

# Texas Master Naturalists ROLLING PLAINS CHAPTER

## NEWSLETTER

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<http://txmn.org/rollingplains>

April 2021

### President's Report

After the harsh frozen blast we had in February, it was nice to see all the shades of green begin to creep across the landscape.

March is full of Leprechauns, pots of gold and rainbows, and it was fun to see all these things here on the Rolling Plains.



*A little pot 'o gold... Fringed Puccoon (Lithospermum incisum)*

Granted, the pots of gold turned out to be Dandelions and Fringed Puccoon and my Leprechaun turned out to be a quick little green frog basking in the sun on the muddy bank of a big puddle. But still, I felt a little of that Irish luck working it's way on the wind under my jacket and into my skin. Spring is coming and I am ready!

As the natural world seems to be opening up and blooming, so too is our social world. Things are beginning to get back to our new normal. As of right now, our meetings and training classes will remain on the

Zoom platform but we are working on planning in person field trips to round out the training. Our Last Saturday Hikes will also be in person soon. Masks will still be encouraged.

We have also been made aware of a change that must be made to our hours keeping. In the past, we have given members one full hour of volunteer time for attending the monthly meetings but we won't be able to do that anymore. Until the end of the year, we will count only the actual time of the business meeting as Volunteer Time. Advanced Training (AT) time will stay the same, being the actual time of the program. Starting in January 2022, only AT will be recorded for the meetings. The Board is working hard to provide you with as many volunteer and advanced training options as we can find and we hope you will take advantage of these opportunities to fulfill your hours requirements and get your pins.

I also invite members to join us for the training classes and meet some of

### E LOCALS

**APRIL 6:** *Rolling Plains Chapter Meeting - 7:00pm* on Zoom - log in a little early so we can start the program at 7:00pm. A Zoom link will be sent out one hour before the meeting. Hope to see you all there!

**The program:** Adam Whisenant of the Texas Kills & Spills Team.

*The Texas Parks and Wildlife Department Kills and Spills Team (KAST) is a group of biologists who investigate fish and wildlife kills resulting from pollution and natural events. KAST staff are trained to assess impacts to fish and wildlife resources and to determine the causes of events.*

**APRIL 8:** Training Class – 7:00 to 9:00pm – Herpetology – Dr. Charles Watson (Zoom).

**APRIL 9:** The Student Nurses Association at MSU is having a Sikes Lake Cleanup starting at 9:00. Message from Betty Bowles – MSU liaison.

**APRIL 10:** Birding at LASP with Penny Miller – meet at the dump station in campground

our new trainees. We have a great group and they seem excited to learn and ready to get involved with the Chapter. In fact, one of our new trainees, Dana Cobb, will present a program on Feral Hogs at the May Meeting! Don't forget to check your e-mail or the calendar on the Chapter website for all the events and opportunities. Debra and Lynn are doing a great job keeping us up to date and informed. You will also want to be on the lookout for the TMN Tuesday program on April 13 featuring a look at the Impacts of Winter Storm Uri on Texas Fish and Wildlife. Registration will be open soon and we will get the link out to you as soon as we get it.

I look forward to seeing everyone at the meeting Tuesday, April 6th at 7:00 pm. Our program will be Adam Whisenant of the Texas Kills & Spills Team. Look for a link to the meeting in your e-mail soon!  
– Laura

## Millions of Cicadas Will Soon Emerge in the U.S.

*There are only seven species of cicadas that come out all at once every 13 or 17 years—a life cycle that's unique among insects.*

by Amy McKeever

Each year, warm weather in North America brings the familiar buzzing and clicking of cicadas that have surfaced from their underground burrows in search of mates. Once every decade or so, though, that cacophony

turns deafening as millions or more of the winged insects emerge at once in dense throngs. They stick around for about a month, and then they die.

This spring, a group of cicadas known as Brood X is expected to emerge throughout the mid-Atlantic for the first time since 2004. It is among the largest of the cicada broods with a 17-year life cycle, numbering in the hundreds of billions.

Of the 3,000 species of cicadas around the world, only seven species share synchronized life cycles that allow them to come out simultaneously every 13 or 17 years. These periodical cicadas, as they're known, are only found in the central and eastern U.S.

This mass emergence inflicts some damage on trees, but cicadas don't devour crops like locusts do. They instead contribute to their ecosystem by pruning weak branches, releasing nutrients back into the soil when they die, and serving as an abundant food source for birds and other animals.



*A periodical cicada, or 17-year cicada, after its emergence in Maryland.*

PHOTOGRAPH BY GEORGE GRALL, NAT GEO IMAGE COLLECTION

*“Periodical cicadas are one of these insects where everything about them is amazing and unusual,” says Andrew Liebhold, a research entomologist with the U.S. Forest Service.*

But why have these cicadas developed such a unique life cycle, and why does it happen only in the central and eastern U.S.? Here's what we know—and what scientists are still trying to sort out.

### Cicadas in sync

All cicadas start their lives in the same way: Females lay eggs in the branches of trees and, after six to 10 weeks, those eggs hatch and the nymphs fall to the ground, digging burrows. They spend most of their lives in these burrows, sucking the liquids of plant roots and molting their shells five times before surfacing as adults. Males call out for mates, which respond by flicking their wings. Then, within four to six weeks, they die.

How long it takes for the nymphs to mature, though, varies among cicada species, which are split into roughly two categories: annual and periodical.

Most cicada species are considered annual cicadas—though the term is a bit of a misnomer, as these insects live longer than just a year. Their life span, which is around two to five years, de-

area at 8:00am.

**APRIL 10:** Horned Lizard Survey – LASP 10:00am – meet at the parking lot by the “horn” (tunnel to North Onion Creek trail). *As much as I hate to do this, I am no longer going to survey Wichita Rail Trail and Lake Wichita Chat trail. They have not been very productive for horned lizards for the last few years. We will continue to survey Lake Arrowhead State Park, Copper Breaks State Park, and Comanche Springs Astronomy Campus. I am running out of days to survey also because of all the new projects and activities! With butterfly monitoring, Adopt-a-Loop, and so many more, there are just not enough days!*

**APRIL 11:** Water Testing at Lake Wichita and Wichita River meet at boat ramp Lake Wichita at 2:00pm.

**APRIL 12:** Committee Meeting for City Nature Challenge 2021 on Zoom at 5:30pm.

**APRIL 12-17:** Adopt a Highway Clean Up – Flexible times and days/ pick your section – sign up by contacting Lynn.

**APRIL 15:** Training Class – 7:00pm to 9:00pm – Mycology – Dr. James Masuoka (Zoom)

**APRIL 17:** Post-burn Survey at Comanche Springs Astronomy Campus (time and details to come) We could really use as many to help as are available!

**APRIL 22:** Training Class – 7:00 to 9:00pm – Vertebrate Biology (mammals) -Dr. Ray Willis (Zoom).

**APRIL 24:** Monthly Nature Hike – 3:00pm – BioBlitz! – More details to come – Look for the registration link.

City Nature Challenge 2021 is coming soon! Many opportunities to come – stay tuned!

depends on how long it takes for them to reach a mature size and weight. These cicadas do not have synchronized life cycles, so they emerge at different times each summer.

Periodical cicadas are the insects that make headlines by appearing en masse. Members of the genus *Magicicada*, these cicadas include four species that live for 13 years and three that live for 17 years.

John Cooley, an entomologist at the University of Connecticut, says their relatively long life cycles aren't what distinguish periodical cicadas from annuals. Rather, it's the fact that they reach adulthood at roughly the same speed and emerge in synchrony at regular intervals.

Periodical cicadas do so by counting the seasonal pulses of fluid flowing in roots from which they feed. *"They don't keep track of time, they just count [plant] cycles,"* says Cooley, whose periodical cicada mapping project was initially funded by the National Geographic Society.

Once plants have completed 13 or 17 cycles, the nymphs wait until the soil gets to the right temperature—around 65°F (18°C)—to take to the skies.

### Safety in numbers

Given their synchronized and lengthy life spans, you might expect periodical cicada sightings to be relatively rare. But these insects come out in droves almost every year—just in different parts of the country. That's because they live in 15 geographically defined broods.

Most of these broods are composed of multiple species of periodical cicadas, but only those with a common life span: Twelve broods follow 17-year life cycles, while the remaining three broods have 13-year life cycles. Cicadas in a brood are synchronized with one another—but not with the cicadas in the next brood over.

Each brood has its own range. Some are confined to small regions, such as brood 7, which is only found in upstate New York; while others are scattered across swaths of the country, such as brood 19, which is found in the Midwest and along the East Coast from Maryland to Georgia. Some broods overlap, meaning two broods might even live in the same city.

Periodical cicadas' synchronized schedules boost their survival. Un-

like annual cicadas, which know to quickly flee from predators like birds and moles, periodical species haven't evolved to develop evasive maneuvers. *"When they come out in low densities, they get mowed down,"* Cooley says.

For them, safety is in numbers. Their broods are so dense—as many as 1.5 million may crowd a single acre—that the risk to any individual cicada approaches zero.

### Unanswered questions

But why have these particular U.S. species evolved to have such long, prime-numbered life spans?

One common theory has to do with avoiding predators. Long life cycles—and particularly those that are prime numbered—are difficult for predators to match, making it impossible for them to specialize in eating cicadas.

But Cooley says this theory is flawed: Cicadas don't have 11- or 19-year cycles, yet these are prime numbers, too. Periodical cicadas also have plenty of opportunistic predators, and there's even a fungus that specializes in killing them.

Other studies have targeted glacial cycles. Cicadas prefer warm weather, the theory goes, so perhaps the extreme cold of the last ice age favored the evolution of a longer life cycle. But Cooley questions this theory, too, as glaciation would have affected all cicada species and not just those in the United States.

Liebhold, the research entomologist with the U.S. Forest Service, agrees that it's hard to know why cicadas behave so differently in the eastern half of the United States. He speculates it could be related to the region's forests, which are known for a high diversity of plants and insects.

### Future of cicadas

Scientists are trying to unlock other cicada mysteries, too.

Sometimes, periodical cicadas get confused. Known as "stragglers," these individuals can emerge either a little bit early or late—either one year or four years in either direction.

Gene Kritsky, dean of behavioral and natural sciences at Mount St. Joseph University, says the brood patterns suggest some "stragglers" may emerge in big enough numbers to reproduce which, over many life cycles, could ultimately result in the formation of a

new brood.

Kritsky, who discovered one of the 13-year broods, believes cicadas have probably been exhibiting these behaviors all along, but scientists had limited means to document it in the past. Now scientists can use mapping technology—and can cast a wider net with the help of citizen scientists reporting sightings through Mount St. Joseph's Cicada Safari app.

*"What we're seeing, I think, is how cicada broods evolve,"* he says. *"We have to figure out, How does that fit into this bigger picture?"*



## "April"

by James Hoggard

Budding mesquites and Holy Week  
had said deep freezes were past  
and they were, but frosts  
and rough weather weren't

The big winds stayed six weeks  
and hail came hard

The singing defiance, sun's warmth  
pushed the bluebonnets north  
and vervain and milk vetch  
purpled the roadsides

The big winds stayed six weeks  
and hail came hard

The long dry winter had cracked  
fingerpads and lips, had broken  
the crust of the earth,  
and blood seeped into the sky

The big winds stayed six weeks  
and hail came hard

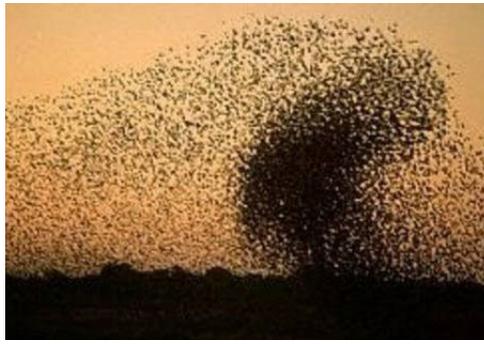
Flowering bindweed lay like snow  
then lemon and Indian paintbrush  
clustered near fence rows  
The sky turned red with dust

The big winds stayed six weeks  
and hail came hard

Painting by Polly Hoffman

# FUN FACTOIDS

A cicada's ear-piercing call is intended to attract a mate. Adult males are the ones making such a racket, and some species can register sounds louder than 100 decibels.



As spring temperatures creep toward 70 degrees, the first swallowtail butterfly caterpillars emerge from their eggs—and they're born ravenous.

The voracious eaters can grow to 1,000 times their original size before pupating.

Red foxes have more than 200 million scent receptors in their noses compared with only 5 million in humans. Their acute sense of smell enables foxes to locate prey in dense grass under several feet of snow, or in an underground burrow.



## 2021 25th Annual Great Texas Birding Classics

**Tournament Dates: April 15-May 15, 2021**  
**Registration Deadline: April 1, 2021**

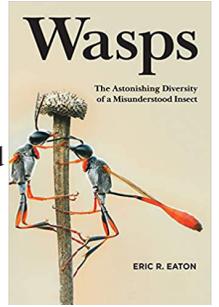
The 25th Annual Great Texas Birding Classics welcomes all levels of birders and those of all ages to join this Texas birdwatching event during the amazing spring migration. There's a tournament category for everyone - from the beginning backyard birder to the competitive lister! In 24 years, the birding classic donated over \$1 million in conservation funding to nature tourism and avian habitat restoration, enhancement, and acquisitions projects throughout Texas.



## RESOURCE CORNER

*Wasps: The Astonishing Diversity of a Misunderstood Insect*  
 by Eric R. Eaton  
 Hardback: 256 pages  
 ISBN-978-0691211428  
 Price: \$28.95 on Amazon

Wasps are far more diverse than the familiar yellowjackets and hornets that harass picnickers and build nests under the eaves of our homes. These amazing, mostly solitary creatures thrive in nearly every habitat on Earth, and their influence on our lives is overwhelmingly beneficial. Wasps are agents of pest control in agriculture and gardens. They are subjects of study in medicine, engineering, and other important fields. Wasps pollinate flowers, engage in symbiotic relationships with other organisms, and create architectural masterpieces in the form of their nests. This richly illustrated book introduces you to some of the most spectacular members of the wasp realm, colorful in both appearance and lifestyle. From minute fairyflies to gargantuan tarantula hawks, wasps exploit almost every niche on the planet. So successful are they at survival that other organisms emulate their appearance and behavior. The sting is the least reason to respect wasps and, as you will see, no reason to loathe them, either. Written by a leading authority on these remarkable insects, *Wasps* reveals a world of staggering variety and endless fascination.



- Packed with more than 150 incredible color photos
- Includes a wealth of eye-popping infographics
- Provides comprehensive treatments of most wasp families
- Describes wasp species from all corners of the world
- Covers wasp evolution, ecology, physiology, diversity, and behavior
- Highlights the positive relationships wasps share with humans and the environment

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