



## Midwest PARC Quarterly Newsletter - January 2023

Compiled by members of the **Outreach and Communications Team (OCT)**  
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### Welcome and Farewell

Midwest PARC is a volunteer-run organization made up of members, an Advisory Board, and Co-Chairs with the shared goals of conserving and understanding more about amphibians and reptiles. In our initial quarterly newsletter for 2023, we want to give our appreciation to folks for the work they've done, and to welcome folks stepping into new roles.

**Thank you** to our outgoing Senior Co-Chair, Melissa Youngquist (Illinois), and to the Advisory Board members who are stepping down, including Jeff Briggler (Missouri), Jen Buchanan (Kansas), Megan Seymour (Ohio), Nate Engbrecht (Indiana), and Ryan Wagner (Ohio). Each of you has given MW PARC your time and effort and helped shape the impact that MW PARC will have in the future.

**A hearty welcome** to our incoming Junior Co-Chair, Michela Coury (Michigan), who will be working alongside our now Senior Co-Chair, Travis Kurtis (Michigan). And **welcome** to our newest Advisory Board members, including Aaron Crank (Ohio), Nicole Palenske Ladner (Iowa), Justin Elden (Missouri), and Joey Cannizzaro (Wisconsin).

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## Herp Highlight: Greater Short-horned Lizard

The Greater Short-horned Lizard (*Phrynosoma hernandesi*) is a cryptic species located primarily in Western North America, with small populations in North Dakota, South Dakota, and Nebraska, giving it the widest geographic distribution of the horned lizards. This species is characterized by its squat stature and many horns. These horns provide a physical self-defense mechanism and the brown coloration aids in camouflaging this species to avoid detection by predators. As an additional defense mechanism, this species can fill its lungs with air to make it appear bigger to predators and may even tilt its head to point horns directly at the predator. If these defenses are not enough, they are also capable of shooting blood from their eyes. A buildup of pressure behind the eyes allows them to spray blood up to 3 feet.



These lizards face a variety of threats, primarily habitat destruction. The expansion of agriculture and the degradation of habitat has reduced habitat quality, posing a risk to their populations. Management efforts to reduce ant populations, the primary prey item for this species, also pose a threat to this species. Although these threats are present across much of their range, they are generally considered stable and are not of conservation concern, except for where their ranges are restricted.

**Image description:** Greater Short-horned Lizard sitting on a rock. Photo by Christopher E. Smith.

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## Field Guides: A Review

**Field Guide to Amphibians and Reptiles of Illinois second edition** by Christopher A. Phillips, John A. Crawford, and Andrew R. Kuhns. Foreword by Ronald A. Brandon.

This guide presents a fantastic resource for all seeking to study the 102 herpetofauna species found in Illinois. The revised edition includes updated taxonomy, the current state endangered and threatened species list, and information on the new Illinois Herptile code pertaining to the collection and use of amphibians and reptiles in Illinois. The major revisions, as compared to the 1999 version, include the **layout, updated maps, and images**. The new layout is more visually appealing allowing for more in-depth species accounts delving into the natural history, habitat and distribution, and species descriptions. The additional content is aided by improved images offering multiple diagnostic photos of each species along with juvenile images when their appearance differs from the adult. The maps were revamped adding 20+ years of new records and more accurately displaying the species' true distributions. Similar to the Peterson Field Guide, this book orients the species distributions to align with the habitat they are found in and is readily noticed on the riverine species maps following drainages rather than shading the entire county.

The *Field Guide to Amphibians and Reptiles of Illinois* is very accessible offering both paperback and eBook options at an affordable price. The book can be purchased at [University of Illinois Press](#).

***Amphibians and Reptiles of Wisconsin*** edited by Joshua M. Kapfer and Donald J. Brown with illustrations by Erik R. Wild.

This text provides background information on systematics and classification of herpetofauna, prominent figures in Wisconsin herpetology, the ecology of Wisconsin landscapes and identification keys for amphibians and reptiles in Wisconsin. The identification keys include impressive, full color photographs which serve as fantastic references. Species distribution maps for Wisconsin as well as across the US are also provided for each species, making this text a great resource for those outside of Wisconsin as well. Many sections feature a Natural History Box which provides information about species interactions, historic and current threats to populations, and interesting notes and anecdotes about various species, among other interesting information. For any researcher, instructor, or herpetological enthusiast in Wisconsin, this text is a one-stop-shop for all of the information you could possibly need on current, past, and theorized species inhabiting the state. This is, by far, the most comprehensive guide to the herpetofauna of Wisconsin currently available. For researchers residing outside of Wisconsin, this guide contains many widespread species throughout the Midwest, making this an excellent resource for individuals conducting research outside of Wisconsin, as well.

*Amphibians and Reptiles of Wisconsin* is available digitally and as a hard-bound copy. The book can be purchased at [University of Wisconsin Press](#).

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### **Great Plains Amphibian and Reptile Community of Practice**

On October 20, the Great Plains Amphibian and Reptile Community of Practice held their first meeting to discuss directions for the newly formed group. This sub-regional group presents the opportunity to give greater representation to Great Plains species. The call included participants from Kansas, Colorado, Wyoming, Nebraska, South Dakota, North Dakota, Saskatchewan, Iowa, Minnesota, and Illinois. The ultimate goals of the group include data sharing among states, more regional collaboration, and implementation of regional scale sampling efforts. A recording of the meeting can be seen [here](#) and the next meeting will be held in January.

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### **Herpetology Opportunity for Professionals**

PARC's [Diversity, Equity, and Inclusion Task Team \(DEITT\)](#) has produced the first in a series of Herpetology Opportunity for Professionals (HOP) seminars. Their inaugural speaker was Dr. Melissa Youngquist (she/her). Dr. Youngquist is a research biologist with the Shedd Aquarium and an instructor. In this seminar, she discusses how she became interested in herpetology, and the paths she took and priorities she chose which led to her current position. Her seminar is followed by a short Q&A session with the live audience, moderated by Dr. Jen Lamb (she/her) and Dr. Grover J. Brown (he/him), members of PARC's DEITT. A recording is available on PARC's website to watch [Dr. Youngquist's presentation](#).

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### **Submit your Wisconsin Mudpuppy Sightings!**

The Wisconsin Department of Natural Resources (DNR) is asking the public to report any observations of Mudpuppies, *Necturus maculosus*, they see or accidentally catch while fishing this

winter. Data collected from these sightings will help determine the distribution, status, and range of the species statewide. Mudpuppies are fully aquatic salamanders that are active year round throughout the rivers, streams, and lakes of Wisconsin.



The DNR encourages those who catch a mudpuppy while fishing to snap a picture of it, then gently remove the fishing hook and release it back into the water. Try not to touch the mudpuppy too much because amphibians have sensitive, permeable skin.

Mudpuppy observations and photographs can be submitted to [DNRherptiles@wisconsin.gov](mailto:DNRherptiles@wisconsin.gov). Please include location details and any pictures that were taken.

**Image description:** Mudpuppy (*Necturus maculosus*) held in hand prior to release. Photo by Heather Kaarakka (WDNR).

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## Stories From the Field

**Quinn Bozek:** I have always held a special place in my heart for turtles, since a young age my fascination with their kind has been one of constant intrigue and excitement. When I first arrived at Michigan State University, I talked to Dr. Gary Roloff about his wood turtle (*Glyptemys insculpta*) project in the Upper Peninsula (UP) and knew I had to be a part of it. After going through the interview process, I was eventually hired for the job and began to track seven female wood turtles that were part of the project being led by Trish Brockman. On my second trip up to the UP I was tracking one of the females and was confident I was almost on top of her location. As I stood on the bank of the river, I looked down to see the carapace of a turtle that did not have a transmitter. After quickly consulting Trish, I dove in shoulder deep with my right arm as a support and proceeded to scoop a mating pair of wood turtles, one of them being our telemetered female. The other turtle was a male that had never been captured before and was also my first new turtle contribution to a project. I named him Buddy, as I felt an instant connection to him and knew



he was special. I had already known that I loved turtles, but this was the moment that affirmed turtle work was the path I want to follow for the rest of my life. These turtles were handled under a research project under the supervision of Michigan State University.

**Image description:** Quinn Bozek marking the carapace scutes of a male Wood Turtle that had been captured during a research project in Michigan. Photo by Trish Brockman.

**Stories From the Field Submission:** Do you have a story to share? Submit your story [here!](#)

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## Bsal: The Basics and Being Proactive

A recent webinar co-hosted by PARC Disease Task Force, the Association of Fish and Wildlife Agencies (AFWA), and the North American Bsal Task Force addressed the looming concern over Bsal (*Batrachochytrium salamandrivorans*) and its eventual arrival in North America. Bsal, a relative of Bd (*Batrachochytrium dendrobatidis*), is a fungal pathogen and a causative agent of chytridiomycosis. Bsal zoospores infect amphibians by burrowing into the skin and signs of infection may include ulcers, erythema, lethargy, thickening of the skin, or even death. The Appalachian region of the United States contains the highest biodiversity of salamanders in the world, making the introduction of Bsal a major conservation concern. Currently, 55 species of N. American amphibians have been included in Bsal trials, with results showing that 76% of species became infected and 35% developed disease (Gray et al, unpublished data, [Friday et al. 2020](#), [DiRenzo et al 2021](#)).

Recent studies have revealed that Bsal is not limited to salamanders, this pathogen can cause disease in some anuran species. Several anuran species, including species popular in the pet trade, also serve as reservoirs and can act as carriers of Bsal ([Towe et al. 2021](#)). According to Dr. Molly Bletz, Bsal utilizes direct and indirect routes of transmission. Direct routes of transmission include contact between amphibians while indirect routes of transmission occur through zoospores swimming through water, anthropogenically driven movement of zoospores, and even the transfer of zoospores on the feet of waterfowl. Currently, there have not been any positive detections of Bsal in N. America, however, Bsal is spreading throughout Europe, including Germany, Netherlands, Belgium and Spain. The North American Bsal Task Force is taking this threat seriously by assembling working groups specializing in different areas of preparation. The defining goal of this task force is to be proactive in preventing, controlling, and eliminating Bsal if or when it arrives. We have the ability to design protocols, implement responses, and put into place networks before Bsal arrives. The North American Bsal Task Force encourages [disinfection protocols](#) be followed stringently, monitoring of populations with special awareness and investigation of die-offs, and welcomes people interested in [joining the task team!](#)

Get more information on Bsal [here](#) or watch the recorded [webinar!](#) To learn more about the task team check out [their website](#). Be sure to investigate the tab for [implementation plans, strategic plans, and annual reports](#) as it may be pertinent in your state or agencies' preparedness.

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## Other Announcements

**MWPARC Symposium at the Midwest Fish and Wildlife Conference:** If you are attending the Midwest Fish and Wildlife Conference February 12-15, 2023 in Overland Park, KS, consider

participating in the symposium hosted by MWPARC entitled “The importance of conserving non-game species: case studies of amphibian and reptiles in the Great Plains”. This symposium will be held Monday, February 13 from 1:40-5:00 PM. The objective for this symposium is to provide information about ongoing efforts and needs for the preservation of Midwestern herpetofauna. For more details, [click here](#).

#### **PARC Regional and State Save-the-Dates:**

##### ***Southeast PARC (SEPARC) 2023 Annual Meeting***

Feb 16-19, 2023 at Lake Cumberland State Park Resort in Jamestown, Kentucky

##### ***Northwest PARC (NWPARC) 2023 Annual Meeting***

April 2023 in Grand Mound, WA co-hosted by Society for Northwestern Vertebrate Biology (SNVB) and the Washington Chapter of The Wildlife Society.

##### ***Ohio PARC (OHPARC) 2023 Annual Meeting***

April 4th, 2023 at Ohio Farm Bureau, 4-H Center, Columbus, Ohio.

**Not a Pet Campaign:** Association of Zoos and Aquariums (AZA) and the International Fund for Animal Welfare (IFAW) are partnering on the “[Not a Pet](#)” campaign recently launched in December 2022 directed at raising awareness and changing attitudes and behaviors toward the exotic pet trade in the United States. The goal is to educate people about exotic pets focused on the illegal pet trade and risks of zoonotic diseases linked to the pet trade. Find more information [here](#).

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### **Hot Off the Presses! - Recent Publications** **Scientific Journal Articles Featuring Herps in the Midwest**

***Not too big, not too small, but just the right size habitats for Hellbenders:*** Madison Macke, along with several other researchers, constructed shelters for juvenile Eastern Hellbenders (*Cryptobranchus a. alleganiensis*) in southern Indiana. These huts differed in cavity volume and entrance height to determine the optimal shelter design for improving the rearing of juvenile hellbenders.

Macke, M.J., Royal, S.M., Burgmeier, N.G., Tornabene, B.J. and Williams, R.N. 2022. Juvenile Eastern Hellbender (*Cryptobranchus a. alleganiensis*) preference among juvenile hut designs.. Herpetological Conservation and Biology 17(2): 218 - 228.

***Can fragmented landscapes be a good thing for western ratsnakes?*** Andrew George, Frank Thompson III, and John Faaborg used radiotelemetry to evaluate seasonal movements of Western Ratsnakes (*Pantherophis obsoletus*) in central Missouri. These researchers examined movement and home range to understand how these may vary based on sex, season, and vegetation density characteristics in woodlands in Illinois.

George, A.D., Thompson, F.R.III and Faaborg, J. 2022. Movements and habitat use by Western Ratsnakes (*Pantherophis obsoletus*) in a fragmented midwestern landscape. Herpetological Conservation and Biology 17(2): 306 - 315.

**Want to see your research highlighted?** Have you recently published on populations of amphibians or reptiles in the Midwest? We want to hear about it! Please reach out to **Jesse Sockman** ([sockman.15@osu.edu](mailto:sockman.15@osu.edu)) and **Danielle Galvin** ([danielle.galvin@coyotes.usd.edu](mailto:danielle.galvin@coyotes.usd.edu)) if you would like to highlight your research.

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**Header photo description:** Greater Short-horned Lizard (*Phrynosoma hernandesi*) lying on a rock surrounded by brush. Photo by Kenneth Ingham, courtesy of the National Park Service.

**We want your feedback:** What would you like to see in future volumes of our newsletter? Give us more information by filling out this survey: <https://forms.gle/Hz9ZkznEFfiTE8a48>

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