Rio Grande Valley & South Texas Border Chapters
Texas Master Naturalist

The Chachalaca

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IN THIS ISSUE

Editor: Diane Hall

The Rio Grande Valley Chapter of the Texas Master Naturalist program is organized exclusively for charitable, scientific, and educational purposes, more specifically to develop a group of knowledgeable volunteers to provide education, outreach, and service dedicated to the study of conservation of natural resources and natural areas within the Rio Grande Valley of Texas.

Texas Master Naturalist Annual Meeting a Success

Article & photos by Robin Gelston, Rio Grande Valley Chapter

I would like to shout out a big **THANK YOU to ALL** that helped with the 2023 Texas Master Naturalist (TMN) Annual Meeting at the McAllen Convention Center, October 12-15, 2023. It could not have happened without you! Just a quick summary of events:

*Over 475 People attended
*Over 120 Advance Training presentations
*Over 25 Field Sessions including pre and post sessions
*42 out 49 TMN Chapters were present

We earned $8774 at the silent auction, in which the Rio Grande Valley Chapter receives 10 percent so approximately $875. This funding will go directly into our bank account. Thank you, Tamie and the silent auction crew for making this possible!!

Well staffed silent auction table

We had members that made advanced training presentations, assisted or ran field sessions, worked the registration booth, worked the silent auction, were room hosts, set up and broke down for the different meetings, provided technical assistance, conducted outreach at our table, ran the art and photo competitions, and did any other task that were asked of them – Thank you so much for all you did!!

A flurry of activity between sessions at the Annual Meeting

Our RGVC outreach table was right next to the registration table, so we were able to welcome all the TMN visitors to the Rio Grande Valley. Barb Peterson brought our merchandise, and we sold $270 worth of T-shirts and other items. They really liked the Pelican T-shirt; I was really surprised. Thank you!!

Our RGV Pollinator Project was submitted for the 2023 Chapter Project Fair Award. They had some very stiff competition from four other chapters with multiple yearlong projects involving multiple chapters. For just getting started in 2023, I think they did a tremendous job garnering third place and earning $300 to further their project. Great job!!

Washed Up Texas brought a beautiful sculpture of three flamingos to ensure all who visited were aware of the plastic pollution problem in the oceans. It was beautiful.

The State brought eight screens to show the 25-year history of the Texas Master Naturalist Program from 1997 to 2023.

(Above) Washed Ashore flamingo sculpture

(Left) State display of the 25 year history of Texas Master Naturalist

(Below) Tree Walk display from Quinta Mazatlan

Quinta Mazatlán brought the "Tree Walk" - 12 beautiful screens about the native trees of the Rio Grande Valley.

To all that attended, I hope you had as much fun as I did meeting new friends, learning new ideas at the presentations, and discovering the wonderful native wildlife we have in the Valley at one of the field sessions.

A **special THANKS** to the Joni Gillis, Tamie Bulow, Mara Lee Moats, Diana Lehmann, and Betsy Hosick for the months of help getting ready for the TMN Annual Meeting. Without them lifting the heavy weight, the annual meeting would not have been the success it was. Thank you!!

South Padre Island Fall Migration 2023 – A Brief Account

Article & photos by Javier Gonzalez, Rio Grande Valley Chapter

Yellow Warbler (*Setophaga petechia*)

August:

While we do see some early migratory songbirds in July, it doesn't quite feel like things are moving much until early August with the arrival of large numbers of Yellow Warblers. Their little chip notes fill the air of change. By mid-August a few more species started to show up at the SPI Birding Nature Center and Alligator Sanctuary (SPIBNCAS).

At this moment in time the regular everyday weather is extremely hot and humid, "two underwear days," as a visiting birder referred to them. Because of this and the drought conditions at the time, most of the migratory birds would congregate around the drip water feature located in the shady Songbird Alley Trail in the afternoon. Birders would gather on the back deck in the mid-afternoon and squeeze together under the shade of the hackberries and umbrellas and wait for the birds to come into the drip for a drink. At this spot we observed plenty of Canada Warblers and Mourning Warblers (more than we saw in the spring), Red-eyed Vireos, Yellow Warblers, American Redstarts, Yellow-breasted Chats, Yellow-billed Cuckoos, and several species of flycatchers. The biggest surprise was a rare Yellow-green Vireo that in a ghost-like fashion appeared at the drip for a second and quickly disappeared into the shrubbery never to be seen again.

Yellow-breasted Chat (*Icteria virens*)

September:

September is a great month to witness seabird migration along South Padre Island (SPI) beach. Tropical systems in the Gulf will stir things up and you never know what is going to be blown towards SPI. The sea birding got interesting as soon as the month started after hurricane Idalia tore through the Gulf and made landfall in Florida during the last couple of days of August.

Black Terns (*Chlidonias niger*)

A week later, after the hurricane swell finally settled and left the beach flat and compacted as a city street, a visiting birder reported a Brown Noddy some 12 miles up the beach from the end of the road on SPI. Brown Noddy is a tropical species normally found in the warm tropical waters of Caribbean. In the United States it can be seen around the southern tip of Florida and especially the Florida Keys.

The next day, I hit the beach as soon as I got out of work. With the sun to the west, I scanned the glowing waves and beyond as I drove up the beach. I enjoyed the flocks of migratory Black Terns and Common Terns, among the movement of Gulf resident, Royal Terns and Brown Pelicans, but no Brown Noddy. I made it to the county line, turned around, and made my way back south as the sun started to set. Just a short while later I noticed a small, deep brown, tern getting chased by Laughing Gulls just past the first set of breaks. Brown Noddy!! I fell out of the car and fired off some camera shots as it flew past me and away down the beach! I got it! Brown Noddy was a lifer for me! There are just a few records of this species in the county, so it was extra special. On my way back down the beach I joyfully sang some made-up lyrics that went… "Who wants a Noddy, I want a Noddy, who wants a Noddy, oh everybody!"

Brown Noddy (*Anous stolidus*)

October:

The most beautiful month of the year on SPI. Seaside goldenrods and coastal nectar plants are in full bloom and the sunlight is low and beautiful. The Turk's cap in the garden provided lots of fruit to the Northern Mockingbirds and Great Kiskadees and other migratory birds throughout the month.

On October 7, the SPIBNCAS hosted its annual fall Big Sit and Habitat Drive. A group of 11 birders made up of staff and Texas Master Naturalist volunteers birded from sunrise almost to sunset from within a 17 foot diameter circle strategically placed on the back deck of the birding center. We logged 70 species in our effort that day. In the Songbird Alley we recorded: Ruby-throated Hummingbird, Summer Tanager, Painted Bunting, Scissor-tailed Flycatcher, Gray Catbirds, Northern Waterthrush, and others. A couple of days later, a Groove-billed Ani also showed up on the trail.

Groove-billed Ani (*Crotophaga sulcirostris*)

Later in the month on October 25, I was hanging around the base of the jetty at Isla Blanca Park when I witnessed a young Ring-billed Gull, a wintering species on our coast, trying to run off with a mermaid's purse! What a shyster! In plain daylight too! A mermaid's purse is what beachcombers call the washed-up embryo sacks of oviparous sharks and skates found on the beach. I chased the gull and luckily it dropped the mermaid's purse at the water's edge. I reported it to iNaturalist and the authorities said it was the embryo sack of a clearnose skate (*Rostroraja eglanteria*).

Ring-billed Gull with mermaid's purse

November:

November began with the first cold front of the season arriving right on November 1. The SPIBNC Naturalists team along with some young local birders hosted a Texas Parks and Wildlife filming crew who were in town to film a segment on coastal birding. They got lucky with an amazing day of coastal migration! The gardens were alive with migratory songbirds pushed down by the front, many of which were desperately feeding on the ground trying to find insects in the cold wind. Most notably was the large number of Ruby-crowned Kinglets in the garden. There must've been more than 50 on site. Among them we found one Golden-crowned Kinglet, an uncommon bird in deep south Texas.

On this day it became apparent that we were having a western push. Several western bird species that rarely come this far east were reported on the island. I photographed a Western Tanager loading up on manzanita berries in the front gardens. Green-tailed Towhees were reported all over the island and Cassin's Kingbirds were sighted perched high up on the tips of the mangroves and tree-tops around the birding center and convention center. Previously there were only a couple of records of this kingbird in Cameron County. They look a lot like our resident Tropical and Couch's Kingbirds, but have a dark black, squared-off tail, a darker gray head, and white patch on the chin.

King Rail (*Rallus elegans*)

A Brown Thrasher showed up the following day and thrashed around in Songbird Alley, but the most unusual bird found was a King Rail that snuck around in the deep cover of the native gardens in front of the visitor center. We are used to Clapper Rails since they are saltmarsh specific. They often get erroneously reported as King Rails, but this time we finally had a real King Rail, but not in the marsh, in the gardens?!

Pond Lookout is a Winner

Article & photos by Velma Schmidt, South Texas Border Chapter

South Texas Border Chapter Texas Master Naturalist Robert "Zeke" Schmidt was awarded first place in the Student Photography Contest (high school division) at the 30th annual Rio Grande Valley Birding Festival held November 8-12, 2023 in Harlingen.

Zeke's photograph, "Pond Lookout," was taken at Estero Llano Grande State Park, and was his first-ever entry into the Birding Festival contest.

(*Above*) "Zeke" Schmidt awarded first place in photography contest at Rio Grande Valley Birding Festival

(*Right*) Schmidt's "Pond Lookout" is the winning entry in the high school photography division

Sometimes the rewards of volunteering are not seen
- but they're still there

Article & photos by Becky Jones, South Texas Border Chapter

Working with South Texas Border Chapter (STBC) Texas Master Naturalist (TMN) members on our chapter project at the Vannie Cook Children's Cancer Center in McAllen has been a rewarding experience for me over the many years since we first began the project. I've expressed in presentations how it brought chapter members together for a common goal - the renewal and beautification of the atriums for the children who receive cancer treatment. Since our volunteer hours usually occur when the center is closed, chapter members rarely have in-person interaction with the children or staff members we serve.

A field trip to the center scheduled during the TMN Annual Meeting in McAllen led chapter members to volunteer for a "Spruce Up" Saturday at the end of September. Although the center is responsible for ongoing maintenance, the chapter renews the plantings after freezes and droughts, as well as for special occasions like its dedication and the Annual Meeting field trip.

During that volunteer day, it was wonderful for members who originally cleaned and planted the gardens in past years to see the results of their efforts. Likewise it was also enjoyable to introduce other members to this ongoing project. Many of the pollinator native and nonnative plants had grown and flourished. The esperanza in Atrium 2 towered over us at a height I've never seen anywhere!

However, the highlight of the day for me was visiting with Dr. Rodrigo Erana, a physician at the clinic, who was spending Saturday, his day off, to catch up with his work. He saw us working in the garden outside his office and came out to visit with us. He described to the chapter members how the atriums have such a positive impact on the patients and staff. His office windows face Atrium 3, with a large kidneywood and several pollinator flowering plants. Dr. Erana repeatedly expressed his appreciation to us for spending time on a Saturday to beautify the clinic.

The day before, I had attended a "Celebration of Heroes" at the civic center to celebrate the brave young patients who had successfully conquered cancer. Dr. Erana had been unable to attend because he had been called back to the clinic to treat a young patient. In his absence, he was warmly lauded for the kind and vital attention he gives the young patients. His cheerful demeanor as he thanked our chapter members didn't suggest the critical work he does every day, but I realized how our volunteer efforts had impacted his long hours at the clinic.

Dr. Erana of Vannie Cook Children's Cancer Center shares his appreciation

One Friday afternoon while I volunteered at the center, I was able to witness the outdoor celebration by family and friends as a young patient successfully completed her treatment. The joy that filled the air was almost palpable. It underlined the stress of going through treatment and brought home to me how the little beauties of nature, like the hummingbirds frequenting our feeders outside the infusion room, brighten the days for these children.

Our Master Naturalist volunteer work with plants, animals, children, and the public at large, is so rewarding. We often get to see the excitement of children when they learn about the wonders of nature. We love to view and feed animal species in their native habitat. We volunteer in parks and refuges because of our love for nature. Sometimes the rewards of our efforts aren't evident until years later when our plantings bloom and grow, or when the children we instruct become parents or teachers themselves.

STBC members with Dr. Erana in one of the atrium gardens

From my own experience, I have found that this chapter project at the Vannie Cook Children's Cancer Center continues to provide an invaluable and treasured effect on patients and staff that we as volunteers can't experience first-hand. But it's there. And it's real. And it's appreciated more than we know.

Flamingos at the Refuge!

Article & photo by Michelle Cano, Rio Grande Valley Chapter

As per an eBird report, flamingos were being seen in Corpus Christi, Texas due to displacement by a hurricane. Then an anonymous birder reported seeing a flamingo around October 15 at the Laguna Atascosa National Wildlife Refuge, however, many of us never saw that report for some reason. On Sunday, October 22, two more eBird reports from local birders (Evan and Justin) indicated that a flamingo was seen late that evening.

On Monday, October 23, I texted several friends about the amazing news that a flamingo was seen at the refuge last evening and we needed to go and see for ourselves. When I got to the Osprey Overlook, there were two flamingos! They were both immature birds with not a lot of pink yet. They were several yards out surrounded by Redhead and Pintail ducks and other wading birds. So exciting to see!!

The winds were blowing over 40 miles an hour and it was hard to get any decent video and photos, but we all did the best we could. It was so incredible to see flamingos at Laguna Atascosa National Wildlife Refuge!

Two immature flamingos were spotted in October 2023 at Laguna Atascosa National Wildlife Refuge

On the morning of Tuesday, October 24, a friend of mine saw them in the same very spot but by the afternoon, another friend of mine could not locate them. They hadn't been seen in the following days either, but the refuge is so vast, they could be anywhere.

It's a Wrap – 100-year Anniversary Celebrations of Texas State Parks

Article & photos by Anita Westervelt, South Texas Border Chapter

Estero Llano Grande State Park in November wrapped up the Rio Grande Valley's State Parks' 100-year anniversary celebrations with an Outdoor Family Fiesta.

Texas Park Rangers from all over South Texas, State Park Police, Friends of Estero Llano Grande State Park Volunteers and Texas Master Naturalists from South Texas Border Chapter and Rio Grande Valley Chapter were on hand to welcome visitors and talk about local wildlife.

Park Ranger/Interpretive Guide John Yochum readies visitors for a birding walk.

Tables displaying mammal skins and skulls; birds, bills, bones and feathers; insects; reptiles, snake skins and turtles; and a table with plaster casts of animal tracks for painting were set up in an area that fortuitously displayed fresh javelina and raccoon tracks, thanks to recent rains.

(Left) Lorie Archambault, South Texas Border Chapter, sets up a birds and feathers display; at far right, John McKee, STBC, mans the insect booth.

(Right) Eileen Mattei, Rio Grande Valley Chapter, explains the ringtail to a young visitor, while Robert Hernandez, STBC stands by.

A live bobcat made an appearance on a trail near the visitor center while park staff got ready to welcome guests. Rain also benefited the ponds for visitors joining guided nature walks and birding opportunities. Further afield, archery instruction and demonstrations were offered, and the day's special activities ended with an afternoon bike tour.

The year of celebrations provided a great opportunity not only for the public, but for those who volunteered during the individual events. With so many park rangers on hand at each event, many Texas Master Naturalists took advantage of the rangers' collective expertise and individual specialties, getting in-depth answers to questions about animal tracks, scat, feathers, plants, birds and other Texas wildlife.

A roving volunteer, driving a park 4-wheeler at the November 18 event, distributed commemorative cans of the Austin-based company's Rambler Sparkling Water that were donated by H-E-B.

H-E-B, one of the nation's largest independently owned food retailers, is the presenting sponsor of the Centennial Celebration and donated $1 million to help Texas State Parks "engage all Texans in discovering and exploring their parks."

Commemorative cans of Rambler Sparkling Water made a refreshing souvenir.

The yearlong celebrations began January first with First Day hikes at various state parks and continued throughout the year with special events at all 89 Texas state parks.

Events don't end as the 100th year anniversary happenings come to a close. If you have friends and relatives visiting for the holidays, and as you look for activities in the coming year for your own pleasure, check out the websites for our local Texas State Parks:
https://tpwd.texas.gov/state-parks/bentsen-rio-grande-valley

https://tpwd.texas.gov/state-parks/estero-llano-grande

https://tpwd.texas.gov/state-parks/falcon

https://tpwd.texas.gov/state-parks/goose-island

https://tpwd.texas.gov/state-parks/resaca-de-la-palma

Read about the history of Texas State Parks: https://tpwd.texas.gov/state-parks/100years/history/

"Get the best of the Texas outdoors dropped into your mailbox 10 times a year. A subscription to Texas Parks & Wildlife magazine is just $20 a year and includes full access to our digital app library featuring more than 800 stories spotlighting the best of Texas' wild things and wild places." Visit https://tpwmagazine.com/specialoffers to subscribe.

Wind-Up Toy of the Swash Zone — the Sprightly Sanderling

Article & photos by Mary Grizzard, Rio Grande Valley Chapter

Almost every winter visitor to the Gulf Coast shores will sooner or later encounter the delightfully busy, medium-sized sandpiper, *Calidris alba*, or Sanderling, whose common name we've received from the Old English *sand-yrðling*, "sand-ploughman." These little sandpipers are possibly the most common shorebird species in the world, being found on every continent but Antarctica.

Injured Sanderling in winter plumage

That the Sanderling is indeed a "sand ploughman" is easy to see as it continually runs back and forth in the swash zone, constantly pausing to probe the wet sands for small crustaceans and bivalves with its sturdy black bill, and then dashing up the beach on its wind-up toy legs before the next wave arrives. It's hard not to laugh at this unusual foraging technique, but clearly it is highly successful — it takes a lot of fuel to keep those little legs perpetually running all day long!

Opening an illustrated bird guide to the page with Sanderlings may bring a surprise to those of us who have only observed them in their winter plumage. Spying a male or female Sanderling sporting lovely reddish-brown and black mottled breeding colors is uncommon for most Gulf Coast visitors. The robustly-hued feathers of summer have already been replaced by a muted silvery-grey by the time Sanderlings arrive to over-winter on our shores, and they don't reappear again until the cusp of their springtime migration back to their northern breeding grounds.

So what intrigue might these common and everyday little speedsters, sovereigns of the swash zone, hold for us?

To start with, Sanderlings are sensational migrators. Their northward journey takes them all the way to the remote islands of the Arctic Ocean in springtime to nest and raise their young. In the western hemisphere some Sanderlings begin this journey from the Atlantic or Pacific seaboard, others from the Gulf Coast, others along the eastern and western shores of Mexico and South America, and some extreme athletes even pass the winter on the southernmost tip of Argentina, requiring them to complete a *10,000 mile* flight back to their arctic breeding grounds in the spring. The birds who winter south of the equator must begin their northward flight earlier in the year than their kin who winter in North America, but by April everyone is on the wing. Sanderlings

congregate at several key stop-over locations along the coasts and throughout the central United States and Canada flyways where they can rest and refuel before continuing on.

While many other species of shorebirds are also epic migrators, a distinguishing characteristic of Sanderlings, wholly unique to their sandpiper family, is the trait of having tridactyl feet, meaning they only have three forward-facing toes, having "lost" the fourth hind toe. I can't say I have personally noticed their lack of a hind toe myself, their little black feet being mostly a blur as they charge across the wet sands. But it is precisely this unusual piece of anatomy that help them to outrun the breaking waves.

Another fascinating ability of Sanderlings is one which they share with all birds and several marine mammals —perhaps most famously known in dolphins — the ability to sleep with one half of the brain while the other half remains alert, monitoring for predators and other hazards. This phenomenon is called unihemispheric slow-wave sleep (USWS). Animals who engage in USWS will have one half of the brain functioning in a deep sleep mode, with the eye that corresponds to this hemisphere being closed, while the other eye remains open. This ability is very important for Sanderlings and other long distant migrants, especially those making long flights over open sea without a place to stop for rest, and also for times when they must rest in areas where predators are present. Sanderlings and other birds can even control how much of their brain is asleep by how wide it keeps its "awake" eye open. Amazing.

Sanderlings have tridactyl feet to aid maneuverability in the swash zone.

But perhaps the most incredible fact about these speedy little residents of the wet beach sands is one that is fraught with heartbreak. Because it's almost impossible to go to the beach without seeing Sanderlings, I was astonished to learn that regional populations are reported to be in

alarming decline. The Audubon Society states that “some surveys show an 80 percent drop in numbers in the Americas since early 1970s.” They are listed as a species of high concern by the Western Hemisphere Shorebird Reserve Network.

Sanderlings depend on only a relatively few staging areas that host abundant food resources and safe places to rest along their migration routes. The habitat integrity of these stop-over locations are rapidly degrading in quality and diminishing in size (due to land and resource development, oil spills and other toxic contaminants, accumulation of agricultural herbicides and pesticides in estuaries and wetlands, and other human activities), and because of this a growing threat to the Sanderlings’ survival has developed over the past several decades.

If a migrating Sanderling cannot meet its rest and refueling requirements and restore the body fat reserves it has consumed on its previous leg of nonstop flight, it simply will not make it to the Arctic, its sole breeding grounds. To make matters worse, researchers are finding that climate change and its correlating alterations in habitat and predation patterns are also having a detrimental affect on the quality of the breeding grounds themselves, making it more difficult for the Sanderlings who do make it there to successfully reproduce.

This is disquieting news. How long can Sanderlings suffer such a dramatic loss in numbers before their future existence becomes endangered? Is it even possible for such extreme population declines to be reversed?

Some encouraging data is coming in regarding at least two other species of shorebirds, the Red Knot and the American Oystercatcher. Like the Sanderling and many other North American shorebirds, these two species have shown a serious decline in numbers since the mid-70s. But because of efforts to protect migrating Red Knots in Delaware Bay, including beach closures, habitat restoration projects and a moratorium on horseshoe crab harvesting, (whose eggs migrating Red Knots — and Sanderlings — consume in tremendous quantities) their numbers there have risen, from just 6,880 counted in 2021 to 22,000 this past spring.

Can the population decline of Sanderlings be reversed?

In another study, the American Ornithological Society reports that conservation efforts coordinated through the American Oystercatchers Working Group has resulted in a reported population increase in American Oystercatchers of 23 percent in less than ten years.

Hopefully a similar story will prove to be true for our perky little wave runners. And it's good to know that there's a few things we can do to help Sanderling populations move toward that direction.

Supporting projects like the American Bird Conservancy's *BirdScapes* that are working to preserve, restore, and protect vital staging grounds for migratory birds, can play an important role in their survival. Encouraging our elected officials to pass strong protective legislation and to continue to support protective measures already on the books (e.g., The Migratory Bird Treaty Act, which has come under attack in recent years) is also critical to halt their decline.

We've all seen pictures of shorebirds with plastic six pack rings wound around their necks. Volunteer waterway and beach clean-up projects in our communities can yield surprisingly impressive amounts of trash and keep it out of the ocean — and the swash zone. The presence of micro plastics (fragments less than five millimeters in length) in beach sand is now well documented, and research is currently underway to learn how these micro plastics may be affecting Sanderlings in particular. Imagine how much our little sand ploughmen potentially ingest as they continually probe their bills into the wet sand. Keeping our dogs from chasing Sanderlings on the beach can help prevent their fat reserves from being needlessly depleted, assuring that they're fit for the next stage of their journey. Not driving motorized vehicles on the beach allows Sanderlings to forage and rest unmolested.

We've all savored the moment — crossing the boardwalk over the dunes, the salty, pungent fragrance of the sand-loving herbs and grasses enveloping us, stepping down onto the beach for our first unobstructed view of the ocean and feeling awestruck and overwhelmed yet again by the endless sky and the rows of frothing, roaring breakers rushing toward us. Sand-colored ghost crabs startle at our appearance and scuttle sideways into their burrows. A patrol of Brown Pelicans silently glide a few feet above the breakers, and up the beach a group of Sanderlings run from the last breaking wave, then suddenly wheel in unison and chase its sliding waters back to the sea, stabbing the freshly exposed sand in search of mole crabs and cocina clams. Sanderlings have lived and flourished at the edge of the sea for tens of millions of years. If our own species can learn to practice good stewardship, they should be lords of the swash zone for millions more to come.

Monarch Waystation Grows

Article & photos by Robert Hernandez, South Texas Border Chapter

What a spectacular sight!! Each fall millions of monarch butterflies pass through our region on their way to their overwintering grounds in the oyamel fir forests of central Mexico. The following spring these migrants return to the southern tier of states so their offspring and successive generations can fly north to repopulate the summer range. However, it appears the numbers of this majestic butterfly continues to decline each year. One of the reasons for this decline is destruction of the habitat necessary for monarchs to reproduce and to sustain both the species and this migration phenomenon.

The Rio Grande Valley is situated along the southern monarch migration route. Monarchs from southern Canada and the northern and central regions of the United States migrate to their overwintering grounds in Mexico and spend the winter in a hibernation-like state.

Monarch butterflies use milkweed as the host plant and without this plant they are unable to reproduce. Milkweed and other nectar sources have been on the decline each year due to destruction of habitat through urban development and the continued use of herbicides and pesticides mostly on genetically modified corn and soybean fields.

Sign denotes Monarch Watch waystation

In 2018, the Texas Master Naturalist South Texas Border Chapter (STBC) decided to take action. They joined the thousands of groups and individuals across the country who have created monarch waystations to provide these resources vital to monarch conservation. The group decided to transform a small patch of land next to the patio area of St. George Orthodox Church Meeting Hall in Pharr, Texas, which serves as the chapter's meeting venue.

Monarch found in an Iowa monarch waystation—photo by Diane Hall

Once the chapter had researched Monarch Watch's requirements and guidelines for certification of a monarch waystation at monarchwatch.org/waystations, the volunteers were ready to tackle the compacted, dry earth and undergo the transformation. The guidelines to create, conserve, and maintain a monarch waystation can be found on the monarch watch website. Any group or individual can create their own certified monarch waystation in home gardens, schools, or any unused plot of land.

You can also contribute to the cause by adding milkweeds and nectar sources to already existing gardens. The best choice of milkweed are common milkweed, butterfly weed, and zizotes milkweed. Although beautiful, try to avoid tropical milkweed as it tends to disrupt the reproductive process and migratory development.

In the end, you will have joined the 46,000 individuals or groups of people that have created monarch habitats throughout the continent so that we can continue to experience this monarch migration phenomenon. This action is twofold, contributing to sustaining a healthy population of this magnificent butterfly while at the same time contributing to the health of our planet through pollination.

(*Above and right*) Current views of STBC monarch waystation at St. George Orthodox Church Meeting Hall in Pharr

Painted plants lend a holiday color theme to the native landscape

Article & photos by Anita Westervelt, South Texas Border Chapter

Our Deep South Texas habitat paints a couple of plants for a traditional holiday look.

Painted spurge (*Euphorbia heterophylla)* and **painted leaf** (*Euphorbia cyathophora)* are not so distant relations of the famed commercialized poinsettia (*Euphorbia pulcherrima)* all of which are in the Spurge family and widespread throughout the tropics and subtropics. They also have been introduced or naturalized in many countries – giving them many common names.

Painted spurge (*Euphorbia heterophylla*)

Painted spurge is also called Mexican fireplant, painted euphorbia, Japanese poinsettia, paintedleaf and milkweed.

Painted leaf is also known as wild poinsettia, poinsettia, fire on the mountain, painted poinsettia and summer poinsettia.

Euphorbia flowers are unique in that they rarely have petals. In fact, the flowers are tiny and massed together in a cluster called a cyathium -- a cup-like cluster of modified leaves enclosing a female flower and several male flowers to resemble a single flower. Interestingly, this feature is present in every species of the genus Euphorbia, but nowhere else in the plant kingdom.

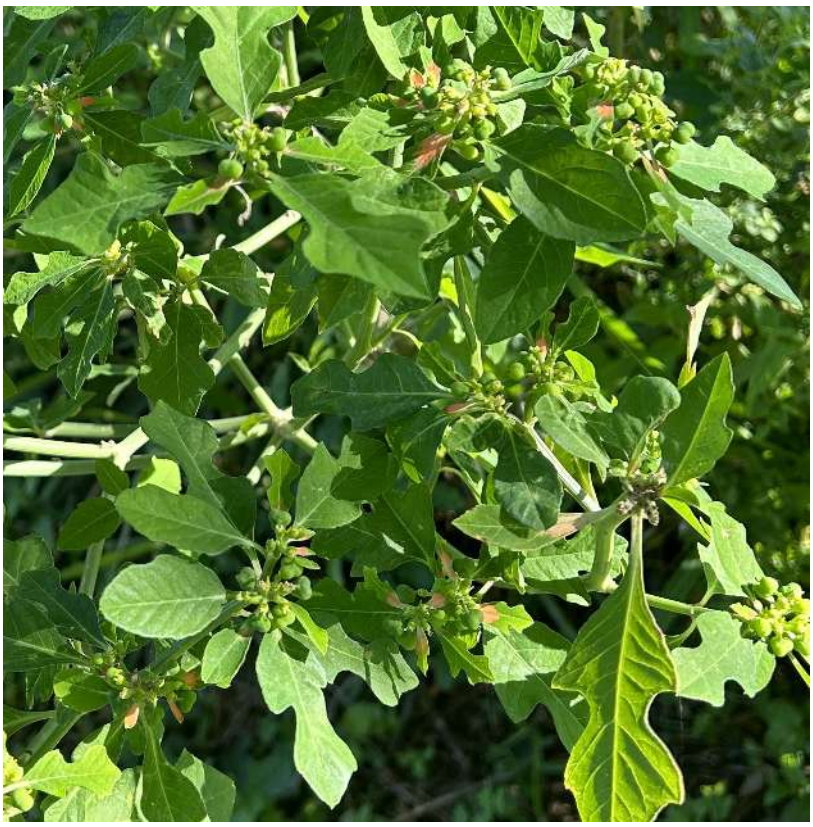
Instead of the flowers being the eye-catcher, they tend to be surrounded by colorful bracts, which are leaf-like structures just below the flower clusters. Leaf bracts are a modified or specialized leaf, often different in size, shape, color or texture to the foliage leaves. Bracts function differently from leaves. Leaves may be anywhere along the stem; bracts are generally located on a stem just below a flower, a flower stalk or an inflorescence -- the plant's floral axis.

Painted leaf (*Euphorbia cyathophora*) flowers, bracts and fruit

Painted spurge and painted leaf depict the reds and greens of traditional Christmas colors via their bracts and fruit capsules. The plants can grow to about 40 inches tall. The flowers are pollinated by insects that are attracted to large amounts of nectar: ants, flies, wasps, butterflies and bees.
The fruits are small, segmented capsules. When mature, they explode and shoot the seeds some distance from the parent plant, ensuring plant dispersal.

Pretty to look at, they come with a caution: most members of the genus Euphorbia exude a toxic milky white latex. Individuals sensitive to latex are known to have strong reactions, including dermatitis and anaphylaxis to the plants' latex. In some countries they are considered invasive weeds; in India and Thailand, they invade cotton fields.

Perhaps not as flashy in the red spectrum as the popularized poinsettia, nonetheless, their contrasting muted reds and greens are an attractive accent as an ornamental or filler in a winter pollinator garden.



Painted leaf (*Euphorbia cyathophora*)

The Gopher tortoise: An ancient yet vulnerable genus

Article by Julia Jorgensen, South Texas Border Chapter

Tortoises are land turtles (excluding terrapins) of the family *Testudinidae.* There are approximately fifty-five extant species, and North America has six, all in genus *Gopherus.* The largest of these, the endangered Bolson's tortoise, lives in Northern Mexico. The other five inhabit the southern United States from the Mojave and Sonoran deserts, through South Texas, and into southern Alabama and across Florida. Our own South Texas tortoise, who roams the Tamaulipan Biotic Province, is the Texas tortoise, *Gopherus berlandieri*.

Gopher tortoise (*Gopherus polyphemus*) in Florida—photo by Julia Jorgensen

Tortoises intrigue people—they look resilient, and they are both charismatic and edible--but their appeal has a dark side.

Hiding inside an armored shell would seem an almost unbeatable defense, and the tortoise lineage is indeed very long. The earliest known turtle lived around 260 million years ago.[1] The turtle ancestor itself was one of the minority of species that survived the great end-Permian extinction; a 230 million year old turtle fossil was discovered in 2018.[2] The fossil record also suggests that tortoises in general were more widespread in the past than they are today.

The earliest North American tortoise, an ancestor of the genus *Gopherus*, dates from the early Eocene, about 58 million years ago (mya), in New Mexico, before it was a desert.[3] *Gopherus* fossils dating to the Pliocene, about 10 mya, have been found in Central Texas.

The appearance of impermeable toughness may disguise the tortoise's vulnerability to recent rapid changes in climate and habitat, along with road accidents.

Tortoises (especially the famous large species) are charismatic. Humans often view them as nonthreatening and cute because of their high sculptural carapaces, elephantine back legs, and slow way of trundling from place to place. Their ability to retreat into a shell—and to "carry their home on their backs"—is unusual, interesting behavior. But these characteristics have led to exploitation by the pet and souvenir trades.[4]

Although tortoises cannot swim, they can survive long periods adrift at sea with no food or water. Hence, they were able to populate the Galapagos Islands.

Wild tortoises have been a convenient source of food for humans, and this has led to the near extirpation of several species since Europeans arrived in North America. From the 17th through the 19th centuries, ships habitually stopped at the Galapagos Islands to capture tortoises, which could weigh up to 500 pounds (and be up to 175 years old). Galapagos tortoises can survive up to year without eating or drinking, and could actually be stacked, live, in the holds of ships, making

them the perfect fresh food (and oil) storage system for sea voyages. As many as 200,000 Galapagos tortoises died in this manner.[5] Today nonnative species such as pigs, dogs, cats, donkeys, goats, and rats prey on tortoise eggs or compete with them for food.

Hunting has also impacted turtle populations in the United States. The Texas tortoise, named by Berlandier during the Mier y Teran expedition, was eaten by soldiers and explorers who roamed across early Texas. Turtles in general were considered a culinary delicacy in the Southeastern United States, and they were collected to feed slaves. A craze for sherry-laced terrapin soup was cut short by Prohibition in the 1920s.[6]

The lives of gopher tortoises

A gopher tortoise bowled me over during a 2014 Florida vacation. It had the wonderful name of *Gopherus polyphemus*, to indicate that it was fossorial (burrowing) and large. Indeed, this was the largest tortoise I had ever seen, and my husband and I were thrilled by his/her lack of shyness. He/she ignored us and went about the business of foraging, probably because it was about to be a very hot day, and a cool burrow beckoned.

Author's husband admires Gopher tortoise (*Gopherus polyphemus*) in Florida—photo by Julia Jorgensen

G. polyphemus enjoys quite a varied diet including herbs, fruits, fungi, and cactus to support a carapace length of up to fifteen inches and has been known to live up to 86 years. As photographer Mark Lotterhand demonstrates in a short film,[7] this animal's natural curiosity and fearlessness can readily lead it to try new foods, even cameras.

It is worth noting that *G. polyphemus* is not only a popular favorite with Florida park-goers but has a brilliant reputation with wildlife biologists for its habit of sheltering other species in its capacious burrows. These average seven feet below ground and 15 feet long (although some have been recorded at 10/40 feet). *G. polyphemus* may be considered a keystone species as up to 360 other species may depend on the burrow, including a variety of snakes, frogs, small mammals, and invertebrates. As the burrows stay warm in winter (around 50 degrees) and cool in the summer (80 degrees) they are critical for survival in Florida's harsh climate. Unfortunately, it also turns out that burrows are quite dangerous during the flooding that comes with hurricanes. Gopher tortoises living on the Southwest coast of Florida were nearly wiped out during Hurricane Ian in 2022.[8]

Habitat loss, a crisis for turtles everywhere,[9] is a tremendous problem in Florida, as are road accidents and capture for the pet trade. Predation by raccoons and upper respiratory tract disease are also threats. The wild population of *G. polyphemous* has declined 80 percent in the past century, and is listed as Threatened under the Endangered Species Act. However, Florida takes its charismatic tortoise seriously, and state agencies generate a stream of educational material about the tortoise and its preservation.

The Texas tortoise

I first realized that we had a species of *Gopherus* in Texas when I came upon a small female *G. berlandierii* (Texas tortoise) at Santa Ana National Wildlife Refuge. She was in the last stages of covering a hole that likely contained eggs. I never would have imagined she was related to my Florida friend, but research told me that she was indeed a *Gopherus,* although *G. berlandieri* only grows to about eight and one-half inches in length. *G. berlandieri's* range is roughly Texas south of San Antonio, specifically the thorn scrub communities. Its distribution in Mexico is not know. Its home range is typically less than a city block.

Texas tortoise's nearest relative is *Gopherus agassizii*, who lives in the Mojave desert. Only Florida's own *G. polyphemus* is a spectacular burrower**.** The Mojave, Sonoran and Sinaloan species also burrow, but more shallowly, often under boulders. It would be interesting to know more about the evolution of and changes in the burrowing habits of the *Gopheri.* A 2016 research study suggests that turtle shells evolved for burrowing rather than as armor.[10]

The Texas tortoise is the smallest *Gopherus*, and it does not burrow much at all, but will sometimes dig a very shallow pallet to lie in if the soil is soft. At any time of the year, but particularly in winter when the tortoise is often inactive, it borrows a burrow from the Southern Plains woodrat (*Neotoma micropus)*. The rat covers the burrow entrance with a large midden of cactus, thornscrub branches, and other material. In return for this service, the inactive tortoise endures the rat's gnawing, as its shell apparently provides needed calcium.

Texas tortoise (*Gopherus berlandieri*) in Ramsey Park—photo by Diane Hall

The Texas tortoise lives largely on prickly pear cactus pads, fruits, and flowers, and these are also significant in the wood rat's diet. Cactus seeds are ten times more likely to germinate after passing through the tortoise. Rattlesnakes also share the community and commonly eat wood rats although the wood rats have some immunity to their venom. Some other animals, including shrews and a variety of snakes and lizards, may be found in wood rat middens.

Our tortoise is equipped with a moderate sense of smell, color vision, and good depth perception and may perceive ground vibrations via a membrane over the ear. They are reported to make a hissing sound during courtship.

G. berlandieri does not reproduce until age 15 (and may live until 60) with females producing only three eggs at a time, in one to two clutches from June into late fall. The survival rate is low, particularly for hatchlings, due to predators, automobiles, fires, and some diseases, including ones

that may be contracted from human touch. (Many of these tortoises also carry a keratin-eating fungus on their shells, so touching them is inadvisable in any case.) Commercial exploitation was a big problem in the past. *G. berlandieri* has lost more than 95 per cent of its habitat. It cannot survive in the wild if relocated out of its range, and it is listed as "threatened" by the state of Texas, although it appears as a species of "low concern" on the International Union for Conservation of Nature Red List.

I found it interesting that most of the limited literature on *G. berlandieri* is described in detail in only one monograph, *The Texas Tortoise* (2014*),* by Francis Rose and Frank Judd, who began their studies of the animal in the 1960s. Google Scholar currently shows very few related research studies. Should you wish to know more, UTRGV owns a copy of Rose and Judd's interesting book, whose jacket blurb notes that the Texas tortoise is the tortoise "most neglected by wildlife personnel."

    - Encyclopedia Britannica, "Turtles: Natural History".
    - Jeremy Rehm, "230-million-year-old turtle fossil deepens mystery of reptile's origins," *Nature News.* August 22, 2018.
- Scholarly literature on Gopherus tortoises: https://turtles.linnaeus.naturalis.nl/
- Bolson's tortoise was exploited in the Mexican pet and souvenir trade: https://animaldiversity.org/accounts/Gopherus_flavomarginatus/

- National Geographic, "Galapagos Tortoise" https://www.nationalgeographic.com/animals/reptiles/facts/galapagos-tortoise
- Jordan Gray, "Turtle Survival", Natural Habitat Adventures "Daily Dose of Nature" webinar.
- YouTube: https://www.youtube.com/watch?v=h7g_Z25g6Nk
- Andrea Stetson Dec 22, 2022 "Washed Away," *Naples Daily News*, Dec. 22, 2022.
- Mongabay News, "Turtles and tortoises in trouble," July 2007. https://news.mongabay.com/2020/07/turtles-and-tortoises-in-trouble-more-than-half-of-all-species-face-extinction/
- Lyson et al 2016 Fossorial origin of the turtle shell. *Current Biology*, 26, 1887-1894.

See also:

Francis L. Rose and Frank W. Judd, The Texas Tortoise: A Natural History. University of Oklahoma Press, 2014.

Carl Franklin's talk, "Turtles of the RGV," which was presented to the South Texas Border TMN chapter.

An Ode to the Queen – *Danaus gilippus* Poem & photo by Jose Palmos, Rio Grande Valley Chptr

"A Monarch!" They eagerly misplace,

Her gentle poise unflinching.

Robed in orange, woven with black lace,

Speckled in white unfleeting.

Crowned in diadem of gleaming stars,

She cries, "Hear her Majesty!

Grace rarer than orange sapphires,

I am most of Royalty!

No less than kingly Monarchs to reign,

Or viceroys, heroic soldiers slain!

May the Monarch travel in Godspeed,

I linger to be with thee!

Hither now to mine great banquet hall,

In misty-jeweled goblets where

Gold ambrosia will fill your hunger!

Hither now to mine melodic ball,

Waltz in grandeur, or tarry yonder

Away as kindled souls were.

I will pardon your ignorance whole,

But hear ye, I'm no damsel!

I rule fairly, my fortitude seen,

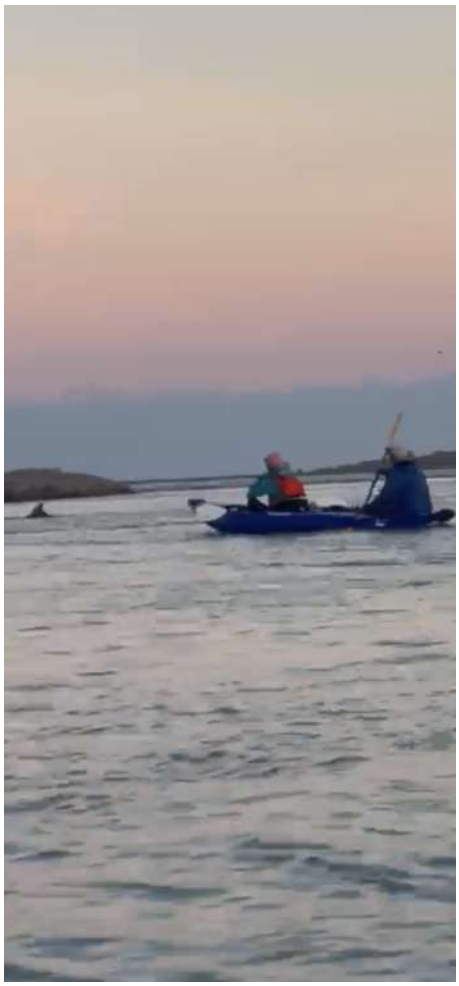
Know ye well, I am the Queen!

Gentle Giants

Article by Jim Grizzard, Rio Grande Valley Chapter
Photos by Rachelle Grizzard

While kayak surfing waves along the South Padre Island jetties, I decided to paddle out into deeper waters and back into the Brazos Santiago Pass. With excitement, I sighted dolphins approaching me. But, as they neared me, they weren't dolphins. Their fins seemed odd. In the clear water the huge fins and bodies of manta rays became visible.

The beauty of three Carribean manta rays (*Mobula cf. birostris*) flying just under the surface of the water less than eight feet from my kayak staggered me. I will never forget them. As they calmly flew through the water within a couple of feet of the surface with their fin tips rising almost 18" above the water. The arm-like cephalic lobes below their mouths created an oblong funnel (almost two cubic feet in size) that scooped small fish and zooplankton into their mouths as they filtered the water through ventral gills beside their mouths. I wish I could have seen them perform their swooping feeding dance which circles vertically underwater like a ferris wheel. They are phenomenal acrobats of the sea who glide along sleeplessly at nine miles per hour, but can accelerate to 22 miles per hour in a flurry of oscillating undulations to evade an attacking shark, orca or false killer whale.



A magic moment observing manta rays (note fin on left)

The wild peculiar appearance of mantas swimming by me was pleasantly alien. The three I saw were 12 feet long from head to tail, two feet thick through the middle of their bodies and 15' across between the tips of their pectoral fins. They seemed dressed for a fish formal with their dark back and white belly with a 30 inch tail to accent their tuxedo.

No doubt the manta that came within touching distance saw me, but she showed no fear nor altered her course. Mantas have superb vision. Scuba divers report that mantas can be curious about humans, especially juveniles. Occasionally young mantas come near and repeatedly circle divers. Due to their having the largest brains and greatest brain to body ratio, many marine biologists believe that mantas are the most intelligent fish and among the brightest animals on earth (the majority of which are mammals). Mantas' reaction to large underwater mirrors, lead some researchers to conclude that mantas are self aware. A number of divers note that they have heard these gentle giants communicating with high pitched squeals.

Since mantas can live well over 50 years, I could not guess the age of the ones I encountered. Though I met the mantas virtually on the ocean surface, mantas can dive below 3,200 feet. Mantas are known to migrate alone or in squadrons for more than 600 miles. But, I imagine the ones I saw were born and matured in the Flower Garden Banks National Marine Sanctuary about 75 miles away. In 2018, marine biologists discovered the only known Carribean manta ray nursery in the world. The gestation period of a manta is appropriately 12 months. Mantas are ovovivparous, meaning their eggs hatch inside of their mother. At birth, their fins are wrapped around their bodies like a sleeping bat enveloped in its wings. A male manta reaches sexual maturity in between four and six years, where females take from eight to ten years. Where the average pectoral fin span of Carribean manta rays is about 15 feet, some grow significantly larger. Ocean manta rays have been seen with a fin span of 30 feet and weighing over 3,000 pounds.

Though mantas are apt in evading sharks (their distant relatives) and orcas, they are easy prey for their worst enemies - humans. We kill over 5,000 mantas annually for their meat and gill plates, which are prized as a Chinese medicine (with no evidence of its efficacy) to improve circulation, treat chicken pox and cure impotence.

A 2013 study found that an average of $400 was paid for an adult manta on the fish market in comparison to the value of a manta in the wild that could generate over $700,000 in its life for ecotourism. In addition to over fishing, the human impacts of boat strikes, marine debris, fishing nets, environmental degradation and by-catch has reduced manta ray populations in the world to under 20,000 and warranted their uplisting last year as an "Endangered Species" under the Endangered Species Act.

The rapid decline of manta rays could be reversed in several ways: by advocating for the expansion and increased supervision of the Flower Garden Banks National Marine Sanctuary and other manta nurseries, by promoting appropriate economic sanctions against countries that harvest mantas, by supporting efforts to remove plastics from our oceans, by reducing our plastic consumption, by promoting eco-sensitive ocean shipping lanes and by partnering with the Manta Trust or a similar organization.

The next time you see strange looking dolphin fins surfacing in the ocean, they may not be dolphins and you may be in for a rare treat.

Author and wife kayaking the Brazos Santiago Pass near sighting of manta rays

Cochineal – Under the Microscope

Article & photos by Camille M. Rich, Rio Grande Valley Chapter
Steward / Owner, El Mesteño Ranch and Arboretum

On recent ranch trips over the last couple of months to El Mesteño Ranch and Arboretum, I began noticing what seemed to me to be an extremely large amount of cochineal (*Dactylopius coccus*) on the prickly pear cacti *(Opuntia engelmannii var. linderheimeri)*---significantly more than I had noted in previous years. Here in deep South Texas, we commonly refer to prickly pear cacti by its Spanish name "nopal." As a steward of this property, I have established the routine and habit of what I call "vigilant observation." On each visit, I make it a top priority to skim and scan fence lines, look for anything blooming, measure and record precipitation, look for tracks and other sign, and so forth, on this small patch of endangered Tamaulipan thornscrub.

What makes this year more unusual, as far as my memory can recollect, is that this year the amount of this scale insect seems to have more than doubled from previous years. This got me to thinking. Why is this happening? Despite a few citizen scientist theories I have put together to try to better understand (and possibly explain) the cochineal explosion, I really do not have any answers---only more questions. Nevertheless, I now have plenty of scale insects available to be harvested to afford me the opportunity to pick up with a natural dyeing experiment using cochineal that I put on hold about a year and a half ago.

As I reflect on the cochineal phenomenon of recent days, two thoughts come to mind. The first thought is that this is the year that I am going to try my natural dye experiment with cochineal. I formally began this experiment about three years ago. However, I put my experiment on hold, because the numbers of cochineal insects at El Mesteño Ranch and Arboretum, based on my random, walking surveys at that time, were notably low. Therefore, instead of harvesting cochineal at El Mesteño Ranch and Arboretum, I chose a different approach to collecting cochineal. I decided to grow my own. Subsequently, I created a small "nopalry," which is the term used to describe a farm that produces cochineal, in my backyard to try and raise enough cochineal for my natural dye experiment.

Nopalry in author's backyard circa 2020

My second thought on the current cochineal explosion is one of genuine concern for the status of the prickly pear population, including all the wildlife that it supports, at El Mesteño Ranch and Arboretum. After just a month or so of heavy cochineal infestation, I have observed that the cacti seem to wither up and die under the effects of a heavy cochineal infestation. This is disconcerting

to me as numerous animal inhabitants of this little ranch on the South Texas Sand Sheet utilize prickly pear cacti and tunas as part of their diet throughout the late summer months.
Some of the animals that rely on prickly pear include the Texas tortoise, javelina, and coyote, just to name a few. While other animal residents, such as rodents, snakes, and some birds choose the cover and protection of prickly pear glochids and spines as the perfect spot to hide or build their nests. Oh, and then there is the prickly pear jelly that I enjoy making and sharing, but I digress.

Initially, I did not notice the cochineal explosion. In fact, it took me a few weeks to realize that I was not just dreaming up a seemingly significant increase in the scale insects. I decided to collect observational data regarding how many prickly pear cacti were under a heavy infestation. I implemented walking surveys of the property to collect and record observational data on the cochineal in my nature journal. I paid particular attention to the number of prickly pear pads that seemed to be covered entirely by the white, fluffy substance. This white substance is secreted by the tiny cochineal nymphs to protect them from water loss and the sun. I also divided up the property into quadrants and took note of the areas with heavy cochineal infestation.

It did not take but just a handful of purposeful strolls around the property, over the course of a few visits, to be able to gather enough observational data to show that the cochineal infestation was growing. In fact, I began to see areas go from just a single prickly pear cactus with several pads covered with cochineal white fluff to exceptionally large patches of three or more cacti with numerous pads on each one entirely covered. The cochineal insects were spreading at an alarming rate---right before my very eyes.

Wilting prickly pear cactus covered with white fluff of cochineal insect

Frankly, in the beginning of this cochineal explosion, I saw the demise of a few prickly pear cacti as a blessing. Why would I think this? Well, most of the invasive grasses I battle with my shovel and hoe happen to be smack dab in the center of huge groups of stickery, thorny, unforgiving prickly pear patches. Consequently, I thought that if a few of these patches died back, it would help me get in closer to combat the invasive grasses that compete with our natives for prime real estate and moisture.

After a few months of monitoring this heavy infestation, I also observed what appear to be end stages of the effects of the cochineal infestation on the cacti. In the beginning, the prickly pear pads appear green, plump with moisture and sporting just a few patches of cochineal white fluff in the glochids that occur on the surface of the pad. Over time, the amount of white fluff will begin to increase. Many of the green pads, most recently, are currently solid white with cochineal fluff --- giving them the overall appearance of huge, Texas-size cotton balls. Prickly pear pads that have been under heavy cochineal infestation for some time will begin to turn shades of pale yellow or

pale green---most assuredly on their way to turning brown, completely drying out, and withering away.
After a few weeks under heavy infestation, I am also observing a simultaneous weakening of the central base structure of the affected prickly pear cacti. The afflicted cacti will look as though they are wilting and begin to droop over. Once they have seemingly wilted, it becomes difficult for them to bear the weight of their pads. Additionally, I have begun to observe a pattern in the end stage whereby almost as soon as I notice an individual's pads have begun to fall off, it seems to be only a matter of a few more days until the whole cactus is dead and lying on the ground.

From what I can distinguish, this wilting stage appears to most likely be the final, end stage before an individual cactus ends up on the ground---nothing more than a heap of pale yellow or pale green pads covered in cochineal. Once the cacti hit the red, sandy soil, there they will remain and continue the process of desiccation---drying up and withering away until they are nothing more than mere brown, crispy pads resembling Texas-size tortilla chips. It is quite incredible that such a small insect could wreak large-scale havoc on hardy, well-armored flora.
Are you the slightest bit curious about what this scale insect looks like?

Here are a couple of micrographs of cochineal insects I took with my microscope for you.

Microscopic view of the cochineal insect

Size comparison of cochineal on a dime

A few exciting, fun facts about cochineal for your review and consideration:

- The cochineal insect has been used for centuries to produce a beautiful red pigment.
- Historically speaking, the regions of Puebla, Tlaxcala, and Oaxaca, Mexico, had systems for breeding of cochineal and engineering ways to breed them for maximum red pigmentation in the dyes they yielded.
- The Mayans and Aztecs used the cochineal pigment in rituals and for trade; red was symbolic of the gods, sun and blood.
- Farms where cochineal insects and their host cacti are cultivated together are called "Nopalries."
- This bright red pigment has been used in many works of art, including "The Bedroom" by Vincent van Gogh.

- The red pigment became an international symbol for power in Europe, and the secret of its origin was carefully guarded by Spain.
- This highly sought after pigment was used in uniforms for the English---hence, the resulting term: English "Redcoats."
- This intense, red pigment became a symbol of authority and was utilized in the robes worn by Roman Catholic clergy.
- The red pigment, which is carminic acid, is the product of a substance that the female cochineal uses to protect her eggs from predators.
- In South Africa, some cochineal species have been used as a means of biocontrol for invasive cacti species.
- Some insects are natural enemies of the cochineal including lady bugs, ants, parasitic wasps, and lacewings, just to name a few.
- Some rodents (especially rats), birds, and reptiles also feast on cochineal.
- It takes approximately 70,000 insects to make one pound of cochineal.
- Colors that cochineal can produce include scarlet, crimson, and orange.
- In more recent times, cochineal has been replaced by synthetic dyes.
- Nevertheless, cochineal continues to be used in cosmetics and beverages.

Cochineal insects on top of a newly minted dime

Natural Dyeing with Cochineal

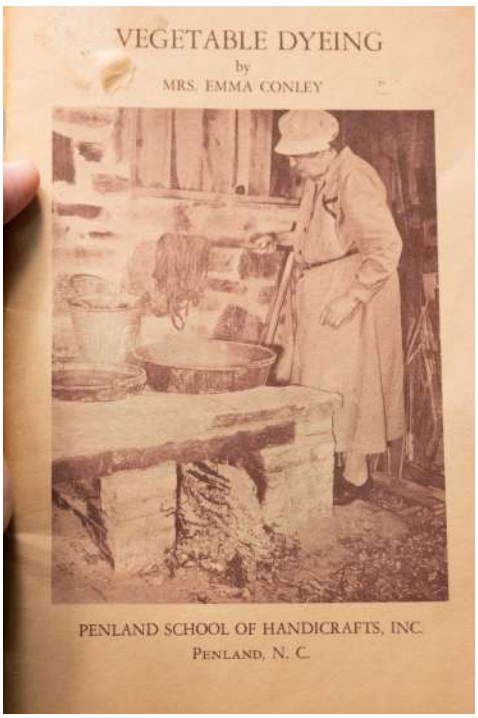
Article & photos by Camille M. Rich, Rio Grande Valley Chapter

With the recent increase in cochineal, I now have plenty of scale insects available to be harvested. This will now afford me the opportunity to pick up with a natural dyeing experiment using cochineal that I put on hold about a year and a half ago. There are many resources, both in print and online, for dyeing with this dried insect. I have a personal favorite, which is a paperback that I purchased many years ago at the Valley Nature Center in Weslaco, Texas, titled "Edible and Useful Plants of Texas and the Southwest: A Practical Guide," by Delena Tull. Ms. Tull gives her reader a synopsis of dyeing with cochineal on page 350 of her book.

I would like to share a few highlights of her synopsis on cochineal with you here:

> "COCHINEAL---DACTYLOPIUS COCCUS
> PINK TO RED TO MAROON: Fresh or dried insect; no mordant, or use alum, tin, chrome, or vinegar mordants, which all yield slightly different shades…Lightfastness and washfastness are good. Various rinses with vinegar, ammonia, salt, and oxalic acid will give different intensities of the colors, even producing some lavender shades…You can order the dried insects from dye supply houses or collect your own from prickly pear pads. Use stiff paintbrush to pick the webs off the cactus. To dry the insects for storage, place the webs in a pan in a hot oven until dry, then seal them in a jar."

Another treasured book on the dyeing process was given to me by fellow Texas Master Naturalist and friend, Nancy "Nan" Cole-Schell Persinger. Nan knew that I wanted to experiment with dyes, so she gifted me a vintage book, which was part of her family's treasures, a few years back. The book is titled, "Vegetable Dyeing, by Mrs. Emma Conley," and it was published by Penland School of Handicrafts, Inc., Penland, North Carolina, on simple brown paper---originally in 1959. (I have the second edition, which was revised by Mrs. Meta Lewis a few years later, although I can find no specific date for the printing of this second edition.)



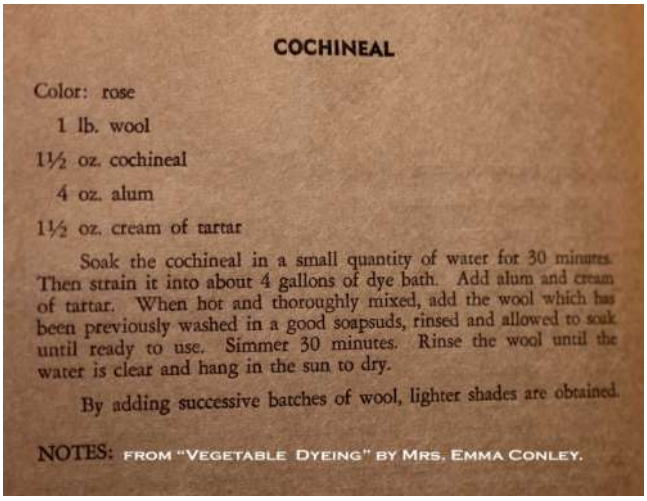
Front cover of "Vegetable Dyeing by Mrs. Emma Conley, Second Edition:"

I love everything about this little book, starting with Mrs. Conley's introduction: "As a little girl my mother taught me to card, spin and dye the wool for our clothes. The dyes we got from the plants growing in our neighborhood. We used both the iron and brass kettles and did our work out-of-doors."

Her general rules for getting an even dye are also appreciated:

> "The most important is to have clean wool and to be sure that the fibers are thoroughly wet before putting the wool into the dye bath. Therefore, always wash the wool in good mild

soapsuds, rinse, and allow to soak while the dye bath is being prepared. This permits the dye to penetrate the wool evenly and quickly…. Don't be afraid to experiment. Some surprising results come out of it." After spending the last five plus years researching different methods of dyeing with cochineal, I can tell you that I have learned that there are many ways to go about doing this. Countless hours have been spent surfing the internet for instructions and how-to videos on this ancient process. As I stated in my "Cochineal Under the Microscope" article, I even constructed a small nopalry in my backyard and tended it for approximately a year and a half.



COCHINEAL

Color: rose

1 lb. wool

1½ oz. cochineal

4 oz. alum

1½ oz. cream of tartar

Soak the cochineal in a small quantity of water for 30 minutes. Then strain it into about 4 gallons of dye bath. Add alum and cream of tartar. When hot and thoroughly mixed, add the wool which has been previously washed in a good soapsuds, rinsed and allowed to soak until ready to use. Simmer 30 minutes. Rinse the wool until the water is clear and hang in the sun to dry.

By adding successive batches of wool, lighter shades are obtained.

NOTES: FROM "VEGETABLE DYEING" BY MRS. EMMA CONLEY.

One of three of Mrs. Conley's cochineal recipes in her book on dyeing

Regretfully, the historical winter event that occurred in February 2021, wiped out my small nopalry. At that time, I decided not to reconstruct it. Instead, I opted to go back to monitoring the cochineal population at El Mesteño Ranch & Arboretum for a time in which the population of cochineal appeared to be stable enough to withstand a large harvest.

What I can say, with confidence, is that the first step in dyeing with cochineal involves harvesting (or purchasing) some cochineal insects for your natural dye experiment. If you plan to try to harvest this insect yourself, I can report, based on first-hand experience, that there is a significant amount of time and effort required in gathering cochineal, not to mention countless glochid and thorn pricks to your hands and fingers to contend with.

If you wish to forego the initial harvesting and drying steps of the natural dye process utilizing cochineal by purchasing some of these dried insects, you can skip straight to finding recipes and researching methods for using the insects in making dyes for textiles, painting, and other forms of original, imaginative, artistic expression. In my opinion, this is the step where dreams and inspiration mix beautifully as the creative process starts. All the real fun begins!

I am excited to try and dye some cotton fabric, linen fabric, and cotton yarn with cochineal. Specifically, I am eager to dye some cotton T-shirts, cotton handkerchiefs, cotton yarn, a cotton tablecloth, and some cotton or linen table napkins. Over the next few weeks, my plan is to collect enough cochineal so that I will be able to prepare a substantial dye bath to process all the items that I would like to dye.

Based on the current, heavy infestation of these microscopic insects, I am confident that I will finally be able to harvest enough cochineal for my dyeing experiment. This is the year that I can pick up where I left off in 2021. I am eager to move forward and see what exciting results come from this natural dye experiment.

As my article comes to an end, I would like to show you a few pictures of sections of a beautiful tapestry given to me by my good friend, and fellow Texas Master Naturalist, Mary L. Thorne. She gave me this exquisite tapestry after she, too, learned of my fascination with cochineal and dyeing natural fibers with it. This phenomenal textile work of art was woven at the Centro de Arte Textil Zapoteco Bii Dauu SC de RL in Oaxaca, México. It is 100% wool, and cochineal was used to dye the pinkish maroon fibers in its wonderful pattern.

(*Above and below*) Pinkish maroon wool fibers have been dyed with using cochineal

In closing, I am looking forward to having more to share with you about the textiles I procure to dye, how much cochineal I end up harvesting, and all the precise steps of the dyeing process that I make my way through over the next couple of months. Meanwhile, I am having more creative thoughts about other craft and artistic uses for cochineal.

- What if I make a natural paint with cochineal and see how it works on watercolor paper, a wood product, or untanned leather?
- What if I make my own paper with recycled paper scraps and dye it with cochineal?
- How about making homemade seed paper with recycled paper and native wildflower seeds and then dyeing it with cochineal?
- What about utilizing the batik method of wax-resistant dyeing of textiles for Easter eggs, ceramics, or stencils on fabric, untanned leather, or paper?

I cannot wait to reach out to Nan and Mary and let them both know that my cochineal experiment is back on track. This natural dye experiment has been on the back burner long enough! Stay tuned!

The Rare Cattle Tyrant

Article & photos by Michelle Cano, Rio Grande Valley Chapter

On November 12, 2023, bird enthusiasts and wildlife officials were saying that the first rare and recorded sighting of a Cattle Tyrant in the United Sates was reported in Corpus Christi, Texas. Birders posted pictures of the bird on rooftops, ledges and sidewalks, and a particular dumpster of which it seems to be fond.

My campus had early dismissal on Friday, November 17, so I knew I had to take a chance and go find this rare bird before it was gone. So, my bird buddy and I drove from Brownsville to Corpus to try our luck. The last report stated it was seen at Dokyo Restaurant in a palm tree. When we arrived at the restaurant, there were no birders around, much less any birds. I approached a man throwing the trash out and asked him if he knew anything about a rare bird. He quickly said, oh yes, it's out in front of this building in a palm tree. As I approached the palm tree, a lady from a car passing by shouted out, "Are you looking for the bird? It's in that palm tree next to you!" Another friendly lady came around the corner and said, "The bird is in that palm tree."

Cattle Tyrant (*Machetornis rixosa*) seen in Corpus Christi

Well sure enough, as I looked up there it was! It was eating from berries that were full of flies in the tree! What a cute looking bird! It was canary yellow with a gray head-that had a scarlet patch hidden away. It could care less that we were pointing our cameras at it and taking pics, he was enjoying a feast of flies!

This rare bird from South America has birders coming from all over the U.S. to see it. Some people are saying he was a stowaway on ship coming to the port. Regardless of how it got here, this flycatcher won over our hearts with the fly catching performance he gave while inside that palm tree.

Cattle Tyrant, a member of the tyrant-flycatcher family, catching a fly

Looking for food in all the easy places

Story and photos by Anita Westervelt, South Texas Border Chapter

This tiny Mexican Smilisca (*Smilisca baudnii)* huddled at the back side of my moth sheet the first week of November. Discovering the frog was significant because it has been a long, drought-stricken summer, without the usual visits from these little tree frogs – nor other frogs and toads that generally hang out around the moth sheet, free-loading for easy food.

Mexican Smilisca or Mexican tree frog (*Smilisca baudnii)*

Like most other frogs, tree frogs are nocturnal. In wetter summers, they are frequent visitors to the moth sheet along with Gulf Coast toads and Mediterranean geckos. Geckos were a nightly presence this summer, but the absence of the tailless amphibians was noticeable.

Also called common Mexican tree frog, the species is listed in Texas as threatened, although there is no federal listing. South of the border, through Central America to mid Costa Rica, the species is very common and classified in the least concern for extinction category.

Although small, the common Mexican tree frog is the largest tree frog native to the United States; its most northern native range is the Lower Rio Grande Valley where small, isolated populations have been found in Cameron and Hidalgo counties.

Common Mexican tree frogs are chunky, with rather short legs, and stretched out, measured snout to vent, are about three inches long. Huddled on the back frame of the moth sheet, it could have fit on a quarter coin. For perspective, consider the green *Complex Ponana citrina* hopper at the frog's right "elbow" in the second photo is a mere 0.31 inches long.

Mexican tree frog with hopper

Common Mexican tree frogs vary in color and markings from tan to brown, gray or green; some may have the classic pattern of darker colored, irregular patches on the back. They can change color depending on the circumstances. Regardless color or pattern, the legs will show a distinctive banding. Color change provides camouflage and may help regulate body moisture and temperature. They move by leaping, using forelimbs and hind limbs.

Insectivores with exceptional eyesight for nocturnal hunting, these tree frogs eat crickets, flies, mosquitoes, ants, worms, spiders, beetles, moths and other small invertebrates, ambushing prey with their long, sticky tongues.

In the Yard: *Verbesina encelioides* (Cowpen Daisy)

Article & photos by Jose Palmos, Rio Grande Valley Chapter

When I first started gardening two years ago, I never put much thought into planting annual plants in my yard. Not to say that the colorful array of annual flowers like marigolds, pansies, and mums never caught my eye, but the thought of having to replace annuals after a season or two did not appeal to me. I wanted to brighten up the yard with attractive foliage and blooms that would last a few years.

Even as my interest in gardening began to focus on native plants, thanks in part to groups like Texas Master Naturalist and Native Plant Project, I was still hesitant on the idea of growing annual natives for the same reasons. I asked myself as a novice gardener: How much added value did they provide alongside perennials in supporting local wildlife? How long after maturing would they be beneficial for pollinators before they die back?

I happened to pick up some seeds at the first Native Plant Project meeting that I attended in September of last year – the seeds were provided by the speaker of the night, John Brush, an urban ecologist. The seed packets were labeled "Cowpen Daisy." Although an annual, I decided to plant some anyway. The following week, I scattered the seeds in the yard. They germinated within a few days and were surprisingly easy to tend. By springtime, the plants were already a foot tall and blooming.

For the next few months, I would be amazed at how many distinct species used the plants for various means. The first memorable sight was a Southern skipperling feeding on the rich nectar, its colors complimenting the bright yellow flowers.

Not long after, the City Nature Challenge made a perfect opportunity for me to document the varied species. While I made these observations on a single night during the challenge, I was not disappointed. The flowers had attracted small green aphids and white mealybugs, which in turn attracted spotless lady beetles. Shiny acrobat ants were moving up and down the plant. On the leaves were a leafhopper, a midge, and a garden ghost spider – all pale green, camouflaging with the leaves. Munching on the leaves were black bristled leopard moth caterpillars. Brown anoles

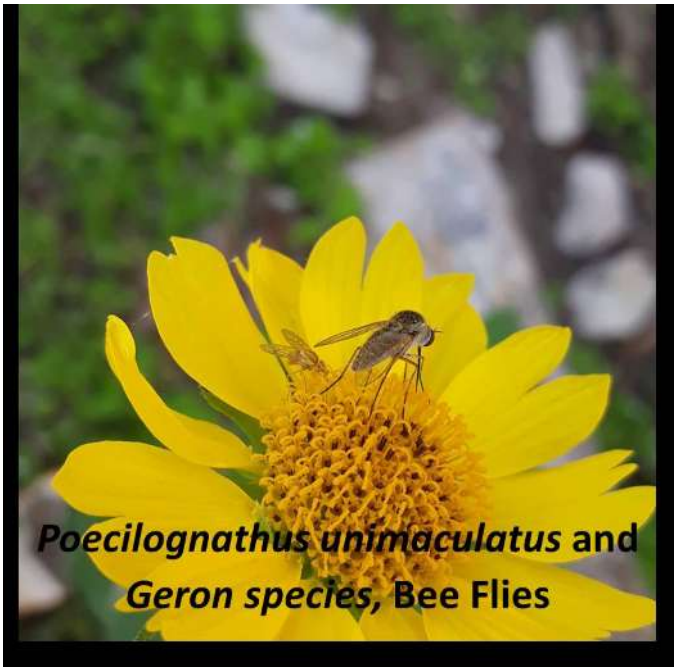
rested on the leaves here and there. The assortment of species interacting with each other and with the host plants was fascinating.

As spring progressed into summer, there was less activity in the yard. Despite the cowpen daisies blooming all summer, the leopard moth caterpillars were the only observation for a while. They would come out only at night to feed – during the day they curled up under logs. In mid-June, I was surprised to find another kind of caterpillar. I was very intrigued, realizing I had not seen this caterpillar species before. Soon I found another one, then another one! Before long, I realized there were several large clusters.

I searched online: c*owpen daisy host plant for what butterfly?* I took some photos and uploaded to iNaturalist for identification. Both answers were the same…the bordered patch butterfly! I would eventually see an adult butterfly flying around in the area, confirming the caterpillar specie. I counted more than fifty bordered patch caterpillars, all with a ravenous appetite. For the next few days, I watched as the caterpillars left only a meager skeleton-like structure of the plant. They eventually dispersed a week or so later.

I did not see much activity in the yard again until late August. This gave time for the plant laid barren by the bordered patch caterpillars to recover, and for me to collect seeds. A few pollinators came during the late afternoon, like mournful duskywing, a small butterfly *Burnsius orcynoides*, and keyhole wasps. While the anticipation of next season was there, the end of summer was in name only – at least for a given time.

The start of fall proved somewhat slow in butterfly action – something noted nation-wide. Drought likely played a major role in the decreased sighting of species, given that heat waves brought abnormally high temperatures well into October. A strong cold front was the key to breaking the summer-deadlock later that month. Just in time for Native Plant Week too! I documented more species this time, including a fatal metalmark.



Recent rains and fair weather have brought more pollinators into the yard, including variegated fritillary, white peacocks, queens, fiery skippers, and scrub hairstreaks. The bees are working hard too as they pollinate the cowpen daisies from morning to dusk, their little bodies covered in fine-powdery pollen.

The seeds produced from this year's growth have now fallen to the ground and germinated; the seedlings are pushing up out of the moist soil to reach for the sunlight. With the change in weather, I have also seeded other annuals like the American basket flower and partridge pea.

My views on annual plants have been reshaped for the better. Annuals, I have learned, are no less valuable than perennial plants. Cowpen daisy proved to be the golden-standard for annual native plants; germination was easy, and their many seeds produced throughout the year ensured their survival through the next generation – new plants with fresh blooms can be expected next springtime so that the rhythm of nature never skips a beat. With cowpen daisy rich in nectar, pollinators will find an oasis in the yard during any season.

I hope my experience is an encouragement for others, especially those starting native plant gardens, to add a few annual species alongside their perennial natives. Finding nature in the everyday can start in the yard, and it can start with introducing even the simplest of an annual native like the cowpen daisy.

A Labor of Love

Article & photos by Velma Schmidt, South Texas Border Chapter

It all started during the pandemic, a vision for an Eagle Scout service project created by his love for nature. Robert "Zeke" Schmidt presented his vision to The Meadow's Home Owners Association and obtained permission to proceed with a small community garden located off Sugar Road, between Vance and McKee Streets in Edinburg. His vision involved a place for reflection and meditation, a Serenity Garden filled with native plants to attract butterflies and other pollinating insects.

Roadside view of Serenity Garden

White peacock butterflies (*Anartia jatrophae*)

The garden would include Texas lantana, Turk's cap, porterweed, goldenrod, blue mist, and milkweed flowers to name just a few. It would also include two native vines, the balloon and passion vine, on each side of a trellis to attract fritillaries. In the center, a Guamuchil tree to attract the red-bordered pixie butterfly which enjoys its northernmost habitat here in the Rio Grande Valley.

The vision became reality in the fall of 2022. Since that time, Zeke and I have maintained this beautiful garden, ensuring plants get watered and pruned, in addition to pulling out invasive grasses. We have learned how to keep a healthy ecosystem, through the help of our Texas Master Naturalist (TMN) classes and have recorded over 75 different species of insects and butterflies. We have also been lucky enough to see the life cycle of monarchs, queens, and gulf fritillary butterflies multiple times.

Interior view of Serenity Garden

The Serenity Garden has been a true labor of love, creating and maintaining a small space that we have seen mature over the last three years. It is a big reason we both became TMNs. We invite everyone to come by and see our Serenity Garden, which is open to the community.

Run for your life – before the coyote taps you on the shoulder!

Article & photos by Anita Westervelt, South Texas Border Chapter

Rio Grande Valley grade school students aren't too young to learn about nature's dangerous predator/prey *modus vivendi*, especially when Texas Master Naturalists (TMN) like Bill Rich involve the children in a rowdy game of coyotes and rabbits.

Three actions protect rabbits from being a coyote's next meal:

- Hide where you can't be caught, for instance a rabbit can hide amongst nopales (cactus patch) represented by two hula hoops strategically placed on the ground.
- Freeze in place. Bill demonstrates the action and explains that predators look for things that are moving. They can't see prey that is completely still. The children demonstrate freezing in place with Bill.
- Moving faster than a predator.

Estero Llano Grande State Park hosts grade school field trips throughout the school year. One hundred or more young students, with their teachers and parent chaperones, spend a morning learning about nature. Texas Master Naturalists assist park staff in leading four concurrent activities: skins and skulls presentation, guided nature walk, birds and other wildlife class, and the prey and predator activity.

TMN volunteer Bill Rich demonstrates freezing in place

Bandanas indicate players are coyotes in the game

Bill's choice is overseeing the prey and predator challenge. There are generally 20 to 25 children per group and four groups throughout the morning. Bill has a teacher divide the children into two groups so only 10 to 12 play/act at a time, for safety and control. Two children are chosen to be coyotes, the others are rabbits. Bill loosely ties a colorful bandana on the wrist of the two coyotes. A valid ratio is one coyote to every five or six rabbits.

Red, white and blue poker chips are tossed around at one end of the designated playing field opposite the starting line where the children line up. The chips are rabbit food. Bill instructs the rabbits that their main object is to gather food for their nest of babies.

When it's time to start, Bill says, "Ready, set, go," for the rabbits. Then after a beat, "One, two, three," for the coyotes.

There are some rules, like rabbits can only retrieve one poker chip/food per trip, they have to run back to base and deposit the chip in the teacher's hand, then go back for another chip – without getting tapped on the shoulder by a coyote. They can't run out of bounds. Two successful poker chips to the teacher and the rabbit is a winner.

Ready, set, go! Rabbits are on the run in a friendly game of predator prey

When there are only two rabbits left in the playing field, Bill waves his arms, declaring the round is over. The first team gets another round of the game and then the other group gets their chance to run for their lives, gather food for their babies – or become the predator's next meal.

Bill Rich certified as a Texas Master Naturalist in 2022 with the South Texas Border Chapter. He is a presenter with the chapter's speakers' bureau and gives presentations at the McAllen Library and during the spring Rio Grande Valley Home and Garden Show. He is known locally for his humorous delivery of "The Passion Diaries," about his sometimes-mystifying but successful experiences growing and caring for passion vines.

A Local Wolf Spider (*Hogna antelucana*)

Article & photos by M. Kathy Raines, Rio Grande Valley Chapter

Under the halo of my flashlight, tiny specks of greenish glitter—like shiny dewdrops—dotted my scraggly nighttime lawn, each sparkle alerting me to a wolf spider hunting in the grassy, weedy soil.

The light beaming directly over each wolf spider shone back at me from its tapetum lucidum ("bright tapestry" in Latin), a reflective tissue in four of its secondary eyes. Occurring also in cats and some other mammals, reptiles, amphibians and fish, this tissue appears to improve a nocturnal creature's vision in dim light.

Wolf spider (*Hogna antelucana*) is a nocturnal hunter

Of the spiders whose eyeshine attracted my notice, some posed for photographs, while others burrowed deeper in the dirt.

This particular wolf spider (*Hogna antelucana*) shares its genus—whose name seems to arise from a Latinization of Greek words for "pear", or "pear tree"—with about 200 other species. Its species name, translated from Latin, means "before daylight", indicating its nocturnal habits. Its family, Lycosidae, derives from the ancient Greek "lukos", or "wolf" for its wolf-like hunting prowess. This spider's clade or superfamily, Lycosoidea, means "eyeshine" in Latin.

A wolf spider, a hairy creature handsomely adorned with dark splotches or stripes, blends in with the soil and debris where it lives and hunts. *Hogna antelucana* reaches from about half an inch to an inch in length. Being both an ambush and a pursuit hunter, a wolf spider's long legs, which bear three microscopic claws at their tips, enable it to adeptly chase quarry. Its eight eyes—a top row of two medium-sized, a middle of two large and a bottom of four small—offer excellent vision, second only to that of a jumping or huntsman spider. Though the wolf spider, like all spiders, produces silk from its rear spinnerets, very few of the thousands of species creates a web.

A female wolf spider, ready to mate, lays a silk trail containing sex pheromones. A male may begin his courtship display—waving legs and/or pedipalps (small grasping and sensory organs on either side of its mouth) against his body or the ground— before he spots his potential mate, a risky maneuver that may provide a conspicuous target for birds seeking a snack.

Unlike most invertebrates, a female wolf spider cares for her young. She spins a large spherical egg sac which she attaches to her spinnerets. She carries this sac under her abdomen until eggs hatch, becoming agitated or aggressive if it's dislodged. Newly hatched spiderlings climb aboard her back for about two weeks, where they're protected and warm until ready to fend for themselves. "Well, look at that!" cried my husband, shocked when he saw a mother wolf spider seemingly "carrying bundles on its back."

While this spider does not spin a web, it emits silk with which to enwrap its prey. A beneficial creature, it dines on ants, webless spiders, crickets and other small invertebrates, some of which harm valued plants.

Its foes include ground-foraging birds and larger spiders, including larger wolf spiders, among others.

Found in fields, grasslands and yards throughout much of the South and Southwest, this wolf spider will only bite if cornered or disturbed, and, while painful, a bite is not usually dangerous, with redness and swelling subsiding quickly.

Wolf spiders also hunt and take refuge in our homes. I have escorted many a wolf spider out of my house, tossing it in the yard to hunt for ants. And, alas, I tote out several spider corpses, felled by pesticide, as well.

Texas Wild Olive Tree

Article & photos by Roberta Allen, South Texas Border Chapter

New to the Rio Grande Valley, I set off to beautify my surroundings with trees and shrubs that are native to this area. After surveying a number of yards and plant nurseries, I decided on the addition of a Texas wild olive tree (*Cordia boissieri*), also known as a Mexican olive, Anacahuita, or Anacahuite. The genus name, *Cordia*, is named after Valerius Cordus, a German botanist, while the species name, *boissieri*, is dedicated to the French botanist Boissier.

I concluded this would be the perfect specimen for the front yard so all the passersby could marvel at its beauty. This particular plant can either be an ornamental shrub if pruned to be so or it can be developed into a tree which can grow up to 30 feet tall.

Well pruned Texas wild olive specimen

In frost free areas, the tree may remain evergreen, making it a plant that has color and leaves all year long. The leaves are a dark gray/green in nature and covered in numerous trichomes (short hairs). The large trumpet shaped two inch wide flowers are showy white with a bright yellow center, having five stamens.

Showy blooms and dark leaves of Texas wild olive

The fruit that is produced can appear white, purple, or reddish brown and are approximately one inch in size.

The olives are edible for the wildlife, but are not recommended for human consumption in large quantities. In Mexico, the fruit is often made into jelly or used to relieve colds and coughs.

The leaves can also be used to treat bronchial and rheumatism problems. The wood can be used to create many different everyday objects used throughout a personal household. As the plant matures the bark transforms and looks weathered.

I see the flowers most every month, but a lot of flowers can be seen from late spring to early summer. Many different types of wildlife including birds such as hummingbirds, as well as butterflies and other pollinators enjoy the large white flowers which provide nectar.

This drought tolerant plant is native only in the south part of Texas, as well as Mexico. It cannot tolerate the cold weather. While the plant thrives in the Texas heat the foliage will burn if the temperature drops to the low 20 degrees or below Farenheit.

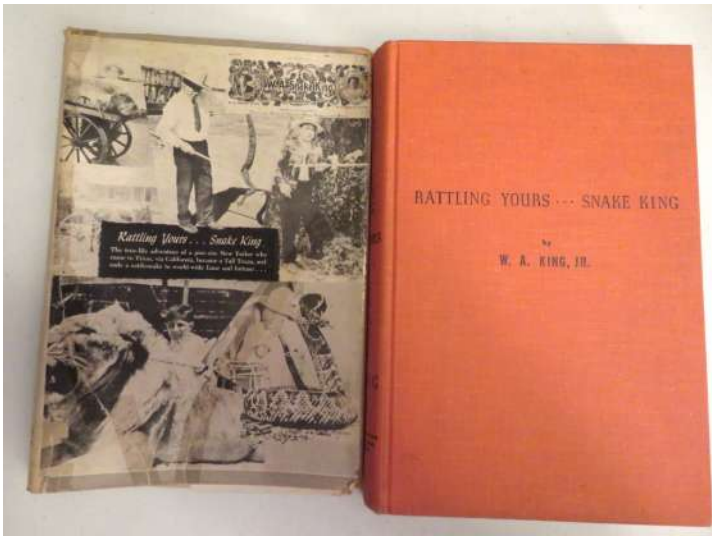
Texas wild olive trees are slow growing and do best in full sun to partial shade.

This plant is considered to be one that can cause a mess due to the flowers and fruit dropping to the ground on a continuous basis. It is recommended that olive trees be planted away from sidewalks and driveways to avoid the mess and still provide habitat in your yard.

The Snake King of Brownsville

Rattling yours…Snake King by his son W. A. King Jr.

Book review and commentary by James "Drew" Bennie, Rio Grande Valley Chapter



I ran across this book at a garage sale and bought it having previously heard of the Snake King. I am glad I did because a recent search located only one for sale on the internet for $500! That's because of its limited distribution, having been published in Brownsville by the son of the Snake King who wrote the memoir. All the editions advertised as sold were signed by the author, as is mine. They must have all been sold by him. I found it valuable in describing Brownsville from the 1910s to 1930s.

Memoir of the Snake King W. A. King written by his son, W. A. King Jr.

W. A. King was hired as a teen to care for the snakes in a circus side show and learned his business well. He realized that the snakes died due to lack of care so he decided to try to supply snakes to other circuses. He moved to Brownsville since it was mainly brush full of critters and had a railroad to ship out his animals. His business, Snakeville, was located across the Resaca from the old original graveyard in Brownsville, near where the zoo is now. The book describes the area around Palm Boulevard as "wild and woolly" until the boulevard went in which caused them to move a little further west. At first, the area around his place provided snakes to sell. He also sold armadillos, bobcats, javelina, occasional pumas and iguanas he bought. The book documents the many exploits of this entrepreneur among which were:

1. Riding a donkey to Austin to present the Governor with an invitation to the Brownsville Mid-Winter Fair that was branded onto a bobcat hide, wrapped in a large Rrattlesnake hide tied with a bow.
2. When snakes became scarcer he contracted with authorities to supply Bobwhite Quail to restock parks in Texas and areas beyond that had been over hunted. Eventually, fear of disease stopped it.
3. Provided exotic animals to circuses and zoos. In the process, raised several tigers from cubs that were pets to his son Manuel and his dog. The King got the idea of starring his son as the world's youngest lion tamer and featured him and his border collie and the tigers in shows across the country. The tigers looked ferocious but no one knew they were totally tame to Manuel who grew up with them.
4. The time an order for "2 or 3" monkeys was misread and 203 were sent instead.

5. Brought a Hollywood film crew to film “Death on the Delta” in which wildlife from Snakeville would be provided during the filming at the Rabb plantation east of Brownsville. His son Manuel starred in it.
6. Cleared the area east of Brownsville known as Jackass Prairie of wild burros to feed his wild animals. He also purchased horses from the Calvary at Fort Brown that were being put down to feed his animals.

The hurricane of 1933 also was exciting at Snakeville with all of the dangerous animals there. The barn sheltering many animals was damaged and the lion escaped, killing a mule as the King and associates hid in another building fearful of being discovered by the lion. Some pythons also escaped but fortunately all animals were recovered after the storm before they scared too many others. The book claims that reporters telephoned King and asked if it was true, that a python ate a kid. King replied that it was true but that the kid was a baby goat. Sounds like the kind of tale I would expect from this guy!

No one would complain about a man ridding the area of dangerous snakes but the Snake King didn’t just stop there. The list of species he collected and shipped out is lengthy and includes many species that are endangered or scarce today. His work no doubt added to this situation. The book talks of hundreds of horned toad skins curing before being stuffed and varnished for sale at novelty shops. Hand raised parrots made the best pets so thousands of baby parrots were bought and sold from Mexico for years. He says “I have seen thousands of baby parrots toddling aimlessly around the floor.” Other birds from Mexico were also caught and provided to the pet market. The Snake King reached to Central America for other animals such as coatimundis, tapirs, whiteface ringtail monkeys, and golden spider monkeys to name a few. He figured out how to trap Quetzals from Guatemala and imported hundreds of them the book reports. These birds do not live well in captivity and are now scarce in their home territory.

This book was worth reading for the local historic information. However, it also illustrates the western mind set of the early 1900s and before. Namely, that nature was there for everyone to exploit and that the abundance would never end. Now we are seeing the results of this kind of thinking. Living for today and not considering tomorrow has painted us into a climate change corner we will have a difficulty getting out of. This book illustrates this process of extinction here in Cameron County and beyond.

Thank you, Texas Master Naturalist!

Article by Carolyn Cardile, Rio Grande Valley Chapter

In August my husband, Paul, and I had the opportunity to stay with our daughter on the Pacific coast of western Costa Rica for two weeks. My activities there reminded me of some of the experiences and surprises I had while living in Texas over the years.

My first experience as a Texas transplant happened in January 1963 when I got off a plane in Houston after my father was transferred from Philadelphia to work on the Apollo project. Three generations of our family moved to Texas to join him. They drove, but I got to fly so that I could start the semester at the University of Texas on time. I boarded the plane in zero-degree weather and snow on the ground. When I landed, I got my first surprise. It was 85 degrees! I was overwhelmed by the heat and humidity!

When my father dropped me off at the Austin campus a few days later, I found myself living on the third floor with two roommates and no air conditioning. Everything was different- the climate, the way the girls dressed, the food, the music, and the Texas accent.

Over the years, I've lived in northeastern, eastern, and central Texas and traveled through West Texas. I thought I knew a lot about my adopted state until we moved to the Rio Grande Valley. I was not prepared for the climate, plants, or wildlife here. Thanks to our Rio Grande Valley Texas Master Naturalist chapter, I have learned a great deal about our unique Rio Grande Valley environment, especially its birds.

Author and husband in Costa Rica

Rio Grande Valley versus Costa Rica

Article & photos by Carolyn Cardile, Rio Grande Valley Chapter

In August 2023 we enjoyed 16 days in western Costa Rica. We spent some time exploring nature around our condo in the northwestern coastal area and in the central, mountainous part of the country on guided trips. The wildlife was amazing! I was fascinated by the beauty and variety of the plant life, the animals that I'd never seen outside a zoo, the amazing birds, and the sloths. We knew it was a lot different just from the road signs.

Wildlife crossing sign in Costa Rica

Both Texas and Costa Rica have tropical/semi-tropical environments, mountains, and coastal areas. Costa Rica is closer to the equator, so its climate, even at higher elevations, is different than the climate in our state. Can you imagine traveling up into the mountains of West Texas and finding lush, tropical foliage growing everywhere? When we drove into the mountains of Costa Rica, the weather continued to be hot and humid or rainy. That wasn't surprising, since it was the beginning of the rainy season. Short, sudden torrential downpours were common during the day.

After we settled into our condo, we heard the loud call of howler monkeys hanging out in the trees above us. We watched them daily, although they were difficult to photograph in the trees. Our guide helped us get a photo of a howler monkeys in the park using his spotting scope and my cell phone. Sloths, trogons, a coati, iguanas, and agoutis were just a few of the wild creatures we encountered during our travels through the northwestern part of this beautiful country. We saw iguanas in several parks near the river and the coast. On a guided boat tour we were surprised to see kingfishers, spoonbills, egrets, and night herons that looked like the ones we see in the Rio Grande Valley.

Howler monkey in Costa Rica

If you get a chance to go to the nature parks in the mountains of Costa Rica, take advantage of their outstanding guide services. We avoided the large tours and booked a tour for our group of three. It was well worth the cost.

The Green Kingfisher (*right*) and Black-crowned Night Heron (*left*) are found in both Costa Rica and the Rio Grande Valley

All our Costa Rican guides had advanced degrees in biology from colleges in the United States. Our guides were very knowledgeable about all the flora and fauna, not just the birds. Even when rain kept the birds in hiding, we learned an amazing amount of information because our guides were extremely knowledgeable about the entire ecosystem.

The most interesting days were spent visiting wildlife areas. As we recovered from the long plane trip from Denver to Costa Rica, we kept an eye out for species that were new to us in our back yard, and we planned three major excursions. First, we signed up for a river trip with a local guide where I saw my first crocodile in the wild.

I've been explaining the difference between alligators and crocodiles at the South Padre Island Birding and Nature Center for 14 years, however, I got a much clearer understanding of their differences once I encountered crocodiles in the wild. On the river-boat tour I really got to see the differences size, color, and behavior. Several large crocodiles were swimming in the water or basking in the sun along the shore. I was surprised to see that the several species of birds along the river were like the ones we see in the Rio Grande Valley, such as roseate spoonbills, various egrets, and black crowned night herons, However, others, like the tiger heron, looked quite different.

Since the rainy season had begun, we started our second excursion exploring the jungle at Arenal Volcano National Park wearing plastic raincoats. Because it's hard for me to keep up with a tour group, we decided to book a private tour. That was a great idea! Our guide, who had an advanced degree in biology, did the tour at my pace.

Eyelash viper in tree along trail

Because it was raining, there were few birds visible during the first part of our talk. In addition to the birds we saw, our guide pointed out numerous plants, insects, and animals as we walked along the trails. There were few birds until the rain stopped, but the entire trip was filled with fascinating things. For example, there was a line of 11 bats clinging to a tree trunk; a snake was coiled on a tree branch near the trail; and spider monkeys showed their displeasure at our arrival yelling and throwing small branches at us from above.

Coati short for coatimundi searching for a snack

In the mountains we watched a young sloth slowly move through a tree below its mother while a group of tourists took lots of photos. Later, when we pulled off the road, a coati approached our car looking for a handout. The next day there was a roadside stand at that location. It looked like the coati sometimes was looking for handouts from people who shop at the stand. Guess it didn't know it wasn't a weekend. During one of our tours, the guide pointed out the trogon (bird) in the forest. The agouti we spotted near our motel reminded me of large, brown guinea pig. I did not even know they existed.

We saw a red fruit that depends on only one kind of pollinator for its survival. There was a tree that looked like my grandmother's lace tablecloth. We saw so many species of plants, animals, and insects that were new to me! There were numerous insects that surprised me. The butterflies were amazing! In fact, there are more than 1,500 different species of butterflies and 1,200 different species of moths in that country. The butterflies were plentiful near our condo, but there were even more varieties of these insects in the mountains. In fact, there is a butterfly preserve.

Interesting caterpillar observed in Costa Rica

On Google I learned that 90 percent of all Central American species and 18 percent of the total earth's population of butterflies can be found in Costa Rica. At our September chapter meeting, I was not even surprised when the presenter talked about stingless bees. I had just seen them on our trail in Monteverde. On that trail we stood close to a nest swarming with stingless bees. For the first time in my life, I was not frightened by bees. Knowing they would not sting, I stood on the trail and calmly watched them go in and out of their hive.

My favorites animals were the sloths. They just took their time moving in slow motion, as tourists stood in the road watching their unhurried progress. I was able to capture a photo of a young sloth making its way toward its mother who is at the top of this tree. The slow motion journey was being observed by a crowd of tourists who were blocking traffic.

Unfortunately, we did not have enough time to see everything we wanted to see. I wish we had spent some time at the butterfly sanctuary. I wish we'd had more than a brief glance of the quetzal before it went out of sight. I regret not actually driving up to the volcano, although we watched it from our motel balcony each night. Next time we'll have to stay longer.

Young sloth on a slow motion move in Costa Rica

Milestones & awards for September, October, and November 2023

Congratulations!

Newly Certified Texas Master Naturalists

Diana Cepeda
John Garza
Kriste Grau

100 Hours Milestones

Sonia Duran ‘21
Victoria Gonzalez ‘22
Mary Grizzard ‘23

Well done all!

250 Hours Milestones

Diana Lehmann ‘21

500 Hours Milestones

John Romero ’21
Sharon Helsley McGinley ‘23

1000 Hours Milestones

Deborah McCoy ‘21

2500 Hours Milestones

Joni Gillis ‘14

4000 Hours Milestones

Santiago “Jimmy” Paz ‘04

5000 Hours Milestones

Robert Gaitan ‘15

Re-certification for 2023

Sherry Borrayo
Lupita Escobar
Mary Grizzard
Diana Lehmann
Pete Moore
Marsha Ralston Wood
Andrea Villarreal

South Texas Border Chapter

Milestones

4000 Hours

Anne Mayville

250 Hours

Jennifer Rektorik

Gayle Rice

Mirtala Rodriguez

100 Hours

Zeke (Robert) Schmidt

Arnoldo Tamez

Maria Tamez

WELL DONE!!

2023 Recertification

Janet Schofield

Christine Bradley (2023 Class)

Gayle Rice

Martha Jones

Harry Jones

Jim Gerry

Initial Certification

William Barker (2023 Class)

Vaness Pena (2023 Class)

Luciano Guerra (2023Class)

Judy Perkin (2023 Class)

Sandra Trevino (2022 Class)

Contributors to this issue of The Chachalaca

Roberta Allen

Drew Bennie

Michelle Cano

Carolyn Cardile

Robin Gelston

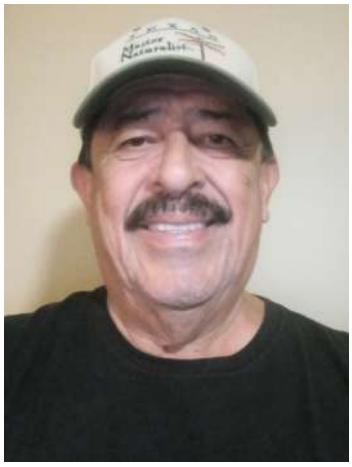
Joni Gillis

Javier Gonzalez

Jim Grizzard

Mary Grizzard

Diane Hall



Robert Hernandez

Becky Jones

Julia Jorgensen

Jose Palmos

M. Kathy Raines

Camille M. Rich

Velma Schmidt

Anita Westervelt

Rio Grande Valley Chapter Leadership Team 2023

Officers

President	Roberto Gaitan
1st Vice President	Robin Gelston
2nd Vice President	(open)
Secretary	(open)
Treasurer	Betsy Hosick

Directors

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Chachalaca	Diane Hall
Advanced Training	Teresa Du Bois
Volunteer Service	(open)
New Class Rep	Sofia Garza
At-Large: Winter Texans	Carolyn Woughter
Outreach	(open)

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Training	Robin Gelston
Communications	Diane Hall, Roberto Gaitan

Advisors

Texas AgriLife	Tony Reisinger
Texas Parks & Wildlife	Javier de Leon

Would you like to help? Please contact us at riograndevalleychapter.tmn@gmail.com

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

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