Rio Grande Valley Chapter, Texas Master Naturalists

The Chachalaca

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IN THIS ISSUE

Becoming a Better Naturalist

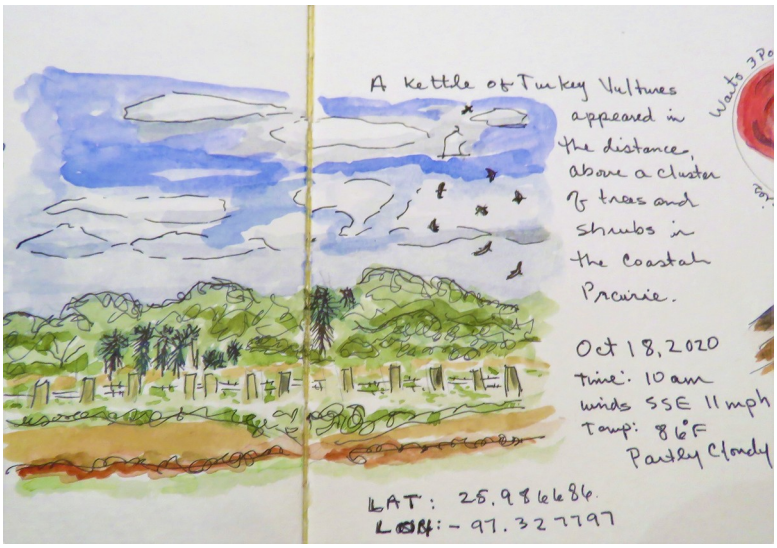
by Maria R. Reyna-Gomez**,** Rio Grande Valley Chapter

Based on my areas of interest, I attended three presentations in our Virtual Annual TMN Meeting in October. I have woven my take aways and my resulting action into this article.

Learn, Do, Reflect, and Share was the message I took away from the **"The Personal Botany Field Trip"** by Lori Buffum and John & Karen Gardner of the Gideon Lincecum Chapter. In this session, the Education Directors explained how they overcame a class dilemma when the pandemic hit in March. The Gideon Lincecum Chapter was in the midst of the new class training and needed an alternative way to incorporate a field trip. During the session, they shared the outline of the assignment given to the new class members. The students were to go out and choose three plants, record their observation, complete the provided outline, and format a presentation for sharing.

I learned how essential vultures are to our environment from **"Vulture: The Private Life of an Unloved Bird"** by Katie Fallon. Katie talked about vultures of the world and the threats the vultures face. She reported on the vultures in North America and described the sub-species, migratory paths, diet, habitat, and breeding. She explained how the vultures play an important role in our ecosystems by disposing of carrion (the decaying flesh of dead animals, including humans) that would otherwise contaminate the waters, soils, and air.

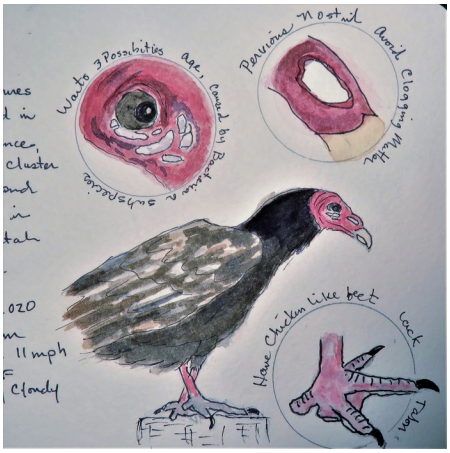
Always pay close attention and record what you see. Now. In the present. If you do this, it will help you remember and relive the experience in the future, was my take from **"Try Out Nature Journaling"** by Irmi Willcockson, a Master Naturalist from the Gulf Coast Chapter. Nature journaling encourages a person to slow down, pay attention, and have personal records. It allows a person to look back and relive the experience. A nature journalist uses pictures (sketches, drawings, photographs), words (descriptions, labels, poems), and numbers (how long, how many, how often) to describe the observation or experience. This session was a repeat for me. The week before I had attended a virtual nature journaling conference "Wild Wonder 2020" hosted by John Muir Laws and the Nature Journal Club.



Listening to these three sessions and taking notes was not enough! I decided to put some of what I learned into practice. What follows is the approach I took in the hopes of becoming a better naturalist.

With class notes, journal, pen, camera, and binoculars in hand, I drove out one Sunday morning in search of Turkey Vultures. It was not long before I came up to a kettle of Turkey Vultures in the distance near the Port of Brownsville. I watched them as they circled and ascended the sky. In my journal I noted the date, time, weather, coordinates, counted the number of birds, and other observations. I settled down to sketch in my nature journal... a small landscape depicting the kettle in

the distance. After the birds were no longer visible in the horizon, I drove around in hopes of finding a vulture I could photograph. Without luck, I returned home.

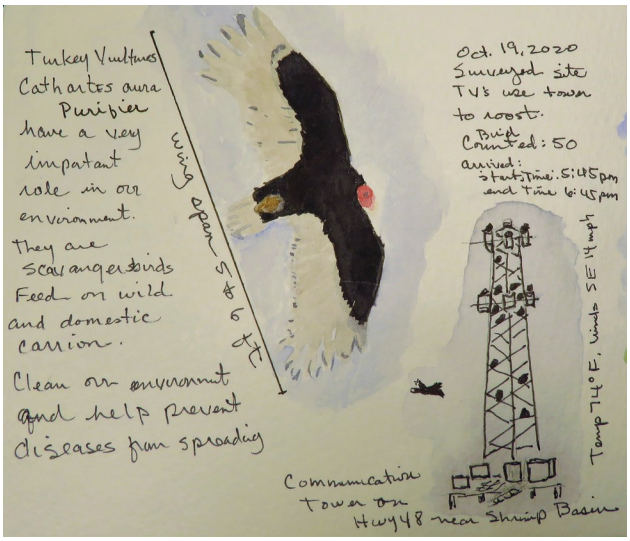


Once home, I remembered my husband taking pictures of turkey vultures and I searched my computer files. I found the perfect reference photo which I could use as I continued journaling my observations. In my nature journal, I sketched the vulture's distinctive features (nostril area, warts around the eyes, and the chicken-like feet).

I proceeded with an internet research for more information on vultures of North America. I will not write about the details of the birds, but I will direct you to search the RGVCTMN website. There are several archived articles pertaining to Turkey Vultures. There is also a Turkey Vulture article in this issue of the newsletter.

Katie mentioned that vultures are now using communication towers to roost. I remembered that on previous occasions I had seen several vultures perched at a communication tower on Hwy 48 near the Shrimp Basin at the Port of Brownsville. For two days, I drove to the location after work. I found there were approximately 50 turkey vultures coming to roost at this tower.

One by one each vulture glides in and settles down on the tower's lattice framework or on the communication equipment and antenna area. I noted that no matter which direction they initially fly in from, the vultures will line up with the tower and glide in against the wind. The last bird showed up no later than 6:45 pm. On only one occasion I observed seven vultures approach the tower all at once. With this last observation, I completed my nature journal and my personal study of Turkey Vultures.



In summary, I learned by studying, observing, documenting, sketching, and sharing my adventure with you. I am feeling gratified that not only was I able to attend the TMN Virtual Annual Meeting, but that I put what I learned into practice and had fun doing it.

Fun Turkey Vulture Trivia

1. A group of vultures is call a _ _ _ _ _. (word other than flock)
2. In flight a flock of vultures is a _ _ _ _ _ _.
3. When feeding at a carcass the group is called a _ _ _ _.

Answers are printed elsewhere in the newsletter

Project FeederWatch feederwatch.org
- - Earn TMN Volunteer Hours and Never Leave Home

Photos and article by Donna Otto, President, South Texas Border Chapter

Hummingbird

The Cornell Lab of Ornithology is host to Citizen Science Project FeederWatch. I have participated in this program for several years now and find it very rewarding. While sharpening my bird identification skills, this project also gives me an opportunity to study birds closely as I conduct my count. In their Handbook, Cornell Lab explains:

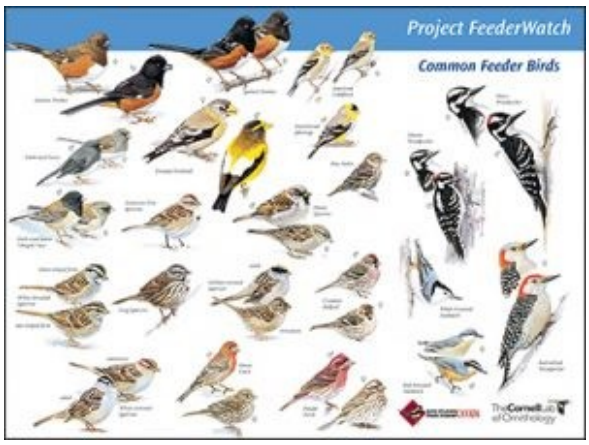
> "The main goal of Project FeederWatch is to combine the interests of backyard bird watchers with the needs of ornithologists who study bird populations. By making simple, standardized counts of the birds in their yards and reporting them to the FeederWatch database, FeederWatchers are contributing directly to the scientific understanding of bird populations."

Because Cornell Lab is a non-profit organization, a nominal annual fee is charged ($15). FeederWatch's participant fees pay for website and database maintenance, data analysis, participant support, printing and shipping project materials, and dissemination of information learned from FeederWatch data. The fees also help cover the cost of publishing a year-end report, *Winter Bird Highlights*.

- After joining, you will receive your ID number (needed to submit data) along with your count site ID (a portion of your yard that is easy to monitor).
- You schedule your count days (two consecutive days, as often as every week – but may count less often). You leave at least five days when you do not count between each scheduled two-day count.

- Watch your feeders as much or as little as you want, but track how much time you observe and if in the morning and/or afternoon.
- You record the maximum number of each species visible at one time (simultaneously) at your site during your count (one tally across both days).
- Count all birds attracted to your feeders, water, or plantings. Ignore birds that fly over.
- Record behavior interactions: displacement or predation events observed.
- Report your count in the Your Data section of the website.

Interested? Check out **feederwatch.org**. A free downloadable FeederWatch Handbook & Instructions gives more project details. From the home page you can click on "Put up a Bird Feeder" and there is a discussion and great pictures of different types of feeders and seed and which birds they attract. You will also find free downloads of posters on Hummingbirds of North America, Common Backyard Hawks and Falcons of North America, and Common Feeder Birds of Eastern and Western North America (one each side). They also have links to other Citizen Science projects such as e-Bird and All About Birds.



Free downloadable bird ID poster

This year's FeederWatch count runs Saturday, November 14 to Friday, April 9. Sign up at feederwatch.org to receive your packet as a new FeederWatcher.

Feeder watchers are also needed for Christmas Bird Count Harlingen Count on January 2: Norma Friedrich hgtxcbc@gmail.com Other count areas and dates available

Compile TMN hours while sitting in the comfort (and safety) of your home!

Wild Poinsettia

Photo by Frances Barrera, Rio Grande Valley Chapter
Research by Anita Westervelt, Rio Grande Valley Chapter

Painted leaf, fire on the mountain, Mexican fire plant, Texas poinsettia, wild poinsettia. By whatever name you know it, *Euphorbiaceae cyathophóra* is a North and South American native and cousin to the commercially important December poinsettias that were first cultivated by the Aztecs.

Many euphorbia species have leafy bracts that change color. *E. cyathophóra* may not have the dashing scarlet brilliance of the commercial poinsettia, but just as stunning, the inner bracts turn vibrant red and appear as though an artist's brush has just stroked the inner bracts that touch the flowers. The bracts don't stay colored all year. The center flowers are yellow and produce a three-lobed fruit capsule. The yellow flowers bloom in all seasons in the Lower Rio Grande Valley.

Euphorbias have a toxic milky white latex sap that can cause skin and eye irritation in humans. Many mammalian herbivores avoid the plants because the sap can irritate the lining of their mouth and digestive tract.

Small bees and flies are attracted to the nectar and pollen. Caterpillars of the Sprague's pygarctia moth feed on *E. cyathophóra*.

Wild Poinsettia (*Euphorbiaceae cyathophóra)*

The Energizer Bunny

-- The results of going virtual

Photos and article by Roberto Gaitan, Rio Grande Valley Chapter

After signing up for the annual meeting, I felt overwhelmed at the list of sessions over the four day conference, not to mention the one session a week before the official meeting, and one full day of sessions on the 'Before the Event' day. Imagine over 93 sessions, 130 speakers, all 48 established chapters in attendance, and 1,146 registered attendees! Given conditions pushed our annual meeting into the virtual world, it went extremely well.

What sessions did I attend? Well, I went to:

1. Behind the Scenes Tours from Prairie to Mercer Botanic Gardens
2. A River Runs Through It - Geology of the Coastal Prairie
3. From Fallow to Fabulous: Transforming a City Park into Wetlands, Bird Habitat and Prairie
4. Flo Hannah Prairie and Follets Strand Prairie
5. Spring Creek Greenway
6. Lower Trinity Basin Chapter - A Commitment to Texas Water
7. Virtual Howdy! Welcome to the Texas Master Naturalist 2020 Annual Meeting!
8. Are Chapter Newsletters Relevant in the Age of Social Media?
9. Get Over It! Using Social Media to Educate and Engage
10. Doc and Martha - Texas Master Naturalists
11. Bats: Scary Disease Carriers or Invaluable Neighbors?
12. Just Enough Latin to Go Plant Shopping
13. Texas Seagrass
14. Screech Owls A-Z; how to get your own owl
15. Nature's Best Hope - Restoring Nature's Relationships
16. Vulture: The Private Life of an Unloved Bird
17. Plant Identification by Family Association and use of Written and Online Botanical Keys
18. Corvids: The Amazing Crow Family
19. Current News and Research on Horned Lizard Conservation
20. Texas Master Naturalist Town Hall
21. Membership Retention-Galveston Bay Area Style!
22. The Personal Botany Field Trip--A Learning Adventure for Trainees Sheltering in Place
23. Monitoring Avian Productivity and Survivorship (MAPS) stations across Texas
24. Building Dirt Paths: Lessons from the Spring Creek Nature Trail
25. Annual Awards Ceremony

Cottontail

And what did I get out of the long week?

You know that commercial of the Energizer Bunny? I feel charged up and ready to go! I saw the great work other chapters are doing and feel we do the same, but do others know about it? I saw superb leadership in other chapters and know we have the same, but do we see it every day? I heard new ideas and exciting projects and know we have great talent and desires too, but are we executing on them? Why not…and why am I not helping us get there?

So, what am I going to do now?

Besides being more supportive on the technical side in our new virtual world, I have some ideas I would like to propose. These include:

1. A documentary on the evolution of Hugh Ramsey Nature Park accessed virtually through our web site with stories, images, videos, and interviews
2. Prepare to present our Hugh Ramsey Nature Park at next year's Texas Master Naturalist Annual Meeting
3. Convert our Private Facebook page to Public so that we can re-energize our virtual outreach and marketing to the larger RGV community
4. Revamp our RGVCTMN website to share our stories:
    - Get to know our members: a page capturing member information including images and video interviews
    - Member pages: a page for anyone wishing to share their passion and projects
    - Partner pages: pages for each of our partners to showcase their mission and work plus share our contributions
    - What are we doing: a page documenting the work we do year-round through images and videos
    - Online newsletter: a page to present our newsletter in dynamic fashion

In addition, I accepted my nomination to be Chapter President for the 2021 year. I joined our Chapter in 2014 and learned so much about the valley I was so eager to leave when I was 18. I have seen our officers, directors, and committees keep our chapter moving over the years and, after our annual meeting, I decided it was my turn to step in. I know our success is a team effort. I certainly can't do anything alone. I also know, unlike the Energizer Bunny, I don't have limitless energy and endurance. My hope is that many of you will help raise our group to new heights.

At the docks

Javier de Leon, 2020 Chapter Advisor of the Year

by Tamie Bulow, Rio Grande Valley Chapter

Our Chapter Advisor, Javier de Leon, was the recipient of the TMN State Office's 2020 *Chapter Advisor Award* at this year's TMN state meeting. We are so lucky to have him as our advisor, even if we have to share him with the Border Chapter. He has enough goodness for us both!

The award focuses on two main agendas: (1) devotion to Texas natural resources and the Chapter, and (2) enhancement of knowledge and technical capabilities of the Chapter. The following is some information about our advisor, in case you didn't know what a fantastic catch Javier is.

Javier de Leon

Javier has had a life-long passion for the outdoors since an early age. He began volunteering at the Hawk Watch at Santa Ana National Wildlife Refuge in 2002 while still in high school. He became a Texas Master Naturalist in 2005 after hearing about the program while volunteering at Bentsen-Rio Grande Valley State Park, afterwards going on to volunteer at Estero Llano Grande State Park. During the fall of 2005, he interned at the National Butterfly Center in Mission. After graduating from University of Texas-Rio Grande Valley, Javier worked at Edinburg Scenic Wetlands and World Birding Center, then Bentsen-Rio Grande Valley State Park, and is currently the Park Superintendent at Estero Llano Grande State Park.

Javier frequently volunteers as a birding and butterfly guide for local nature groups. He has presented programs on topics relating to nature for many local organizations. Javier has guided for the Rio Grande Valley Birding Festival field trips, where he showcases the biologically diverse and vulnerable natural resources that we enjoy in deep South Texas. He has most recently led familiarization tours/FAM trips for the Association of Nature Center Administrators during their national conference in McAllen.

You may know Javier from your TMN training classes. He is a regular speaker for the Chapters' new classes where he instructs on Laws and Ethics, as well as various natural history topics. Javier has coordinated conferences at his state park conference center where members have been able to get advanced training. You may have seen him at our chapter meetings taking the opportunity to get to know the current and new members of our chapter. Regardless of where you have seen Javier, you can be assured he has a smile on his face and a plethora of fascinating information about whatever is on the other side of your binoculars.

Vulture: The Private Life of an Unloved Bird

by Melissa Robell, Rio Grande Valley Chapter

I am a VISTA Intern with the Friends of Laguna Atascosa National Wildlife Refuge and I completed the winter 2020 TMN class with the RGV Chapter. One of my favorite sessions during the Virtual TMN Annual Meeting was "Vulture: The Private Life of an Unloved Bird" presented by Katie Fallon, author and speaker.

Through this session I learned more about vultures than I have ever learned before. I agree with Katie, the vulture worldwide is seen as an ugly, disgusting species, but they are ultimately really fascinating. Worldwide, there are 23 species of vultures, with eight, unfortunately, being critically endangered. In North and South America, there are seven total species. In North America, the California Condor is critically endangered. I was able to see a wild California Condor when I went hiking at Pinnacles National Park in central California. If you haven't had the opportunity to see one, I encourage you to visit this park. Bonus fun fact: North America used to have vultures larger than the California Condor, but they became extinct during the last ice age.

Overall, vultures have many threats including poisoning, electrocution, and beliefs. One big issue they face is lead poisoning. Many hunters still use lead bullets causing vultures to get lead poisoning when feeding on the leftover carcass. In Africa, big game carcasses are often poisoned by poachers to avoid having vultures swarm and alert local law enforcement. Electrocution is a big problem, especially with power lines. As for beliefs, in Southern Africa people believe vultures have a second sight and if you smoke a part of them you could become clairvoyant.

The most common vulture species in North America is the Turkey Vulture, of which there are five subspecies. Turkey vultures weigh about four pounds, have chicken-like feet, an excellent sense of smell, and can open their mouth very wide. One key fact about them is that their chicken-like feet are not good for grabbing or carrying anything. They also have serrations on their tongue like a saw blade and since they have a great sense of smell, they often are the first species to find a carcass.

Camera Trap Photo: Turkey Vulture and Crested Caracaras at Laguna Atascosa National Wildlife Refuge

Overall, they are known as obligate scavengers, meaning their diet is primarily carrion (dead animals). They have strong stomach acid and gut flora to allow them to eat and neutralize dangerous pathogens. I was surprised to learn how smart they are. They are able to learn where dead animals frequently show up and are known for waiting in those specific areas. Another fun fact, you can't put a metal leg band on a Turkey Vulture, because all the toxic waste they emit will erode the metal.

Overall, I really enjoyed attending the Virtual TMN Annual Meeting and I encourage you all to look up cool species of vultures that can be found worldwide. There were many other species highlighted in this presentation that I was unable to touch upon with this article.

My Fascination with Frogs

by Alejandra Gomez, Rio Grande Valley Chapter

Rio Grande Leopard Frog - - Photo by Chuck Cornell

I have always been fascinated by frogs! It was in my early, formative years of junior high school, where I was introduced to the dissection of frogs. I remember being told that a frog's body provided an overview of the organ system of a complex living thing. The organs present in frogs and the way they are laid out in their body are similar enough to humans so as to provide students with insight about how the human body functions.

I was a great student of science and proceeded to graduate with a B.S. in Biology and a minor in Chemistry and did a year of graduate work in genetic engineering before leaving the science world. That's another story.

Fast forward to the present. I live in a house with a backyard pond and fountain right outside my bedroom. From November 1 to May 1, I turn off the AC and open up all my windows. It is during our Valley rainy weather, early fall, and early spring, when I am again fascinated once more by frogs! I love hearing the male frog calls through my windows. At times their calls are so loud that if I am on a cellphone call people ask me, "What is that?" I have no choice but to explain all about my frogs!

So, it was a no-brainer for me to submit this Chachalaca article on my experience at the TMN Annual Virtual Meeting on "Frog Calls in a Harris County Gulf Coast Prairie," by Kevin Muraira from the University of Houston – Downtown. What caught my eye when reading the presentation description was, "Come learn the calls of some of the common frog species." I was all IN!

Mr. Muraira gave a brief overview of how the study of Herpetology has evolved and went over the differences among frogs, toads, and newts and said, "All toads are frogs, but not all frogs are toads!" Mr. Muraira presented his study on frog call data gathered from a 51-acre prairie region within Harris County gulf coast prairies and marshes. He conducted his data over 10 days from 6 pm – 7am. He recorded dusk to dawn data and measured time, temperature, and humidity.

Using this data, he shared what we can learn about the frog species present and call time from frog recordings. He informed us that male frogs not only call during mating season to attract females, but also to warn other male frogs to back off, and when they sense danger. Did you know that while male frogs do the majority of the calling, females frogs can respond with a lower call like a "duet? How romantic!

Rio Grande Chirping Frog-- Photo by William L. Farr (Wikimedia Commons)

He highlighted the five that were common in his study, including the Crawfish Frog with a distinct deep gurgle call that sounds like on the "verge of being sick," the Rio Grande Chirping Frog with a high

pitch squeak, the Cajun Chorus Frog whose call is like a "trill" that sounds like running your finger along a comb, the Spring Peeper with a high pitch or whistling sound, and the Northern Cricket Frog whose call sounds like the hitting of two rocks together. In the study, the frog that came in as the noisiest of all was the Rio Grande Chirping Frog and I felt proud. That's because it has Rio Grande in its name; I cheer for everything Rio Grande!

Cajun Chorus Frog
-- Photo by Jeromi Hefner (Wikimedia Commons)

Spring Peeper
--Photo by USGS (Wikimedia Commons)

Northern Cricket Frog
--Photo by Judy Gallagher (W. Commons)

Mr. Muraiara also discussed several threats to frogs which include pollution/run-off, disease (especially fungus), human land development/loss of habitat, and predators, such as birds. All in the all the presentation was very interesting, but unfortunately due to a technical difficulty, we were not able to hear any frog calls. See link below to listen to the frog calls.

Rio Grande Leopard Frog - - Photo by Chuck Cornell, RGVCTMN

From a personal viewpoint, I walked away realizing that frogs are losing out and becoming more vulnerable. As a result, I will place well drained and secured PVC habitats for frogs in my pond area so that I can continue to enjoy their calls.

I can attest that from my humble pond, I've enjoyed hearing the Gulf Coast Toad with its low rattling trill, the Spring Peeper with its high pitch, the Rio Grande Leopard Frog with its low growl, and I am going to go out on a limb and say, the Couch's Spadefoot Toad with its short strained sheep-like "waaah" call. Go frogs!!!

To listen to the frog calls, visit the online version of The Chachalaca:

https://rgvctmn.org/the-chachalaca/dec2020/the-chachalaca/

Enough Latin Names to be a TMN

Article by Eileen Mattei, Rio Grande Valley Chapter
Photos by Anita Westervelt, Rio Grande Valley Chapter

Palafoxia texana

Many new TMNs shy away from the Latin names of plants. I remember whining, "Why can't we use the common name for this? I don't know how to pronounce that." During the Virtual 2020 TMN Meeting, Carol Clark introduced us to "Just Enough Latin to go Plant Shopping." She demonstrated that binomial nomenclature (Latin names) help to confirm a plant's identification. If we calm down a moment and look at the Latin word, we often get clues to what the name means. It often is similar to an English word.

But why Latin instead of common names? By using Genus (always capitalized) and species (never capitalized), we avoid confusion when talking about a plant. One tree has 13 common names; 30 plants are called buttercups. Loosestrife is both a native and a different invasive. Knowing the right name lets you avoid mistakes and can save you time and money.

Botanical Latin "is a hodgepodge that doesn't follow exact Latin. We bend the rules all over the place," Clark said. Yes, that makes it hard to figure out how to pronounce names, but just give it your best shot. After all, various fields (academic, church, etc.) use different pronunciations anyway.

Really, you will soon get a feel for it. For instance, the sage, *Salvia greggii*. The double ii is common in Latin names. The first 'i' is pronounced eee, the second as eye. greg-eee-eye.

Many plants are named to honor a botanist, a patron or a friend, which do nothing to help you when you're identifying a plant. But usually clues abound in the binomial, telling you about its color, its shape, its smell, its form, its habitat, its area of origin, or its seasonal attributes.

More than 100 color names are used, and some you will find familiar. *Azurea* and *cerulea* are blues, *argenta* is silver, *alba* is white. *Rubra* and *coccinea* are reds.

For forms, *pendula* refers to a weeping habit, while *prostrata* means lying down. Plants labeled *humilis* are low lying (think pigeon berry, *Rivina humilis*) while *scandens* is climber, a vine. A plant you find in the forest may have *sylvatica* in its name, while a plant in an area that floods may be have *fluvialis* in its name. You can guess where a plant labeled *montanus* will be found.

Rivina humilis Pigeonberry

Australis is southern, while *borealis* is northern. *Orientalis* is eastern, *occidentalis* is western. And *Texana*?

Bad-smelling plants might have *foetida* or *horrida* in their name, while *fragrantissima* plants will be wonderfully fragrant, not merely *suavis*, or sweet. Or the name might include *citri-* for its citrus scent.

Passiflora foetida (Stinky) Passionflower

Timing might be everything for your focus plant: *hibernalis* refers to winter, *praecox* means flowering earlier than most, *virens* is evergreen, and *nocturna* is night-blooming.

Of course, plant parts are described as well, with words like *folia* (leaf), *carpus* (fruit), and *canthus* (thorn.) Size and number are frequently included in the binomial. *Macro* is large (*macrocarpa* means big seeds) and *gigantean* is huge. Next come shapes. *Ovata* is oval-shaped, *tenuis* is thin, and *undulata* is wavy.

Other descriptive names are *gracilis* (slender), *lucida* (shining), *punctata* (with dots), *glandulosa* (sticky glands), and *recta* (upright.)

As you start to recognize the meaning of the Latin names and pair the names with a plant, the use of binomials will make sense.

Soon you will be dropping names like *Caesalpinia pulcherrima*, *Callicarpa americana*, and *Egreta rufescens* (reddish egret.)

Chromolaena odorata Blue Mistflower

Moths

-- Worthy of our interest

Article and photos by Anita Westervelt, Rio Grande Valley Chapter

The October 2020 Texas Master Naturalist Meeting saw 1,165 Texas Master Naturalists from all 48 chapters across Texas attending the annual event -- virtually -- a format that allowed experts near and far to provide 93 technical sessions throughout the week.

One fun and lively presentation on the first day was by a repeat presenter: Dallas-Fort Worth area Urban Wildlife Biologist Sam Kieschnick, Texas Parks and Wildlife Department whose presentation about the importance of moths in the ecosystem was entitled "Bird Food with Wings: Moths."

Moonseed moth

"If you want birds, you need moths," Kieschnick said. "Moths are a crucial part of the food web." In the overall scheme of things, moths, in all stages, provide food for things that have backbones.

Both moths and butterflies are in the same order, Lepidoptera - from ancient Greek, lepis, meaning scale, plus pterón, meaning wing. They are insects that have four lanceolate wings (longer than they are broad) and often brightly colored scales. Yes, moths, too, are colorful and surprisingly beautifully patterned.

Although moths primarily work under cover of darkness, it's possible to see some in the daytime. A quick way to tell if you are looking at a moth, its antennae is long and thin on the female and feathery on the male. A butterfly's antennae usually looks like it is clubbed at the tip.

Moths historically have suffered a bad rap, known only for rendering holes in clothes and crop-desolation. There are those few species that cause damage, but the vast majority are harmless to the agricultural industry, according to Kieschnick.

If you're familiar with the saying, "all shapes and sizes," it truly fits when describing moths. Moths are of two arbitrary groupings: microleps and macroleps. In the first group, an example Kieschnick displayed in his PowerPoint was of a Chinquapin leaf-miner moth whose tiny bronze, gold, and burnt umber mottled scales give a length measurement of 3 to 4 millimeters -- a short grain of rice can be as long as 5.5 mm. Three millimeters is equal to 0.11811 inch. In the macro group, in the Rio Grande Valley, our largest moth has a wing span of up to seven inches -- the black witch moth.

Lineodes interrupta moth

As for shape, a most interesting moth Kieschnick discussed, and one that I photographed from my moth sheet this fall, is *Lineodes interrupta* -- from Latin -- broken apart, interrupted. The moth has a wingspan of 21 mm – that's 0.826 inches. What's unique with this moth is not only its split, two-part shape, but while at rest, it tilts its abdomen all the way to its head. At a glance, this moth would probably be labeled as just another brown moth by the uninitiated. When enlarged on a computer screen, the richness of the brocade-like design is revealed in shades of chocolate, mocha, and cream.

Kieschnick encourages learning about and documenting moths. His excitement about them in his presentation was infectious. He offered his iNaturalist.org moniker: Sambiology for those who want to see the myriad species of moths found in Texas. "Moths are just waiting for you to appreciate them," he said. The best way to attract moths is with habitat management. "Moth diversity is directly correlated with plant diversity," he said.

Many of our native plants aid moths, whether as caterpillar food or shelter during the day. I have a kinder notion toward a tenacious, obnoxious, binding native vine because of a moth caterpillar I luckily happened upon earlier this year. The plant is variable leaf snailseed (*Cocculus diversifolius)*. Many of you have battled this, rescuing beloved plants and shrubs from its strong strangling hold. I was delighted to see a pretty shades-of-gray moonseed moth caterpillar eating the leaves of that disliked vine.

Moonseed moth caterpillar

During the summer and fall, I had the adult version visit my moth sheet: the beautiful moonseed moths with their wings like royal robes of golden velvet. I still won't let the vines run rampant, but at least I can see the benefit of their leaves.

A parting thought about promoting moth activity, Kieschnick advises to keep leaf litter for the cocoon stage of moths. Moths generally go through their last stage near the ground, under the leaf debris, burrowed into the soil or under rocks.

He also advocates moth sheet set-ups during seasons when the night temperatures are above 60 degrees (F). Texas Master Naturalist Joseph Connors has an excellent blog post about attracting moths to a moth light set-up at this link: https://www.stbctmn.org/post/mothing

North American Tree Squirrels

Photos and article by Julia Jorgensen, South Texas Border Chapter

Fox squirrel (*Sciurus niger*)

Descendants of ancient rodents, tree squirrels are found on every continent except Australia and Antarctica. North America is home to eight of the world's twenty-six species. The eastern gray squirrel (*Sciurus carolinensus*) and the fox squirrel (*Sciurus niger*) are common in the eastern and southern U.S., while the western U.S. hosts the western gray squirrel, Abert's squirrel, red squirrels (pine and Douglas), the Arizona gray squirrel, and the Mexican fox squirrel (found in southern Arizona). Both eastern gray and fox squirrels have been introduced in urban environments around the U.S. and in Canada. Introduced eastern gray squirrels notoriously displaced the Eurasian red squirrel in the U.K. and Europe in the late 1800's.

Tree squirrels strike many observers as highly adaptable. The public is fascinated with the squirrel's agility, persistence, and problem-solving acumen, as evidenced in viral videos that pit squirrels against human engineers in the bird feeder wars, with squirrels winning every time.[1]

However, squirrels are threatened by global deforestation. When they are introduced into isolated or fragmented habitat, increasing density leads to aggression, nest crowding, weight loss, and reduced frequency of reproduction.[2]

Eastern gray squirrel nestling

Koprowski claims that "more than 80% of tree squirrels are in a precarious conservation status in some portion of their range." Several subspecies have been listed as endangered in the U.S., including the Mt. Graham red squirrel in Arizona, the Big Cypress fox squirrel in Florida, and the Delmarva fox squirrel of Chesapeake Bay. In highly variable habitats, some North American species would require a restored population of at least 150 individuals to insure viability, although in the best case as few as 15 individuals might suffice.

However, tree squirrels can do well in some novel environments when food is not scarce. A high reproduction rate (which can occur even in low population density), along with a tendency to disperse, ability to create nests, and a varied diet contribute to adaptability.

Body plan of the tree squirrel

The tree squirrel body plan is remarkably suited to arboreal life.[3] It retains the rodent jaw and teeth, with incisors that grow throughout life. Permanent grinding molars render nut tannins more digestable.

The tree squirrel has a plantigrade stance and can land righted, with body extended, to soften falls. It has back thumbs and sharp claws; it can reportedly leap ten feet laterally and several feet straight up; it can run up to 16.7 mph on a flat surface. It has 180-degree foot rotation so it can descend trees headfirst. It can dog paddle in water for short distances, although reports exist from the 18-19th centuries of mass squirrel migrations that actually crossed rivers.

The tail can communicate aggression and divert predators, and it serves as a counterbalance, an umbrella in bad weather, and a thermoregulatory device. A nodule of blood vessels at the base of the tail cools blood when the tail is raised, and squirrels may lie flat on the ground in this position during hot weather.

Fox squirrel thermoregulating

Squirrels maintain a very high body temperature and metabolic rate, which in winter is one of the most extreme observed among animals. Squirrels in temperate climates may also gain ten percent more body weight for winter padding.

Tree squirrels are not sexually dimorphic, and sex can be hard to determine out of mating season, as the male's testicles shrink up into the abdomen.

Vibrissae (whiskers) are tactile organs, heavily enervated and supplied with muscles at their base. Those on the tree squirrel's muzzle are longer than whiskers of ground squirrels, and tree squirrels also have shorter vibrissae around the head, and on the back of the body, the abdomen, the feet, the elbows, base of the tail, and the wrists.

Squirrels have a powerful sense of smell. This may help them decide which food items to cache, and smell is key for males in detecting estrus females. Males have been observed to locate an estrus female from 929 yards downwind. Squirrels also sniff each other's oral glands to greet, appearing to kiss.

The squirrel's vision is remarkable, with a near 360 degree range, and ability to focus over the entire retina. Being diurnal, it has color vision (though with red-green color blindness), with yellowish pigmentation which may increase sharpness in bright light or protect from retinal damage.

The range of squirrel hearing is roughly two-and-a-half times greater than humans' hearing, but shifted towards higher frequencies. Squirrels make a variety of species-specific calls.

Squirrel cognition is largely unexplored, but Hopewell[4] discovered that squirrels can learn from observing peers, and Jacobs[5] discovered that squirrels remember caching sites in detail, suggesting use of cognitive mapping. Baldwin[6] found that the squirrel brain has a sensory processing area organized

like its equivalent in tree shrews and primates, possibly reflecting a behavioral shift from use of the vibrissae in navigation to use of vision.

Lifestyle and ecology of gray and fox squirrels

Tree squirrels are potential indicators of forest health but data about their ecology is known for only about thirteen percent of species.[7]

While species vary in lifestyle and ecology, much of what we know about these subjects comes from the decades-long work of biologist John Koprowski and his colleagues who have completed detailed observational studies and field experiments with gray and fox squirrels.[8]

These mostly asocial species are not territorial and often mix in their home ranges. Highest natural density for the fox squirrel has been recorded as 12 individuals per 2.47 acres. Both species prefer pine hardwood forests where they make leaf or tree hollow nests. Grays are significantly smaller and prefer denser cover, while the fox likes forest/field edges. Grays will retreat to cover to eat, while the fox will stay in the open where it is foraging.

Feeding

Both species eat a great variety of foods—up to 97 types have been observed, going well beyond their preferred nuts and fruits to include fungi, insects, buds, bark, eggs, and even baby birds or squirrels. Licking road salt or bone may be ways of compensating for nutritional imbalances.

Fox squirrel opportunistic feeding

Tree squirrels are scatter hoarders and may have hundreds of cache sites to secure food for winter. The choice of which items to cache and which to eat is complex, but it seems to be driven by the relative perishability of items. Thus, the squirrel will cache acorns with delayed germination (and if it caches one that could sprout early, it will remove the embryo)[9] and acorns with higher tannin content. It will eat rather than cache acorns infested with weevil larvae.

Koprowski et al have shown that these choices can affect the distribution of trees in a mixed red and white oak forest, suggesting that they may ultimately shape seedlings' adaptations to shade and moisture.

Deceptive caching occurs 30 – 40% of the time. This intriguing behavior involves digging as many as nine extra holes for a single cached item, placing it in one hole, and covering some percentage of all the holes. This occurs even when a potential thief is far away, and is done more often when food is in decline. It's possible that the empty holes reduce the chance that any thief will locate an acorn. The squirrel's ability to relocate a cache may be due to smelling cached items but also to cognitive mapping.

Reproduction and lifespan

These squirrels do not pair bond, and there are many more males than females. Estrus occurs at most twice a year for about an eight-hour period. (In food-insecure years females may not come into heat.) Males range twice as far as females daily, simply in order to visit all female nests first thing in the morning to search for a female in estrus.

When estrus occurs, a mating bout ensues, with males chasing the female throughout the day, led by dominant males. The female usually ends up mating with two to four males, although up to 34 males have been observed in pursuit. Copulation takes about twenty seconds. Then the pair groom their genitals and the female may remove a copulatory plug left by the male. The male will guard the female for twenty minutes. By mid-afternoon the males lose interest.

The female bears two to three young for the first time when she is one to two years old. She cares for them alone, weaning at eight to 12 weeks. From birth to weaning, the young gain mass at a rate equivalent to that of a human neonate's growing from 8 to 130 pounds in two months.

About half of the young survive the first year. In fox squirrels, all the young disperse by late spring, although young female gray squirrels often stay with their female kin in a communal nest of two to nine individuals. Then, fully 70 percent live to old age, which is about 12.5 years for females and eight to nine years for males.

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1. "Building the perfect squirrel proof bird feeder" Mark Rober, engineer: https://www.youtube.com/watch?v=hFZFjoX2cGg Physicist's attempt: https://www.youtube.com/watch?v=s4YthEm5qIk
2. Koprowski, J.L. (2005) The response of tree squirrels to fragmentation: A review and synthesis. *Animal Conservation*.
3. Steele, M.A. and Koprowski, J.L. (2001) *North American Tree Squirrels*. Smithsonian.
4. Hopewell, L.J., Leaver, L.A., Lea, S. and Wills, A.J. (August 2009) Gray squirrels show a feature-negative effect specific to social learning. *Animal Cognition.*
5. Jacobs, L.F. and Liman, E.R. (1991) Gray squirrels remember the locations of buried nuts. *Animal Behavior*.
6. Baldwin, M.K., Young, N.A., Matrov, D., and Kaas, J.H. (2018) Cortical projections to the superior colliculus in gray squirrels. *European Journal of Neuroscience*.
7. Koprowski (2005)
8. Steele and Koprowski (2001)
9. According to Steele and Koprowski, as of 2001, no one understood how host trees could survive this kind of seed dispersal.

The Great Blue Heron

--Versatile Bird and Formidable Predator

Article by M. Kathy Raines, Rio Grande Valley Chapter
Artwork-- Great Blue Heron Watercolor by Sandra Mink

We missed the stabbing. But we witnessed the aftermath.

Gripping the mullet head to gullet—eyeball-to-eyeball—the Great Blue Heron dunked it in the water, lifted it, shook it, paused and repeated. Then it toted the fish into nearby the grasses, dropped it, gazed about, picked it up, then did it again. Then it doused it in water. This process, whose purpose mystified me, continued.

Twenty minutes into this heron's endeavors at the South Padre Island Birding, Nature Center & Alligator Sanctuary, my sister and I, being driven not by a predator's keen hunger, but by curiosity, lost patience and departed, mystery unsolved.

Did the heron persist? What was its strategy? I have witnessed a heron adroitly maneuver a fish headfirst, fins folding reliably, so it slides down its gullet. Did this repeated lubrication ease the fish's passage?

A heron may give a fish a good shake to loosen its spines. Great Blue Herons, have, on occasion, choked on over-large prey.

The Great Blue Heron (*Ardea herodias*), a formidable predator with a flexible diet, breeds throughout Texas—nests have even been recorded in the arid Trans-Pecos region—and lives at least part of the year in every state in the U.S. Though those east of the Mississippi tend to migrate, many herons hunt mice and voles in the snow and shiver along frozen streams. Encountering one on a river boulder in Indiana one chilly October day, I thought, Dear heron, what are you doing here in the chill? These birds appear year-round in Montana and have even built winter nests there.

Though primarily found near seashores, tidal flats, lakes, rivers and creeks, Great Blue Herons also thrive in flooded fields, ditches, and pastures. An opportunistic feeder, this heron eats turtles, frogs, snakes, baby alligators, and various rodents. One YouTube video, https://www.youtube.com/watch?v=RYlJGEQImkw, shows a heron stalking, carefully manipulating, gulping down, then upchucking a sizeable gopher. Then the heron, spying a swooping red-tailed hawk, abruptly flutters away, sacrificing the doomed rodent just as the hawk swoops down and snatches it.

A Great Blue Heron typically stands and wades slowly and soundlessly, with nary a splash, its elongated toes and feet anchoring it on muddy bottoms. Being four feet tall, it can wade to its belly as it silently draws each leg up like a mop, then replaces it. Then, its 'S-shaped neck providing momentum, it lunges forward and, with lightning speed, thrusts its sabre-like bill through its prey.

This heron may also dive feet-first for prey, hover and glean its food, or dine while swimming. It may also catch fish while floating or while sitting atop, say, a drifting wad of kelp. On beaches, the birds tend to forage during low or ebbing tides. The heron simply picks up small prey in its mandibles.

Great Blue Heron – photo by Andrew Dressel (Wikimedia Commons)

A Great Blue Heron has reportedly fished with bait, employing breadcrumbs tossed to geese. These herons, which primarily use eyesight for their endeavors, forage both daytime and evenings, the numerous rods in their eyes enabling them to see well at night.

In Texas, these herons breed mainly from late January through late August, a period during which their irises redden, legs turn pinkish orange, and plumes blossom from their backs and lower necks.

Varied and elaborate displays inaugurate breeding—ones that include extending the neck, raising the bill almost vertically, exposing and exhibiting certain elaborate plumage, fluffing the neck, and "bill clappering," or a fast clicking of bill tips toward a mate. In the "greeting ceremony," a bird joins its mate on the nest, giving a call, while the other stretches with an arched or fluffed neck display. In the "stick transfer ceremony," the male offers his mate sticks for the nest, and, doing a stretch display, she receives the gift; he then clappers while she weaves them into the nest.

Colonial nesters, these herons construct stick nests high in shrubs or trees or even on the ground in sites with few predators. They also nest on isolated islands. The male selects the site and gathers most substances while the female does construction. Both incubate the eggs, the male sitting more often during the day, the female, at night. Their three to six large blue eggs hatch in 28 days, with birds fledging at two months. Training to become master predators like their parents, young birds play at stabbing inanimate objects.

This heron flies with its neck in an 'S' with legs trailing behind, and it walks erect with long strides. It may roost solitarily or in loose flocks of perhaps a hundred**.**

The birds raise their crests and may fly toward apparent intruders or competitors, perhaps jabbing them with bills, sometimes giving chase. Opponents try to snatch at each other's heads. A bill injury may prove fatal.

Usually silent, herons deliver a "Frawnk" or rapid squawk to show alarm or aggression. A screaming "Awk" may arise from disturbed breeding colonies. A bird may squawk while feeding or landing, especially at a nest. While flying, birds may emit a "Gooo," sounding like a calf's bleat.

Great Blue Heron nest – photo by Joe Mabel (Wikimedia Commons)

Once shot for meat and plumes and, as was fashionable in the late 1800s, decorative eggs, these herons' populations were not as depleted as those of other shorebirds. While thriving, though, their populations appear to be decreasing slightly.

Great Blue Herons do tolerate some human activities, but we must assure that they can breed undisturbed, as they flush more readily during breeding season. Erecting buffers like fences and ditches near their habitats may help.

The herons' local predators, especially of their eggs and nestlings, include Red-tailed and Harris's Hawks, raccoons, and fire ants. Birds may abandon colonies after predator attacks.

Lichen

-- complicated, but beautiful

Story and photos by Anita Westervelt, Rio Grande Valley Chapter

"Lichens are a complex community of microbiome," stated Dr. Manuela Dal Forno, research botanist at the Botanical Research Institute of Texas in Fort Worth.

Forno was one of over 90 speakers during this year's annual Texas Master Naturalist Conference held virtually in October. Her lecture was entitled, "Lichens 101: Everything you need to make lichens part of your naturalist life."

Lichens are a complex life form that is a symbiotic partnership of two separate organisms, a fungus and an alga. The dominant partner is the fungus, which gives the lichen the majority of its characteristics. Lichen do not have any roots, stems or leaves; their chloroplasts are contained only in the algae on the top surface of the lichen. Lichen are not mosses.

Ramalina complanata lichen

Forno offered a formula:

Multi-species symbiosis -- fungus + algae + microbiome = lichen thallus

Brief terminology is warranted for better understanding of these unique and beautiful forms of nature.

Biome, a major type of community of distinctive plants and animals living together in a particular climate and physical environment.

Microbiome, a community of microorganisms such as bacteria, fungi and viruses that inhabit a particular environment.

Thallus, a plant body that is not differentiated into stem and leaves and lacks true roots and a vascular system. Thalli are typical of algae, fungi, lichens, and some liverworts.

Chloroplast, a plastid (organelles containing pigment or food) that contains chlorophyll and in which photosynthesis takes place.

Bacteria was first proposed to be part of lichens in the 1930s; it was not until the 2000s that researchers started using DNA techniques to prove the concept of lichens as multi-symbioses or meta-organisms. This recent research corroborates the bacterial associations with lichens' symbioses that supports the notion of this multi-species symbiosis, according to Forno.

Lichen diversity is promoted by good air quality, habitat continuity, availability of preferred substrates, and favorable climate.

Just about anything that doesn't move can be a suitable substrate like trees, rocks, soil, houses, tombstones, old cars, and farm equipment. The most common natural substrates are trees, rocks, and soil. Each substrate must have the individual components in the right amounts that growing lichen need: water, air, nutrients, and light. The main nutrients needed in order for lichens to survive and grow are nitrogen, carbon, and oxygen.

There are three forms of lichen: **crustose**, which is a flat type of growth, **foliose**, leaf-like but prostrate, and **fruticos**e, which is bush-like and erect or a hanging type growth. Historically, compounds unique to lichens have been used in perfume additives, fiber dyes, tanning agents, poisons, and medicines in some countries.

Teloschistes chrysophthalmus, golden-eye lichen

One lichen prevalent in the Valley can often be seen on branches or limbs of the honey mesquite. It is ***Ramalina complanata*** lichen, a foliose, or leafy form. It is grey to grey-green in color.

Another lichen found on a mesquite branch in Harlingen's Hugh Ramsey Nature Park is ***Teloschistes chrysophthalmus***, **golden-eye lichen,** also a fruticose lichen; it has branching lobes. Their sexual structures, the apothecia (spore-bearing structure), are bright-orange with spiny projections (cilia) situated around the rim. It can be found globally most often along coastal areas.

Lichens are not parasitic to host trees, though heavy lichen growth may restrict gas exchanges from the limb and can block light from reaching the plant's surface. Lichen growth can indicate that a tree has experienced stress that has weakened the tree which can encourage lichen development. Lichen growth can indicate a tree needs attention.

Answers to Vulture Trivia

1. venue
2. kettle
3. wake

More for Monarchs

by Diane Hall, Rio Grande Valley Chapter

Tagged monarch –- photo by Diane Hall

As I perused the list of sessions for the Virtual TMN Annual Meeting, I was drawn like a monarch to milkweed when I saw the "Monarch Waystations for Texas" session by Carol Clark, Conservation Specialist for Monarch Watch and fellow Texas Master Naturalist. Having tagged monarchs in Iowa since 1999 and traveled to Mexico to see the overwintering population in 2009, I was curious to hear more about monarchs in Texas.

The ENTIRE population of monarchs east of the Rocky Mountains depends on finding milkweeds when they migrate north through Texas in the spring. That places a big responsibility on Texas residents (Winter Texans included)! Since the monarch is the Texas state insect, we can hope that many of us are willing to get behind this iconic pollinator. Carol Clark shared, "While monarchs won't disappear, scientists are worried that the migration may end."

So what is a monarch waystation? This valuable addition to any yard or public space is a spot which provides host plants, nectar plants, and shelter for monarch butterflies. If you have at least 100 square feet of sunny yard, you're on the right path for making a difference for monarch butterflies. "All this effort just for monarchs? No, other pollinators benefit too!" exclaims Clark.

Milkweed is essential as a host plant or larval food source in your monarch waystation. This is the only type of plant the monarch caterpillars can eat. Look for and plant milkweeds native to your area. Clark referenced *Identification of Milkweeds in Texas* by the Ladybird Johnson Wildflower Center and Texas Parks and Wildlife. Zizotes (*Asclepias oentheroides*) is a common milkweed in Deep South Texas.

Nectar plants for your monarch waystation will attract many species of butterflies, not just monarchs. Clark suggested goldenrod (*Solidago spp.*), blazingstar (*Liatris spp.)*, blue mistflower (*Chromoleana odorata*), Indian paintbrush (*Castilleja indivisa*), Texas vervain (*Verbena halei*), and sunflower species.

Once you've attracted monarchs to your waystation, why not become a citizen scientist? There are many opportunities through Journey North, Monarch Larvae Monitoring Project, Integrated Monarch Monitoring Project, iNaturalist, and Monarch Watch. It was through Monarch Watch that I ordered tags to place on wild caught or hand reared monarchs in the fall to aid in the study of monarch migration. It was so much fun catching and tagging monarchs with my children, students, friends, and neighbors!

Whether you're helping monarchs or other pollinators, Clark shared several steps to help monarchs:

1. Reduce or eliminate personal pesticide use
2. Refrain from mowing weeds in spring (until after May in Texas)
3. Plant "real" nectar plants for spring and fall migration (avoid hybrid plants and double/triple petals)
4. Plant native milkweeds
5. Tell others that monarchs need milkweeds
6. Create and register your monarch waystation and erect an official Monarch Watch waystation sign

Are you ready to take monarchs under your wing?

Meteorites and Tektites

Article and photo by Linda Butcher, Rio Grande Valley Chapter

Meteors are believed to originate in the asteroid belt between Mars and Jupiter. They are a solid piece of material that survives passage through the atmosphere to reach the surface. Once it strikes the earth it is called a meteorite. Meteorites occur in three types, stony, iron, and a combination of stone and iron. Some have been found with tiny fragments of gemstones in them. One example is peridot, the month of August birthstone.

On November 19, 2020 the Rio Grande Valley was fortunate to see a spectacular event. During the Leonid Meteor Shower, there was a fireball that streaked across our skies about 8:56 PM. A fireball is a large meteor that lights up the entire sky. It was seen from South Padre Island to Roma and probably beyond. The best time to view meteors is during a meteor shower. They occur several times a year.

The largest meteorite to hit the United States occurred approximately 50,000 years ago. The impact crater is located about 37 miles east Flagstaff, Arizona. It is about 3,900 feet across and 560 feet deep. The meteorite is believed to have been 160 feet across.

Meteors frequently explode on impact blowing fragments of molten debris into the air. When this debris falls back to earth it's collectively known as tektites. Tektite comes from the Greek word tektos, meaning molten. They are assigned names based on their location. Moldavites, named after the Moldu river in the Czech Republic, are found in that country as well as Austria and Germany. Australites are from Australia, philippinites are found in the Philippines, and malaysianites are found in Malaysia. The indochinites are found in Indochina and southeast Asia.

Tektites have only been found in these few regions on earth called "tektite-strewn" fields. They are considered to be gemstones from space. Upon impact they form fragments of natural glass. Most are black, however moldavite is a dark bottle green. It is the only tektite used in jewelry because of its beautiful green color.

Meteorite and tektite pendant

“Nature’s Best Hope,” according to University of Delaware professor

Article and photos by Anita Westervelt, Rio Grande Valley Chapter

Doug Tallamy, PhD, professor at the University of Delaware’s Department of Entomology and Wildlife Ecology, and author of a recent book, “Nature’s Best Hope -- Restoring Nature’s Relationships,” gave an outstanding presentation at the 2020 Virtual TMN meeting with workable ideas. He proposes that we can make our “combined yards” -- across the nation -- “into the largest nature park” in the United States and offer “Nature's Best Hope” to heal the land and recover from decades of landscape abuse.

Tallamy’s concept is to promote ideal habitats for caterpillars -- the species that contribute the most to ecosystem function. “We need to renew all parts of nature, but for now, focus on caterpillars because in terms of sustaining food webs, caterpillars are essential,” Tallamy said.

For instance, 90 per cent of birds feed their young on caterpillars. When insects decline, birds decline. Caterpillars transfer more energy from plants to other animals than any other plant-eaters.

We can add caterpillars to landscapes by adding the plants that support them by shrinking lawn areas at every residential yard across the nation, and replacing that portion with designed, layered landscapes using primarily native plants. Just as importantly is to incorporate local ornamental plants at a less than 30 percent proportion of the designated planted area. This habitat design will promote and sustain butterfly and moth caterpillars.

Many caterpillars are host plant specific and other caterpillars are plant family specific. Research for host plant information is called for prior to planting.

Wilson’s wood nymph moth caterpillar

Tallamy’s concept isn’t just good for Delaware, it’s a viable idea for anywhere in the world, using plants native to any given geographical area and ornamental plants that are also area specific and ecologically productive -- in other words, cultivated plants that would not become destructive to the environment.

In Delaware, Tallamy said that just five percent of their native plants make 75 percent of the caterpillar food that drives food webs. That statistic, or close to those same numbers is imaginably similar in ecoregions anywhere.

For the Valley, check your intended ornamentals at the following website to ensure they are not on the Texas invasive list: https://www.texasinvasives.org/

From my yard, I’ve identified -- via iNaturalist.org -- 189 moth species and 64 butterfly species.

Wilson’s wood nymph moth

That’s a lot of potential caterpillars -- a lot of nourishment up the food chain to sustain the diversity I enjoy in my yard, such as lizards, birds, snakes, armadillos, bats, and other critters.

Personally, it’s a give and take. My first love is butterflies, and through moth sheet/blacklight events this summer, I have come to enjoy moths and finding a diversity of caterpillars in our yard.

The Wilson’s wood nymph moth caterpillar is delightful. Part of me hates to think about it getting plucked up before it’s allowed to develop into the stunning Wilson’s wood nymph moth.

But would I really want to do without the beautiful and unique birds I enjoy, like the entertaining and colorful green jays, great kiskadees, kingbirds, thrashers, titmice and orioles that depend on caterpillars for food to raise their young?

Nature Finds Its Place

Article and photos by Roberto Gaitan, Rio Grande Valley Chapter

Toni and Benito Trevino

In February of 2015, I volunteered to be the Chapter representative for the 2015 Class field trip to Rancho Lomitas in Rio Grande City. I remember meeting Benito Trevino over some Ebony bean coffee and listening to Toni Trevino while enjoying her Honey Mesquite cookies. Their storytelling is excellent and brought their conservation efforts to life.

Around the Trevino home, Barbara Peet, a member of the Class of 2015, and I noticed their Woodrose (*Merremia dissecta*) growing on a trellis against their house. To see the brown woody seed pods and their resemblance to a rose, it is easy to see why it is called the Woodrose (aka, Alamo vine, Noyau vine, Correhuela de las Doce, Hierba de la tarantula). A member of the Morning Glory Family, this attractive, twining perennial has large white flowers with dark burgundy centers.

Woodrose with seed pod

Though we were early in our Texas Master Naturalists journey, we wanted to try and grow this unique plant in our yard. We were given some seed pods and, having grown plants from seeds before, figured we would have our own Woodrose soon.

To add to our efforts, we found some Woodrose growing along an irrigation canal in South San Benito. We happened to look at the right time at the right place to see it blooming. (We've been back since and haven't found it again.) We carefully dug up the vine with its nodules and runners and took it home. We had seed and we had a live sample of the vine, what else could we need?

With 2020 almost over, we have yet to grow our own plant.

It amazes me that we can offer our native plants ideal conditions, but that will not make them grow. Benito and Toni's most intriguing stories are their trial and errors involving propagating some of the rarest plants in Texas. I believe their patience, visible in other growers like Mike Heep, is key in

developing a systematic method for growing our unique plants. I do not share their patience. My plan to place a seed in good compost, provide rainwater, and plenty of sunlight, isn't enough.

I can't remember who first mentioned it to us, maybe Frank Wiseman or Christina Mild, but the thought of mowing at the highest level your mower offers or simply holding off mowing for a while, might reveal some hidden treasures in your own yard. We have found bluebonnets, ladies' tresses, Texas poinsettia, and others.


Our newly found Woodrose in our yard

A week or so ago, I found a new vine, some sort of morning glory but I wasn't sure what species. I had to wait for Barbara to come home; she's the one with the green thumb and greater knowledge of plants.

Barbara turned over the woody seed pod and instantly recognized it as a Woodrose! Out in the middle of our St. Augustine grass, this little vine, either patiently waiting for the right time, or gifted to us by a passing bird, had come to life.

Having found the vine in the middle of the yard, and based on past failures transplanting some of our finds, I built something the vine could climb. With our daughter's Rottie supervising, I created a makeshift structure to not only allow the vine to grow but also keep me from accidentally forgetting where it is.


Well-guarded Woodrose seedling

In the past, we've watered a forgotten pot to find the dead Huisache spring back to life. We've seen soil cleared of St. Augustine grass, covered in frog fruit, scorpion tail, and mistflower. The following year, we've had more butterflies than we could count. Sometimes all nature needs is a little help and nature will find its place.

Giving without Giving

by Robert Gaitan, Rio Grande Valley Chapter

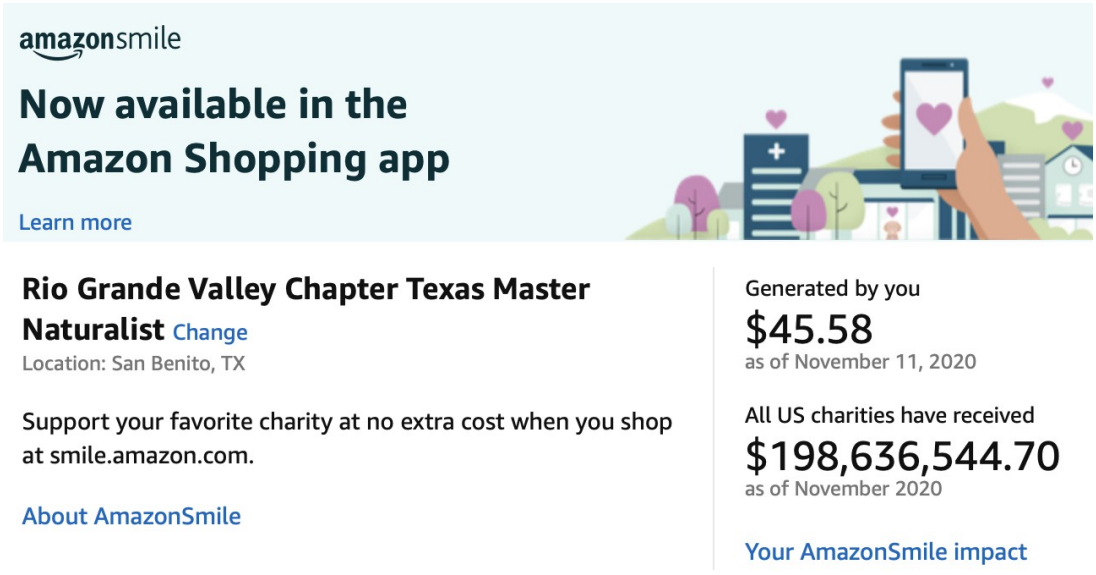
I used to browse through Amazon to find the best deal after brick-and-mortar shopping. Convenience basically determined where I would make my final purchase. This year, however, has seen quite an uptick in my online purchases. (Barbara will ask if something went wrong if she sees the UPS van drive up our street without stopping at our house.) This pandemic has basically dropped the physical store shopping unless it is for essentials.

What does this have to do with *Giving without Giving*? When I first heard of AmazonSmile, I initially thought it must be a gimmick. Why would Amazon be willing to donate part of my shopping bill to my designated charity? Surely the prices are increased when you shop through smile.amazon.com instead of just amazon.com. Surely there would be a limit on the items that would quality. Surely the percentage donated would be miniscule.

I have shopped for items through both avenues, smile.amazon.com versus amazon.com, and found no difference in prices. I have shopped for a wide range of products and cannot recall an item in my 108 orders that didn't qualify. The percentage donated, 0.5% is small, but we can't expect Amazon to give away all their profits and it does add up. Through my orders since 2018, we have donated $45.58 and overall, our Rio Grande Valley Chapter has received $136.67.

This may not seem like a lot, but it is money that did not come out of my pocket or anyone's who designated our chapter as their designated charity. What if more members did this? What if I hadn't mistakenly placed some orders through amazon.com when I wasn't being careful?

For those of you that perhaps are a bit curious now about AmazonSmile, I invite you to consider tagging the Rio Grande Valley Chapter Texas Master Naturalist as your charity of choice and begin using smile.amazon.com. However small your purchase might be, all the pennies, nickels, and dimes, will add up.



Boca Chica Beach Cleanup

Article and photos by Maria Reyna-Gomez

On Saturday, November 21, 2020, members of our Rio Grande Valley Chapter participated in a beach cleanup at Boca Chica Beach. Several members concentrated on cleaning the area of one of two sites monitored by our partner, Stephanie Bilodeau, Conservation Field Biologist, for the Coastal Bend Bay & Estuaries Program here in the valley.

Robin Gelston at Boca Chica beach clean up

There are future plans to continue cleaning the second site before the Piping Plovers and Red Knots return to nest in the spring. Due to limited beach access and beach erosion, the areas are not easy to access. It will take some planning to be able to return to the second site. We also need to continuously follow directives with respect to COVID-19 to balance our safety with what we wish to do for our environment. We will keep our members informed of the next cleanup date.

Clean up crew: (L to R) Barbara Peet, Robin Gelston, Maria Reyna-Gomez, Joni Gillis (below) Robert Gaitan

Results of our labor...making a difference!

A Journey Through Time

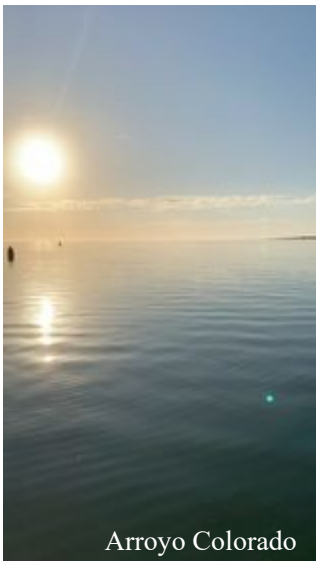
Article and photos by Roberto Gaitan, Rio Grande Valley Chapter

Stephanie Bilodeau, Conservation Biologist with Coastal Bay Bend and Estuaries Program periodically asks for help removing invasives and planting natives on the spoil islands in the Lower Laguna Madre. Barbara and I always jump at the chance to not only give nature a hand but to go explore one of only six hyper-saline lagoons in the world.

The Laguna Madre was created approximately 3,000 years ago and initially explored by the Spaniards in the 1600s. Approximately 4 miles wide, the average depth of the lagoon is less than 4 feet with most locations 8 to 12 inches deep.

The Lower Laguna Madre is basically half of the 130-mile-long lagoon that is bound on the east by the longest barrier island in the world. The spoil islands within the Lower Laguna Madre were created as a result of the shipping channel dredged from Corpus Christi to South Padre Island.

Setting off with Stephanie, early on a glassy Arroyo Colorado, I'm reminded that, as far as science can tell, the Laguna Madre has been a major stop-over for bird migrations, long before humans began to explore the region. And yet, the creation of these spoil islands in modern time has given birds a place to recover after a long journey and for some, a place to nest and raise their next generation.



Arroyo Colorado

Heading to Benny's Shack Island

We traveled 30 minutes north to where we landed on the islands named Benny's Shack and North of Benny's Shack. While there is no longer a shack in site, we could see Port Mansfield in the distance. It's odd to be standing on island undergoing ancient processes while our modern world is within site.

Developing spoil island in Lower Laguna Madre

There is an eerie feeling that we are venturing into processes that have existed for hundreds of years. These spoil islands, once barren sand bars, are perfect examples of nature finding a way to adapt and survive. We are fortunate to witness this growth and slow evolution within our own time. An evolution that will continue long after we are gone.

We enjoy looking for signs of life and there were plenty of birds that flew off as we landed. However, we found small signs that made us wonder how they even arrived on these remote locations.

Walking stick insect on spoil island

Butterfly on spoil island

It isn't easy work. Though a relatively nice day, it gets warm quickly. Having an auger helped dig through hard, hard soil and yet, once loosened, could collapse quickly. We placed sleeves over the granjeno and mesquite trees. We made sure to drop a fertilizer pellet and give them a good drink of water. More than likely, Stephanie will come back to water at least one more time and then they are on their own.


Newly protected tree seedlings on spoil island


Barbara and Stephanie placing protective sleeves and watering trees


Barbara and Robert after a good day's work

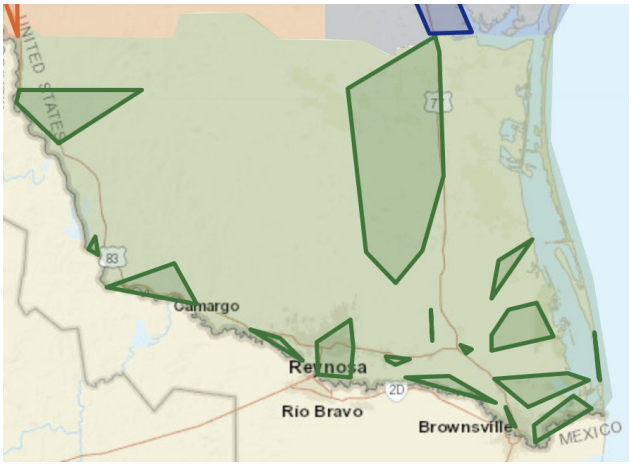
As we leave, we are tired but it's pleasing to think we might have contributed to the health of our ecosystem and given some birds a chance to survive. If we are lucky, we might see their offspring fly over sometime in the future.

We are adopting…not just one...

by Roberto Gaitan, Rio Grande Valley Chapter

How many times have you driven up and down the Valley or even around Texas and spotted something on the side of the road in your peripheral vision. I have to admit, I never stopped to look or gave it a second thought, but now things will be different; we are adopting...not just one...but many! We (our Chapter) are joining the Adopt-a-Loop Project!

I often wondered what exactly was the purpose for the signs on the side of the road that point to Scenic Trails, Birding Trails, etc. During the 2020 Virtual TMN Annual Meeting, I discovered that the Texas Parks and Wildlife Department and Texas Master Naturalist created the Adopt-a-Loop Project as a citizen science project to assess Texas' wildlife. Their Great Texas Wildlife Trails are some of the loops designated with special signs to point visitors across our state to key sites for viewing birds and other wildlife.



By joining this project, our Chapter will assist ensuring our adopted loops are properly marked and the loop sites conform to predefined checklists. Information published for each loop and site must be accurate and periodically updated. Through site surveys we will conduct throughout the year, we will keep our Lower Texas Coast trails fun and enjoyable for all visitors.

Aside from the overall upkeep of the loops, our Chapter will collect data on the wildlife that can be found on these trails. Our information will be used to inform visitors of what they might see and experience while on the loops within our region. By loading our observations into iNaturalist, we may additionally contribute to research on rare species, environmental assessments, and conservation planning efforts. We might also contribute to the tracking of migratory patterns, species distributions, and assist with conservation efforts across our state.

So how do we get started? We are fortunate that Maria Reyna-Gomez, besides being our Treasurer and one of our news reporters, has volunteered to be coordinator for our participation in this program. Maria has been in contact with the state coordinator of the project and organized the Adopt-a-Loop Project Committee consisting of Joni Gillis, Teresa Du Bois, Rosana Gomez, and Robert Gaitan. The next steps are to create a plan, run a pilot test, and then share with the rest of the chapter.

If this project might be of interest to you, consider the following:

- Are there sites you go to for birding or volunteering?
- Are there sites you visit a couple times a year?
- Want to 'own' a site or loop for this project?
- Want to lead a virtual field trip to a site?
- Want to help build our in-house expertise on plants, insects, reptiles, butterflies, etc.?
- Want to build your skills on iNaturalist, Seek, etc.?

I believe this project offers our Chapter and every member an opportunity to volunteer on a great project with large implications. In the meantime, browse the following websites for more information on the program and explore the loops and sites of the Lower Texas Coast.

- Great Texas Wildlife Trails home page: https://tpwd.texas.gov/huntwild/wildlife/wildlife-trails/
- Lower Texas Coast interactive map: https://tpwd.texas.gov/huntwild/wildlife/wildlife-trails/ltc
- iNaturalist – Great Texas Wildlife Trails Adopt-a-Loop project: https://www.inaturalist.org/projects/gtwt-adopt-a-loop

Stay tuned...as we process our adoption…

iNaturalist

MILESTONES FOR SEPTEMBER – OCTOBER - NOVEMBER

Congratulations!

Melissa Robell	TMN certification
Sondra Leigh	TMN certification
David Zipp	TMN certification

Barbara Peterson	250 hours milestone
Johanna Hartzog	250 hours milestone
Emma Gonzales	250 hours milestone
Robin Gelston	250 hours milestone

Cecilia Montalvo	500 hours milestone

Alicia Cavazos
5000 hours milestone

Well done! Keep up the great work!

Thank You!!

As we approach a new TMN year, we would like to say thank you to the 2020 Rio Grande Valley Chapter Officers, Directors, Standing Committee Chairs, and previous newsletter editor. Your dedication and hard work is greatly appreciated. Thank you for making a difference!

2020

Officers

President	Larry Johnson
1st Vice President	Tami Bulow
2nd Vice President	Barbara Peet
Secretary	Jacquelyn Pena
Treasurer	Maria Reyna-Gomez
Past President	Norma Trevino

Directors

Membership	Norma Trevino, Joni Gillis
New Class	Richard, Loya, Joni Gillis
Communications	Margie Cornwell
Volunteer Projects/AT	Alicia Cavazos

Standing Committee Chairs

Membership	Norma Trevino, Joni Gillis
ListServ	Chet Mink
Historian	Alicia Cavazos
New Class Rep	Esmeralda Jimenez
Outreach	Heidi Linnemann
Webmaster	Chester Mink, Robert Gaitan
Editor	Lou Osborne, Diane Hall

Advisors

Texas AgriLife	Tony Reisinger
Texas Parks & Wildlife	Javier de Leon

Welcome 2021 Team!

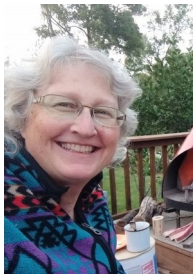
Elections were held at the December 8 RGVC TMN meeting...drum roll, please... Robert Gaitan was elected President, Carolyn Cardile will be our new Secretary, and the rest of the officers remain the same. The President will appoint Directors and Standing Committee Chairs. Diane Hall is continuing as the new Chachalaca Editor.

Contributors to this issue of The Chachalaca

Tamie Bulow

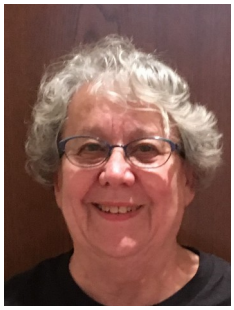
Roberto Gaitan

Alejandra Gomez



Diane Hall

Julia Jorgensen



Donna Otto

M. Kathy Raines

Maria Reyna-Gomez

Melissa Robell

Anita Westervelt

No photo available: Linda Butcher, Eileen Mattei

RGV Master Naturalists This chapter is an affiliate of the Texas Master Naturalist Program jointly sponsored by Texas AgriLife and the Texas Parks & Wildlife Department.