continue to monitor the Covid-19 situation. MRBO will keep doing its best to provide people with informative and fun ways to do their own nature exploration!

This Issues' Photography Credits

(where otherwise not noted)

LeConte's Sparrow, page 2 - Erik Ost

Rose-breasted Grosbeak male, page 5 - Tom Tucker

Rose-breasted Grosbeak female, page 5 - article author Matt Longabaugh

Mourning Cloak, page 8 - Betsy Betros

Eastern Comma, page 8 - Mike Stoakes

Goatweed Leafwing and goatweed plant photos, page 9 - Lenora Larson

Dickcissel, this page - Nic Salick

Orchard Oriole, back cover - Amy Watts

