

# Good Water Ripples

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## Mosquito Repellents

By Wizzie Brown

Mosquitoes are out and since they are capable of disease transmission, it is important to protect yourself when outside. Of course, you can wear long pants and a long-sleeved shirt in light colors to reduce the number of mosquitoes that can reach your skin when outside, but this is not always the option people choose with temperatures on the rise. Another option to protect yourself is repellent.

Repellent should be applied to clothing and exposed skin; do not apply repellent underneath clothing! If you want to apply repellent to your face, spray your hands then rub it onto your face. Do not spray repellent directly into your face or near eyes or mouth. Make sure to apply repellent outdoors. Do not allow children to handle repellents and seek advice from a physician regarding insect repellent use for children under two years of age. Wash hands before eating, smoking, or using the restroom.

To reduce disease transmission from mosquitoes, the Center for Disease Control (CDC) recommends using a product registered with the Environmental Protection Agency (EPA) containing one of the following active ingredients: DEET, picaridin, IR3535, oil of lemon eucalyptus (OLE), para-methane-diol (PMD), or 2-undecanone.

DEET, also known as N, N-diethyl-m-toluamide or N, N-dimethylbenzamide, was developed by the U.S. Army in 1946. Pesticides containing DEET have been used by the public since 1957.

Products containing DEET should not be used on children younger than two months of age. DEET has a slight odor and may have a greasy feel to some people. It may damage plastic, rubber, vinyl, or synthetic fabrics. DEET may be irritating to the eyes and skin for some people and comes in a wide variety of concentrations.

Picaridin was first made in the 1980's and resembles a natural compound called piperine (found in plants used to produce black pepper). Picaridin has been used in Europe and Australia for many years but has only been in the U.S. since 2005. Picaridin is non-greasy and odorless.

IR-3535, or 3-[N-Butyl-N-acetyl]-aminopropionic acid, ethyl ester, was developed in the mid-1970's and became registered for use in the U.S. in 1999. It is registered as a biopesticide by the EPA because it is functionally identical to a naturally occurring substance (an amino acid). It may dissolve or damage plastics and may be irritating to the eyes.

Oil of lemon eucalyptus (OLE) and PMD (para-menthane-3,8-diol) are essentially the same thing; PMD is the synthesized (lab created) version of oil of lemon eucalyptus. "Pure" or "essential" oil of lemon eucalyptus is not labeled as a repellent and has not undergone testing and should not be used as a repellent product. OLE/PMD has been on the

**Story continues on Page 2**



We are pleased to announce Mark Pettigrew as the new Park Manager for Berry Springs Park & Preserve.

Mark is a dedicated and valued team member who has served Williamson County (WilCo) and its residents for over 12 years. He began his career with WilCo in January 2009 at Berry Springs Park & Preserve working alongside Susan Blackledge as a Maintenance Technician. Mark has achieved great things in his previous positions with the Parks Department including being a face for us on social media in the "At the park with Mark" series. He has stood out as a leader within our department and has shown true commitment towards enhancing recreation and conservation efforts throughout the county.

Now, he will bring his knowledge and experience to lead Berry Springs Park & Preserve as the new Park Manager.★

## Story continues on Page 2

market in the U.S. since 2002. OLE/PMD should not be used on children younger than 3 years of age. The natural product (OLE) has known allergens within it while the synthetic version (PMD) has less of a risk to allergens. This product is classified as a biopesticide. OLE/PMD has a varying range of residual, some offering about 20 minutes of protection while other products may last up to two hours.

The product 2-undecanone is also known as methyl nonyl ketone or IBI-246. It is a colorless oil that can either be produced synthetically or extracted from plants such as rue, cloves, ginger, strawberries, or wild grown tomatoes. This product is fairly new.

Many factors play into how long a repellent will last for a person. Some of these are:

The concentration (or percent of active ingredient) of the product. You can find the percentage on the product label.

Person's attractiveness. Some people are more attractive to mosquitoes than others (and no scientific research has proven that it is because of eating garlic, taking

vitamin B, using tobacco products, etc.). A person's genetic code plays a large part on what makes a person so attractive to mosquitoes.

Frequency and uniformity of application. In other words, how often is the repellent applied and how good of coverage did you get?

Activity level of the person. The more active the person is, the more sweat they produce which can cause the repellent to wash off the surface of the skin.

As a word of caution, there are products that combine sunscreen and insect repellent. The CDC recommends that if you need sunscreen and repellent, that you choose two separate products. Sunscreen should be applied more often than repellents.

For more information or help with identification, contact Wizzie Brown, Texas AgriLife Extension Service Program Specialist at 512.854.9600. Check out my blog at [www.urban-ipm.blogspot.com](http://www.urban-ipm.blogspot.com)

This work is supported by Crops Protection and Pest Management Competitive Grants Program [grant no. 2017-70006-27188 /project accession no. 1013905] from the USDA National Institute of Food and Agriculture. ★

## Invasive Worm in Williamson County

By Cindy Chrisler

Have you seen a large planaria lately? The Shovel Headed Garden Worm (*Bipalium kewense*) is an invasive species that has spread to the U.S. in plant pots with contaminated soil. This planaria exudes a toxin that immobilizes its prey, then everts its pharynx to consume its meal. Their main prey is earthworms. The toxin they exude can be harmful to humans, so do not handle with bare hands! They tend to come out after rainfall, when the soil is moist and they move to new territory.

If you see one, kill it by physically removing it with gloved hands, a paper towel, or a stick, into a plastic bag with a



little salt, then throw the sealed bag away (although you may use a blow torch with the same outcome). Be sure to get the whole worm since they can regrow from segments. Wash your hands afterwards.

Report any sightings by email to the Texas Invasive Species Institute at [invasives@shsu.edu](mailto:invasives@shsu.edu), with coordinates or a general description of the location (something more specific than just your zip code) and a photo. For more information, you can visit this website, [texasinvasives.org](http://texasinvasives.org). (the page for this species is [https://texasinvasives.org/animal\\_database/detail.php?symbol=26](https://texasinvasives.org/animal_database/detail.php?symbol=26)) ★

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Pollinator Garden - Elizabeth Sartain

River Ranch County Park -

David Armstrong

# 2021 Good Water Master Naturalist Spring Training Class

By Mary Ann Melton

Good Water Master Naturalist Fall Training Class will start on Tuesday evening, September 5, 2021 through December 14, 2021. The class will meet on Tuesday evenings from 6:00-9:30 p.m. Classes will be held virtually using the Zoom webinar platform. We are hoping to do some in-person field trips this fall. Field trips will be on Saturdays.

The plan is for the first class to meet at the pavilion at Berry Springs Park & Preserve. Cost is \$150 and includes the comprehensive Texas Master Naturalist Program manual as well as a one-year membership to the Good Water Chapter. For couples who plan to share the manual, there is a discount for the second student. Click here for online registration: <https://txmn.org/goodwater/Training-class-online-application/>.

Check the website after August 15 for the link to the final schedule: <https://>

[txmn.org/goodwater/texas-master-naturalist-training-program/](https://txmn.org/goodwater/texas-master-naturalist-training-program/)

Texas Master Naturalists are people who still like to play in the dirt and are willing to get their feet wet and their hands dirty. We are a volunteer organization and we have many opportunities to serve. Good Water Master Naturalists volunteer at many parks in Williamson County, provide nature education to children and adults in many different settings, and participate in many Citizen Science projects such as Texas Stream Team Monitoring, Cornell's eBird, and iNaturalist. To become a Master Naturalist, one takes a training class of over 40 hours of expert training about almost every aspect of the natural world – soils, backyard habitats, prairies, rangeland management, forest ecology, birds, mammals, fish, insects, botany, climate, geology and archaeology.

Here are some comments from people who took the training class last fall: "The

*passion of the speakers about their subject was contagious."*

*"The program was something we thoroughly enjoyed and are proud to be a part of. It was refreshing to develop relationships with people who truly care for our environment. After completing the training, we see our natural world through an improved lens."*

To complete the certification process, each volunteer completes 40 hours of service and an additional eight hours of training. To maintain their certification each year, volunteers are encouraged to take their knowledge and volunteer for 40 hours and take eight hours of additional training.

Click here for the Good Water Website for more information about the Good Water Chapter: <http://txmn.org/goodwater> ★

## Leaffooted Bugs

By Wizzie Brown

Leaffooted bug adults may be mistaken for stink bugs while the immatures may get confused with assassin bug nymphs. Leaffooted bugs are larger than stink bugs and have an elongated body. They often have an expanded region on their hind leg that looks similar to a leaf, hence the name leaffooted bug. Adults are fairly large and grayish-brown.



*Immatures*

Immatures, or nymphs, look similar to adults, but are often reddish-orange in color and do not have fully developed wings. Assassin bug immatures will not have the leaf shape on their hind leg and

tend to have a thicker mouthpart. If you see insects clustered together, like in the photo, then they most likely will be feeding on the plant since predaceous insects don't want to hang out with other predators.

Leaffooted bugs feed on a variety of fruits, nuts and seeds, such as tomatoes, peppers, pecans, or sunflower seeds. They have piercing-sucking mouthparts used to puncture fruit to suck out juices. The opening left behind after the mouthpart is withdrawn can allow access to secondary

invaders like bacteria or fungus.

Leaffooted bugs can be managed by hand-picking (be sure to wear gloves if utilizing this method), using hand-held vacuums to suck the insects off the plant, or by treating the plants with pesticides. If choosing to use a pesticide, read the product label and make sure it can be used in the area you are treating (i.e. vegetable garden).



*Adult*

For more information or help with identification, contact Wizzie Brown, Texas AgriLife Extension Service Program Specialist at 512.854.9600, or her blog at

[www.urban-ipm.blogspot.com](http://www.urban-ipm.blogspot.com) ★

# A Master Naturalist Road Trip

Story and Photos by Mary Ann Melton

My husband and I decided to celebrate our big anniversary with a road trip to Oregon this summer. Becoming a Master naturalist 12 years ago has changed some of our itinerary choices. As we plan our routes, we look for National Wildlife Refuges and other areas rich with wildlife to visit on our route.



*Violet-crowned Hummingbird*

Our first location was Franklin Mountains State Park as I had been wanting to check out the Texas desert birds in that area. Later as we headed through Arizona, I realized how close we were going to be to the Paton Hummingbird Center. At the time my primary observations were birds with a few mammals, plants and insects as opportunities came up. We traveled through New Mexico, Arizona, California, Oregon, Idaho, Montana, Wyoming, and Colorado over this three-week trip.



*Broad-billed Hummingbird Paton Center for Hummingbirds*

A day or so into the trip I learned that the North American Nature Photography Association (NANPA) had a bioblitz going on. I quickly joined and it changed the character of our trip in many ways. The NANPA Nature Photography Day Bioblitz ran from June 4 - June 15. It was not geographic specific. My observations started on June 6th at the Franklin Mountains State Park. That day I was

photographing animals and not paying as much attention to plants and insects. Once I joined the bioblitz, everything living was on my radar. Even after the official bioblitz ended, I kept documenting as many species as I could throughout the rest of the trip. For the official bioblitz I had 575 observations with 308 species. To see my observations, here is the link to my bioblitz observations: [https://www.inaturalist.org/observations?project\\_id=106753&ttl=900&v=1625403844000&place\\_id=any&verifiable=any&subview=grid&user\\_id=16735](https://www.inaturalist.org/observations?project_id=106753&ttl=900&v=1625403844000&place_id=any&verifiable=any&subview=grid&user_id=16735)

Since this was such a different bioblitz with no geographical boundaries, I was concerned about getting my observations' identities confirmed. So . . . I went searching for projects that would have curators who might take time to identify what I was finding. I searched for projects in the states I was traveling through, projects with the type of life I was documenting – insects, lichens, mammals, birds, grasses, etc.

This was an anniversary trip,

but fortunately, my husband was patient, stopping along a road for me to document a plant. He worked on his iPad as I took nature walks documenting the plants and animals I saw. But adding a bioblitz to the trip made me more aware of all the plant diversity all around us. We were in so many different ecosystems. I am still not finished uploading all my

photographic observations to iNaturalist for the entire trip. Currently I am at 925 observations with 486 species. I am sure the final total will exceed 1000 observations. I have created a project on iNaturalist to document everything from the trip. It even shows the map of the United States where the observations occurred. <https://www.inaturalist.org/projects/melton-anniversary-trip-june-2021>



*Broad-tailed Hummingbird*

I was also recording my bird observations on eBird. I had 16 life birds. I have not yet added

my Yellowstone birds because there is such limited cell signal there. But at this writing I have at least 82 species of birds documented on eBird.

My years of being both a nature photographer and a Master Naturalist have made me much more observant of all the life around me. I am grateful that the NANPA Bioblitz spurred me to take the extra time to document so many of the plants and animals I saw on this trip. I really learned a lot about the species,

especially plants along our route because I did so many observations. And . . . it is interesting that I get a thrill when my guess on the identity



*Harlequin Ducks - Yellowstone National Park*

turns out to be confirmed. I am glad when my guess gets corrected because I learn from that as well. ★

# Palo Duro: The Grand Canyon of Texas

Story and Photos by Lori Franz

I finally get to check something off my bucket list, and it's been on there for a while. Summer 2021 is the year for escape for some. Like the National Parks, the State Parks are busy too, but I anticipated this and made reservations five months ago, per the recommendation of the park reservation system.

With my trusty driver and trailer in tow, we pulled out in early June toward our first stop, Dinosaur Valley State Park, Southwest of Fort Worth. I didn't know five months

ago that a big rain would be making its presence throughout Texas just prior, so the Paluxy River in the park was overflowing, racing its way downstream. Rain in Texas is usually good news; bad news is the dinosaur tracks were invisible, several feet underwater. But the casts made of the tracks and complete history are at the Park Visitors Center, and the two full-size models of the carnivorous Theropod and a vegetarian Sauropod (a hunter and its prey) are just down the road. I may not have seen the actual tracks, but I can say I was there, and have my pictures to prove it. I enjoyed the rain, the fossils, and the history, as well as the town of Glen Rose.

The North Central Rolling Plains transition to the High Plains of Texas, and once you pass through Lubbock and drive north toward Amarillo you find Canyon, Texas, home of West Texas A&M. Population of 13K in

2010, it also houses the Panhandle Plains History Museum and is a good size town. I wonder what our predecessors thought when they traveled just east of town and saw the land drop off 600-800 feet, for roughly 120 miles. We'd reached our destination: Palo Duro Canyon. <https://tpwd.texas.gov/state-parks/palo-duro-canyon>

[tpwd.texas.gov/state-parks/palo-duro-canyon](https://tpwd.texas.gov/state-parks/palo-duro-canyon)

And what a view it is. A striking panoramic view with over 250 million years of geologic history, the layers of sandstone, shales, and distinctive white gypsum

are there for you. Differential erosion creates various hoodoos and are always fun to encounter.

The State Park consists of 27,173 acres in three counties. Through the park, the Prairie Dog Town fork of the Red River was a lot bigger than it is now, carving its way downstream. The wildlife depends on this stream of water

as the tracks and sightings tell. Visible tracks and my nightly trail camera showed a lot of nocturnal activity as well. I never saw the (introduced) Barbary Sheep species though. Probably nowhere near humans.

Mornings brought a lone wild turkey, nicknamed Henrietta, white tail deer, and a pair of Mississippi Kite nesting near our

campsite. The Gold-fronted woodpeckers, always one of my favorites, live in the canyon along with Canyon Towhees, Painted Buntings, Roadrunners, and others. Birding is a popular activity in the park. My favorite experience was from a climb high above when a coyote called one morning, to be answered across the canyon by another. Pretty cool.

With 35 miles of hiking and biking trails, each hike was uniquely different with four bioregions represented. Close to the stream were an abundance of wildflowers, cactus, and lots of birds. And coming out of the riparian walks you climb close to canyon walls and take in vistas that are awesome. At this dry, higher elevation one encounters various lizard species (I counted four) and oh yes, an occasional rattlesnake. No mistaking this one was a Western Diamondback.

Sundown brings a welcome relief of temperature and the musical showing

in the Park's amphitheater, *Texas*. It is the longest running outdoor musical in the state, telling the history of Charles Goodnight and his JA Ranch which, at its

peak, was 1,325,000 acres and managed 100,000 head of cattle. One must get advance tickets for the show and with the canyon wall as its backdrop is something to see. <https://www.texas-show.com/>

I was glad to see the second largest canyon in North America, with its unique history including 12,000 years of Indian (mostly Comanche) occupation before the cavalry came and the ranchers and farmers arrived. We are fortunate to have this state park preserved for all of us to visit. Put it on your list.★



*Hoodoos in Palo Duro Canyon*



*Western Diamondback Rattlesnake*



*Eastern Collared Lizard*

# Petrophila, The Lepidopteran Aquatic Macro-invertebrate

Story and Photos By Mike Farley

Imagine yourself walking along a stream. There is tall grass all around you. Inland wood oats and shoulder high Frostweed fill your path. An occasional briar forces you in another direction. As you walk, numerous insects flee from your presence.

Among them is a small common moth who upon closer inspection, just happens to be beautiful! Petrophila's story is much more remarkable than simply being attractive.

The Petrophila genus from the Crambidae family, of which there are 17 species in North America, are aquatic as larvae. The name most likely means 'rock lover'. An adult female enters the water to lay her eggs on rocks in swift moving water. She has a plastron like bubble of air to breathe from while under water for an ex-



tended length of time. The eggs become larvae with multiple stages, living inside a somewhat flattened case with a silken web inside attached to a rock in swift moving water and feeding on diatoms and algae.

As impressive as that is, Petrophila have another trick in the form of mimicry as an adult. Often, when an adult lands on a surface it spreads its forewings slightly leaving the hindwings partially visible.

This reveals a group- ing of black dots that are said to mimic Salticid jumping spiders. Thankfully, this makes it much easier to achieve species identification from the patterns on the hindwings.



In central Texas there are four species with Petrophila Jalisco being the most common. On one occasion, while collecting macro-invertebrates for public outreach with Mary Ann Melton, I found in the bottom of her D-net an adult moth that I just collected from under swift moving water. I was quite astonished to see it soaking wet but pristine. Either the moth had reached the adult stage of its lifecycle, or it could have been a female ovipositing. Adults fly from June to September and probably longer in southern areas. Males are typically smaller than females with wingspans from 11 to 24 mm.

Moths are a very important part of any ecosystem as pollinators and as a food source for Bats, Birds, Dragonflies, and in this case, Fish!

Sources: Bugguide, Moth Photographers Group, iNaturalist ★

## Meet Michelle Goerdel

Hi! I'm Michelle Goerdel, your new VP for the Good Water chapter. My husband, Andy Goerdel, and I retired (I was a Commercial Banker, and he was at Microsoft) in 2016. We moved to Georgetown, TX from Kirkland, WA to spend more time with Andy's aging parents and get a little more sun.

We got interested in the Native Plant Society first and through them discovered Master Naturalists. While I like plants, I'm a big fan of the wider outreach of Master Naturalists, which is why we've gotten more involved in this group. I'm a big archaeology geek - we've done a lot of traveling the last five years and every trip



has at least a few visits to some archaeological sites! Our travels tend to focus on the natural world rather than cities- you'll almost always find us at a national park, on a trail, or in a botanical garden. For example, our three-month trip to Australia in 2019 included 10,000 miles of driving and 25 national parks. We hiked about 600 miles and went to botanical gardens in nearly every state of Australia!

We have looked at many volunteer groups since we moved here wanting community and shared interests, and in joining the Master Naturalists, we think we've found our Texas tribe. ★



### Where the Awards Live...

This is the AgriLife Office hanging file filled with your awards and pins! Amy sits to the left of the door as you enter and can help direct you to them. Also, the Hours Plaques have been updated and are proudly displayed on the Hall of Honor wall leading to the file. Thanks to Shelley Franklin! And, thanks to everyone for your patience!

# The Naturalist Cowboy Part 1

Story and Photos by Rev. Paul Crown

When we talk about Naturalists, we generally think of either the biologist that studies the impact of species on each other and the environment in which they live, or we think of the perpetual student who is attuned to and enthusiastic about the natural world, such as Master Naturalists. Over a hundred years ago, the South and Mid-West United States had another type of Naturalist: the Cowboy.

“Cowboys are a different breed in how they manage land,” said Dr. Richard Jeo, Montana state director of the Nature Conservancy in 2017. “They have no interest in breaking sod. They just want to ranch.” Cowboys aren’t trying to make the land into something new, Jeo continued. They aren’t looking to force the arid soil to grow crops. They let the land and the season dictate their lifestyle, like when to calf and when to move their herds.(1) The cowboy is a Naturalist that wanted to work with nature, not disturb it. This meant they needed to understand which grasses grow, where and when. How much grazing could be handled without killing off the native plant populations, and when NOT to graze a particular area to prevent soil erosion.

In modern day Oregon, scientists and ranchers have forged an uncommon alliance to preserve the rare habitat of the Zumwalt Prairie. Grasslands need some kind of disturbance to thrive over time, says Jeff Fields, manager of the conservatory. “Well-managed grazing is probably our best opportunity to conserve and improve this grassland,” he says. By managing where and when cattle and sheep graze the grassy prairie, ranchers have become Conservation Cowboys.(2)

One quite unusual Cowboy of this

sort was born and raised in Williamson County, Texas: Willie M. “Bill” Pickett. He was of both African-American and Cherokee Indian descent. Bill was born to Thomas Jefferson and Mary Virginia Elizabeth Gilbert Pickett, both of whom were former slaves, on December 5, 1870 in Jenks Branch, Williamson County, Texas, the second of thirteen siblings.(3)



Jenks Branch, a community and small stream in western Williamson County, named for John Jenks in whose survey the stream lies, and where many large camp meetings were held after about 1870. Milas, Richard and Nelson Miller, three African-American brothers, purchased land in the area soon after the Civil War, and helped other families to settle there. Thus the community became to be called the Miller community.(4) The community was located five miles southeast of modern Liberty Hill, and near the Travis County line.

In 1888, the Pickett family moved to Taylor, Texas. Two years later, Pickett married Maggie Turner, a former slave and daughter of a white southern plantation owner. The couple had nine children.(5) Pickett left school in the fifth grade to become a ranch hand; he soon began to ride horses and watch the longhorn steers of his native Texas.

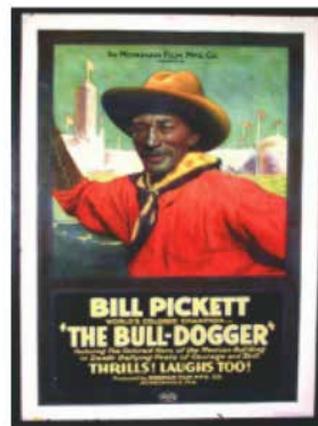
He invented the technique of bulldogging, the skill of grabbing cattle by the horns and wrestling them to the ground.(6)

It was known among cattlemen that, with the help of a trained bulldog, a stray steer could be caught.

Pickett's method for bulldogging was biting a cow on the lip and then falling backwards. This method eventually lost popularity as the sport morphed into the steer wrestling that is practiced in rodeos today.(7)

Pickett soon became known for his tricks and stunts at local country fairs. With his four brothers, he established The Pickett Brothers Bronco Busters and Rough Riders Association. He did his bulldogging act, traveling about in Texas, Arizona, Wyoming, and Oklahoma.(8) Pickett's ethnicity resulted in his not being able to appear at many rodeos, so he often was forced to claim that he was of Comanche heritage in order to perform.(9)

In March 2015, the Taylor City Council announced that a street that leads to the rodeo arena will be renamed to honor Bill Pickett. In 2017 a bronze statue of Pickett's likeness by Alan Davenport was erected at the North West corner of Main and Second Streets, in downtown Taylor, Texas.(10) The statue memorializing him as “The Father of Bull Dogging” has since been added to the World List of Statues of Historical Figures. This moniker is raised in the 1994 film, “The Cowboy Way” in a comedic exchange between



Ernie Hudson (playing a black horse mounted New York Police officer) and Woody Harrelson (playing a cowboy hick from New Mexico). The exchange ends when Keifer Sutherland (also playing a New Mexico cowboy) confirms the famous Black Bull-dogging Cowboy is Bill Pickett from Texas.(11)

**Read Part 2 of “The Naturalist Cowboy” in next month’s issue including the full bibliography and source list.**

# 2021-22 Junior Master Naturalist Training

By Mary Ann Melton

Youth in Third through Fifth grades are invited to explore the natural world around us with the Junior Master Naturalist (JMN) 2021-2022 program Earth Wonders hosted

by the Good Water Chapter of Texas Master Naturalists and 4-H of Williamson County. Our hope for the 2021-2022 year is to have two meetings per



month - one virtual session and the other a field trip. Depending upon the county COVID level, we may go back to two virtual sessions per month with possibly virtual field trips. Virtual sessions will be on Thursday evenings from 7:00-8:00 p.m. Field trips are on Saturday mornings; virtual field trips are on Thursday evenings.

The first session will be an informational meeting for those registered on September 18th at the pavilion Berry Springs Park and Preserve. The topics this

year are geology, astronomy, watershed, water reclamation, paleontology, weather, sustainability, and land management.

JMN will also learn to be citizen scientists capturing their observations in iNaturalist and sharing with their colleagues. As our service project for the year, each JMN will choose a natural area near them to record the plants and animals found there throughout the school year.

We are in the process of planning a Middle School JMN Program that will be once a month Saturday field trips. That will not launch until the COVID levels for Travis and Williamson Counties fall into lower categories.

Registration is open until September 15th or until we reach our maximum number of participants.

Further information is available from <https://txmn.org/goodwater/gwmn-junior-master-naturalist-program/>. The link for online registration is: <https://txmn.org/goodwater/junior-master-naturalist-registration/> ★

## GWMN Certifications and Milestones

Congratulations to these GWMN members for completing their initial certification, certification, or recertification:

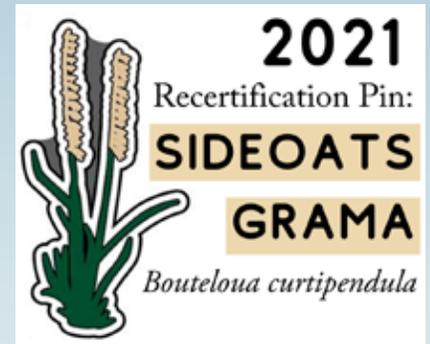
Butcher, Michelle; Chrisler, Cindy; Ebner, Ross; Edgar, Cynthia; Edwards, Derek; Ekvall, Sharla; Fischer, Kristin; Fowler, Amanda; Frist, Melanie; Goerdel, Andy; Goerdel, Michelle; Hailey, Jim; Hard, Krystal; Hernandez, Cindy; Hester, Lynne; James, Brad; Knight, Kate; Koschoreck, Sonia; Landry, Ashley; MacLean, Dale; McCann, Todd; Melton, Mary Ann; Meyer, Rick; Murphy, Bets; Nelson, Jim; Phillips, Nancy; Powe, Richard; Raymond, Concetta; Rhoden, Wayne; Rodriguez, Bee; Rohlich, April; Salazar, Gail; Senchack, A.J.; Spurlock, Randy; Spurlock, Sandra; Swift, Larry; Ulrich, Flo; Urban, Leona; Waring, Bob;

West, Emily; Wieland, Jim; Wood, Paige; Woods-Nunn, Jessica.

Special congratulations to these members achieving Milestone awards:

Susan Blackledge, 2500 Hours; Martin Byhower, 500 Hours; Cindy Chrisler, 250 Hours; Jack Cochran, 1000 Hours; Cynthia Edgar, 500 Hours; Sharla Ekvall, 250 Hours; Lori Franz, 500 Hours; Mary Ann Melton, 5000 Hours; Richard Powe, 500 Hours; Karen Schnell, 1000 Hours; Sandra Spurlock, 1000 Hours;

All milestones are for this year except for Karen Schnell's who didn't get her hours recorded until after the December meeting. ★



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

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