

Good Water Ripples



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For information contact: <http://txmn.org/goodwater> or goodwatermn2@gmail.com

United Way Day of Caring: Berry Springs Park and Preserve September 25, 2020

Once again, Berry Springs is joining forces with United Way of Williamson County and hosting “United Way Day of Caring.” The event will be held on Friday September 25, from 8:30 am until Noon. We will be sprucing up our flower beds and green spaces in the park.

Use the Sign-up Genius or email Susan Blackledge, the event coordinator, at susieblackledge@gmail.com. You will be assigned to a flower bed via email prior to the event.

There are inherent risks in working

in Mother Nature’s home so if you are allergic to insects, plants, or have difficulty in working in Texas heat, please do not sign up.

Everyone will be required to wear face masks and must practice social distancing at all times. You need to bring your own tools for weeding, pruning/trimming and hand trowel, or small digging tool, work gloves, beverage container & beverage (ice water will be provided). The pavilion is reserved for the event so feel free to bring a snack or a sack lunch.

Berry Springs has over 30 flower beds and green spaces that we want to beautify for everyone’s enjoyment. We will not be having our annual Fall Clean-Up/Pot Luck this year so this will be our only group event till 2021. We really do need your help.

If you are unable to attend this event, YOU CAN VOLUNTEER ANYTIME by contacting Susan Blackledge at susieblackledge@gmail.com or call 512-844-4820. You may have a special talent or interest to benefit the park. 🌱

An Urban Fox Visitor (Gray Fox, Genus *Urocyon*)

By James Todd McCann

My first meeting with Frances (my wife named her) occurred one morning on my way to work.

I was standing in the driveway enjoying the morning and looked to my left. Standing about ten feet away on the sidewalk was Frances, also enjoying the day. We looked at each other and stood there for about five minutes. Then we both started moving to the left. She stayed on the grass while I walked in the street. After a few steps she doubled back and went to the sidewalk and to our backyard.

Over the next few weeks, she was a regular visitor, and she was camera-shy. One afternoon I was standing in the driveway

again and she walked by and headed to the backyard. This time she posed for a photo.

Shortly after that she disappeared. A pair of urban foxes are well-established in the area. So, she most likely found a new territory for herself. 🌱



Spotlight on Susan Blackledge

By Williamson County Parks Department

Susan Blackledge joined the County Parks Department working at Southwest Williamson County Regional Park in January 2005, but soon after transferred to Berry Springs Park and Preserve.

Susan oversees the daily operations of the park which can come with a plethora of different duties such as visitors' services, grounds and facility maintenance, special projects, staff and volunteer management, and community relations to name a few. She was instrumental in adopting the park ambassadors named "The Donkeys" in 2006. They have been a mainstay ever since.



Susan is quite a park ambassador herself and has a special love for the natural setting that makes Berry Springs so popular. She has worked tirelessly on projects centered around the prairie restoration, pond management, and special care of the Pecan orchard.



Susan is a natural at generating volunteer support. In fact, she has successfully leveraged support and key partnerships with many groups over the years. Along with our chapter of Master Naturalists, there are the Master Gardeners, Native Plant Society, Eagle & Boy Scouts, Friends of Berry Springs, and the Wilco Community Service Restitution Program.

These and other volunteers have contributed thousands of hours of support and service to Berry Springs.

Susan enjoys taking care of the donkeys, seeing visitors enjoying the park with their families, people walking their dogs, and witnessing weddings. One of the main

highlights for her is seeing everyone with a smile on their face while visiting the park. Susan said getting positive feedback from park visitors makes all of her efforts and hard work worth it.

Thank you for all you do, Susan! 🌻

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Randy Spurlock

Habitat Dev. SGU Church -

Billye Adams

McNeil Bridge Bats - Christie Gardner

Odonata Research - Mike Farley

Pollinator Garden - Elizabeth Sartain

River Ranch County Park -

David Armstrong

Nature Trackers - Mike Farley

Porcupines

By Mary Ann Melton

The first thing that comes to everyone's minds when you think about the North American porcupine, *Erethizon dorsatum*, are those amazing quills. The Latin name means "quill pig."

Because they are slow moving with poor eyesight, their quills are their primary defense system. The 30,000 quills are flat until the porcupine feels threatened, but rise quickly to deter predators.



es long from head to tail and weigh between 10 and 40 pounds. The back looks arched because of the humped shoulders. Eyes are small and dark. Front hands have four fingers with long curved claws.

The back feet have five toes also with long curved claws. The soles are hairless helping them climb trees. Legs are short. The front of the body is yellow brown with long yellow stiff guard hairs. The quills grow interspersed

with the fur. Tail is short and black.

Only beavers are larger rodents.

Porcupine teeth continue to grow all their lives. They are herbivores with a varied diet. Their front teeth help them eat natural bark, stems, fruit, leaves and springtime buds. They are excellent climbers and spend much of their time in trees. While there are more than two dozen porcupine species globally, the North American porcupine is the only species in the United States and Canada. It is the largest of all the porcupine species.

Porcupine breeding season is during fall and early winter. Males may fight over the females. Courtship is elaborate with vocalizations: moaning, screaming, grunting or barking. The males dance and

shower urine over the head of the female. Gestation is about 205 – 217 days. A litter is usually one porcupette in spring or early summer. The porcupettes have soft quills at birth that harden quickly. They can forage for food after just a couple of days. The young porcupines are ready to live on their own by the time they are two months old. Lifespan can be as long as 18 years.

While porcupines are solitary creatures during most of the year, they may group in a den for the winter or around a food source. Porcupines do not hibernate, but will remain in a den during adverse weather. A family group of mother and young are called a prickle.

While the range maps do not show Texas, I have seen and documented porcupines near Amarillo, Memphis, and Junction. There is also a photo of a

porcupine at River Ranch County Park.

Editor's Note: River Ranch has named one of the park trails Porcupine Hill and we know why. Keep an eye out for this rascal once they open. 🦔



Dont forget
to sign up for
the all
virtual
Annual
Conference!

River Ranch County Park Update

By Lori Franz

Changes at River Ranch County Park are underway as construction starts to take shape. Once the project is completed, the park will feature overnight RV, tent, and primitive camping. There will be over 12 miles of trails designated for hiking, equestrian, and some biking. The day-use area will include tables and grills for picnicking, a large playground, horse-shoe pits, and a group pavilion that will be available for reservations. The park's Interpretive Center will house interactive exhibits and include a conference room and classroom space available for rent.

Weather permitting, River Ranch County Park will be available to the public later this year.

(Williamson County Parks Department, Newsletter: July 2020)

Friends of River Ranch has been working closely with the County Parks' staff as we near the opening this fall. Following a recent Board meeting we got a personal tour from Russell Fishbeck, Director of the County Parks and his team. We were shown the progress on the Interpretive Center, Headquarters Building, Gate Entrance, Playground, and Pavilion.

It is very exciting to see the daily progress and development first hand, especially for those of us who have been volunteering there for years. Families, hikers, birders, equestrians, cyclists, and campers will discover this Texas gem within our very own county, and will want to return again and again! One weekend isn't enough to take in the miles

of trails available.

Friends of River Ranch County Park's mission is to "advocate and support the park through information, interpretation, and assistance in the maintenance and conservation of the park."

In joining, there will be park benefits and recognition levels, with special categories for you to choose from. Information will become available very soon! 🌲



Pictured from top, clockwise:

Headquarters and Entry, Interpretive Center, Playground, View from Porcupine Hill, Board Tour.

Gilded River Cruiser - First WilCo Record

Story and Photos by Jack Cochran

As I wrote in my previous Good Water Ripples article, *Finding Butterflies at Berry Springs Park and Preserve*, I'm a lifelong birder that expanded my observational interests to include butterflies. What I left out is that I've become equally obsessed with other insects, including dragonflies and damselflies, collectively known as Odonata (or odonates). I'm kicking myself for not paying closer attention to odonates earlier, because they are among the most diverse and colorful and interesting "bugs." I suspect my heightened interest has to do with moving to Texas, which has around 160 dragonfly species, about half of those known from North America. Texas has more of everything, doesn't it?!

On June 10, 2020, I walked into Gate 6 of the San Gabriel Wildlife Area at Granger Lake to look for Prothonotary Warbler (there's the birding connection again). During my hike to the river I photographed numerous dragonflies knowing I'd have to (try to) identify them later. I struck out on the warbler, but after arriving home, I downloaded my photos and started the identification process for insects and plants, using field guides and online resources. One dragonfly stuck out, boldly marked with yellow-on-brown/black and large reddish eyes. I posted it on the Facebook page, Texas Dragons and Damsels, as a possible Swift River Cruiser, but Rick Nirschl quickly identified it as Gilded River Cruiser,

helpfully describing its field marks for me.

I entered the dragonfly as an iNaturalist (iNat) observation, and to my surprise it was the sole iNat Gilded River Cruiser record for not only Williamson County, but the whole of Texas! Martin Reid, an expert reviewer for the Odonata Central (OC) database, indicated it was



one of very few records for Texas and encouraged me to submit it at OC. Turns out there were only seven previous OC Gilded River Cruiser records for Texas, none for Williamson County, and the last state record was 25

years ago in Denton County.

One of the most satisfying things about this sighting for me was the generous help of the Texas naturalist community, which led to making many new friends with similar interests. I would encourage



anyone who is into nature observation to consider documenting your sightings at citizen science databases to help increase our understanding of the appearance, range, habitat, timing, etc. of our Texas fauna and flora.

Resources for Odonates:

iNaturalist ([inaturalist.org](https://www.inaturalist.org)), Odonata Central ([odonatacentral.org](https://www.odonatacentral.org)), *Dragonflies of Texas*, A Field Guide (John C. Abbott, University of Texas Press), *Damselflies of Texas*, A Field Guide (John C. Abbott, University of Texas Press), Dragonfly ID (phone app, search App Store), Texas Dragons and Damsels (Facebook) 🌿

Chapter Member Milestones By Randy Spurlock

First I would like to congratulate the newest certified members of our chapter:

Mindy Phillips from our Spring 2019 class
Robert Cater & Concetta Raymond from our Fall 2019 class

Congratulations to the following members that have re-certified (and earned their Bumblebee pin) for this year:

Billye Adams
Joel Chamberlain
Lori Franz
Craig Halliday
Tonja Hamel
Dale MacLean
Gail McAdoo
Carole Minnix
Richard Powe
Gail Salazar
Larry Swift
August Wusterhausen
Marcia Wutke
Holly Zeiner

We also have several members getting hour milestones as well:

First for 250 Hours:
Sharie DeMoss-Wiseman
Richard Powe

Next up for 500 Hours:
Scott Quigley

And for 1000 Hours:
Dave Gage

Tuna Blood: the History of a Color

By D. Clark Wernecke

It looks a little like a white mold of some sort that you see on prickly pear but as you get closer it appears kind of fluffy. Ever wonder what that was? Would you be surprised to find out that it's something with a long history and world importance? I know I was when I first saw some white patches on prickly pear at the Gault Archaeological Site. A Master Naturalist told me what it was called, cochineal, which sounded vaguely familiar so I did a little research.

Cochineal is a scale insect, *Dactylopius coccus*, of the superfamily Coccoidea. Scale insects are marked by extreme sexual dimorphism – the males have legs and wings and look like a

small fly while the females are soft and have no limbs and are protected under dome-like scales. The white cottony-looking stuff on the prickly pears is a waxy substance the nymphs produce to protect them from the sun and water loss. They also use these long waxy filaments in a form of ballooning, letting the wind take them to other prickly pear patches. They live on the juices of the prickly pear.

As far as humans are concerned it's all about the females. They secrete something called carminic acid to deter predators and carminic acid is the source of carmine, the most brilliant red found in nature. Humans have always regarded red as an important color, the color of life and death, but most natural dyes from plants and minerals produce at best a dull red or pink. Dried cochineal bugs

produce a fiery scarlet color that amazed explorers who first saw it. A number of insects in the same family also produce carminic acid but, of all of them, it is cochineal that makes the best red.

Cochineal was originally found in South and Central America and was the source of the reds used by the Peruvian civilizations and the Aztecs. At the time of Cortes' arrival in the new world 11 cities paid tribute to the Aztecs with 40 bags of cochineal each year. Each bag contained 150 pound of dried insects with about 70,000 insects per pound. The Spanish tried

to protect it as a state secret since it was their second most profitable export from the New World behind silver. Eventually the secret was stolen and other nations founded cochineal plantations of their own. Without cochineal the British Army would not have their red coats, Catholic Cardinals their red robes, or the red stripe on the Texas flag adopted in 1839.

The insects are usually harvested in early to mid-summer when they are about 90 days old. Collecting the insects

is a laborious process as the insects must be gently brushed off of the prickly pear by hand (the Aztec used deer tails). They are then dried and the processing method (hot water, sunlight, steam or heating in an oven) produces different shades of red and orange. The dye was in great demand until the invention of chemical dyes in the mid-19th century but there is now a resurgence in demand for a safe, natural non-toxic dye. The largest users today are the food and cosmetic industries. If you read a label and it says cochineal, carmine, carminic acid or Natural Red 4 – it's full of bugs. Peru is the leading supplier of cochineal today shipping more than 700 metric tonnes a year.

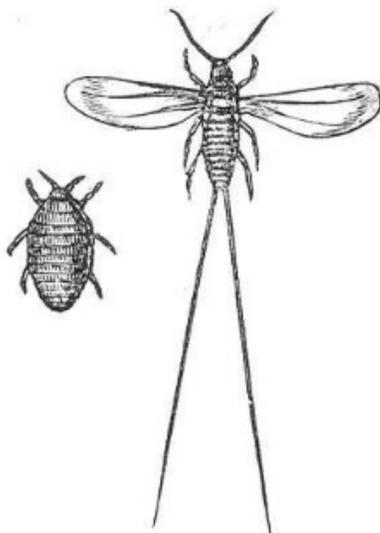
Next time you see cochineal wax on a prickly pear, if you reach past the spines carefully, pick up a little of the white fluff, and crush it between your fingers. Your fingers will be stained with a deep red that used to travel under guard in Spanish treasure galleons.

For more information:

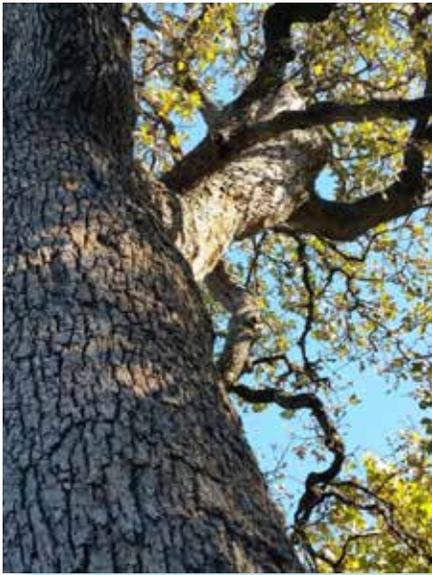
You can download a .pdf of *Cochineal Red: The Art History of a Color* from the Metropolitan Museum of Art at: https://www.metmuseum.org/art/metpublications/Cochineal_Red_the_art_history_of_a_color
Or get Amy Butler Greenfield's book: *A Perfect Red: Empire, Espionage, and the Quest for the Color of Desire* from Amazon or your local library 📖



By Katja Schulz from Washington, D. C., USA - *Cochineal Bugs on Prickly Pear*, CC BY 2.0, <https://commons.wikimedia.org/w/index.php?curid=49980621>



A female (left) and male (right) cochineal. The female is about 5mm long.



Pollinator Conservation

By Wizzie Brown

There are numerous animal pollinators with the majority of those being insects. When most people think of pollinators, they think of bees and more specifically, honey bees. While honey bees are pollinators, they are only a small portion of the bee population around the world. The majority of bees are solitary and nest in the ground. Solitary bees are not aggressive so people should not be afraid of them, especially since many of them are also stingless.

Butterflies and moths are also important pollinators. Unfortunately, due to habitat destruction and other factors, their populations are on the decline. If you want to provide habitat for butterflies and moths, you need to ensure to fulfill the requirements of all life stages. Host plants are needed for eggs and caterpillars; nectar plants are needed for adults; and overwintering sites are needed for various stages.

Flies are an often overlooked pollinator. With their poor reputation for carrying diseases, many people think of flies as pests. Flies can be beneficial by fitting into food webs, breaking down waste material, and pollinating plants (including some food crops such as apples and peppers).

Ideas to conserve pollinators:

1. Plant native plants that provide nectar blooms spring, summer, and fall.
2. Provide a variety of colors.
3. Provide a variety of flower/ bloom shapes.
4. Provide multiple levels.
5. Reduce turf and replace with flowering plants.
6. Plant native bunch grasses which can provide food and shelter for insects.

7. Allow fallen leaves to remain on property to provide shelter.
8. Create areas of bare soil for ground nesting bees (choose sunny areas that will provide dry soil).
9. Use IPM (integrated pest management) to reduce pesticide use.
10. Provide water in a SAFE manner for insects.
11. Use shallow dishes with rocks or stones.

For more information or help with identification, contact Wizzie Brown, Texas A&M AgriLife Extension Service Program Specialist at 512.854.9600. Check out my blog at www.urban-ipm.blogspot.com

Bortle Scale

By April Rohlich

Perhaps you have finished every documentary, Zoom meeting and movie available online and organized all your drawers and photos. What's next? Work on your Bortle Scale, of course.

The Bortle Scale is a nine-level numeric scale that measures the night sky's brightness of a particular location. It quantifies the astronomical observability of celestial objects and the interference caused by light pollution. Artificial light can disrupt circadian rhythms of migrating birds. Frogs may decrease or cease their mating calls because of bright lighting. It can be detrimental to fireflies and butterflies as well. We humans can well be nourished by the sight of our sky full of stars.

Take a walk around your home at night and check for ways you may eliminate or change your lighting to better your Bortle Scale grade. You may want to switch to a solar motion light, for instance. Or reuse an old coffee can to help direct that back porch light down. Help preserve the dark night sky and the creatures that depend on the precious resource.

For further information: darkskyfinder.com



Red-tailed Specter Moth, *Euerythra phasma*

By Mike Farley

The Eribidae family was first described by Leon F. Harvey in 1876.

It ranges across South-Central United States including Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, Missouri, Oklahoma, Tennessee, and Texas.

This is the fourth specimen posted to iNaturalist for Williamson, Co. with observations in both spring and fall.

Bumelia is the host plant for the larvae according to Bugguide.

In Memoriam: Michael Patrick Flinn, 1954 - 2020

Michael Patrick Flinn (Mike) of Belton, Texas, passed away on July 5, 2020 surrounded by family after a short battle with a rare and aggressive cancer.



in history from the University of Mary Hardin Baylor, and earned his Juris Doctorate from The University of Texas at Austin.

Mike deployed overseas three times and during his deployment to Iraq completed a Master's degree in Strategic Studies at the US Army War College. After more

Mike was born in Heidelberg. He is survived by Amy Flinn, his wife of 39 years and fellow Master Naturalist.

Mike was an Army brat, but he spent his high school years in Queens, New York and identified as a New Yorker until he switched his allegiance to Texas later in life. He received his Bachelor's degree

than forty years of total military service, he retired in 2014 as a colonel.

In 2001, Mike spent several months in New York City finalizing a housing

contract for Fort Hood. When the planes hit the World Trade Center, he went to Ground Zero to help support the rescue efforts and lead a group of volunteers. He was the kind of person who ran toward the emergency, not away from it.

Mike was funny, a daredevil who was always game to travel abroad, jump out of a plane, zipline, parasail, tube the river, monitor frogs, turtles and snakes, throw a frisbee, have a super soaker fight, or play a board game.

In the Fall 2016 class, Mike had a total of 238.5 volunteer hours and 63 AT hours. One-third of his hours went to the amphibian watches and 47 hours of iNaturalist observations. Mike really enjoyed being outdoors!🍀

From Guinea Pigs to Contributors: A Foray into Game Camera Citizen Science GWMN Chapter Meeting September 24

Presented by Mike Farley and Kathy McCormack

This presentation will review our Phase 1 camera loan project for Texas Parks and Wildlife, our process development, successes, and culmination.

Now, during our Phase 2 project, we discuss the challenges of beginning from scratch, the complications associated with Covid-19, new processes, and our future direction.

Mike Farley has been employed by a local family-owned, manufacturing business for 33 years. With 40 years' experience as a machinist, including four separate Mars surface missions, Multiple West Texas Telescope hardware manufacture, and countless Surgical and Medical profession fabrications, Mike has carried the old school torch throughout.

Mike is often referred to by peers, as an artist, or master in craft. A Master Naturalist since fall of 2014, Mike has an overwhelming desire to photograph and document nature, learning along the way.

Kathy McCormack is a project manager in a groundwater team at a Texas state agency. She has been a Texas Master Naturalist since 2006 with a focus on amphibians, active in several committees at Travis Audubon Society and the Williamson County chapter of the Native Plant Society of Texas, and a volunteer water quality monitor for 10 years.

Kathy relishes learning new things about the natural world and sharing that information with others. 🍀

A product of the Trade School era,



For more information about the Good Water Chapter contact us at:
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