

Fredericksburg Nature Notes



Newsletter of the Friends of Fredericksburg Nature Center

March, 2025 Volume 6 Number 3

<http://fredericksburgnaturecenter.com>

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Editor's Musings: Lonnie Childs

Dear Friends of the Fredericksburg Nature Center,

Meteorological Spring has perhaps arrived with maybe one last hint of cold, but of course not even the weather knows what it might do. Mother Nature evinces some confusion with her signaling. Purple Martins have arrived, and Texas Redbuds, typically harbingers of Spring, have announced, but other clarions like Texas Mountain Laurel have only begun to express their bloom stalks. The appearance is of a late Winter clashing with an early Spring. And without rain, the native plants must play conservative and hold out for next year or at least the next rain. But we humans might choose to do as Lilly Pulitzer said, *"Despite the forecast, live like it's spring."*

Our Spring educational programming is in full swing with great workshops on Monarchs and Birds in February with more to come. We are holding guided hikes on the 1st Saturday of the month through June and a City Nature Challenge Bioblitz event in April. Most importantly for the children, we are presenting Story Walk events on major holidays and will hold a children's Easter event. Plenty of information follows in this newsletter, so pick an opportunity that suits your fancy, and come experience and learn about nature.

The brief news on our Interpretive Center project is that we are engaged in detailed design of the building and landscape while continuing to solicit funding. Progress is always slower than desired, but we continue to move forward towards our goal. Thanks for all who have assisted in efforts to date. More news to follow next month.

Happy Nature Trails!

Lonnie

In this Issue:

- Trail Work @ FNC
- Upcoming Program Information
- See what you missed at our February programs!
- Nature Journaling: It's Gardening Time!
- Cardinals and Turtles @ FNC
- The Ferns of the Hill Country





OUR MISSION STATEMENT:

Promoting the preservation of our Texas Hill Country ecosystems through education and experiences.

Volunteer with FFNC

Fun Tuesdays at FNC

Typical tasks involve **gardening skills** and **trail improvement and maintenance projects**, but no experience is necessary. Use it as a learning opportunity. Work in whatever area you choose for as long as you choose. We work some and have a lot of fun outside in the beauty of nature. It's good exercise for the body and great therapy for the soul. If you would like to join us at the park, we would love to have you!



Work sessions are typically scheduled for Tuesdays at 9:00am—11:00am .

Gardening activities are back in session for spring cleaning!

Contact Gracie Waggener at gwaggener@flow-apps.com to receive a weekly email notification about scheduled work tasks for the coming week.

Other Volunteer Opportunities that don't require physical labor:

- **Social Media** — Assist with maintaining & posting content on Facebook & other media
- **Newsletter**—write articles, editing and production
- **Website**—content management, website maintenance
- **Membership management**—recruitment and support
- **Programs**—Assist with planning and organizing workshops and children's activities
- **Fundraising**



For more information, contact Lonnie Childs at

lonniechilds@utexas.edu



OUR MISSION STATEMENT:

*To create a community of Land Stewards to protect
our natural resources into the future.*

Trail Work @ FNC



After over a year of planning & considering different options, FFNC raised the funds & solicited a local contractor to build a secure hand-rail along five sections of ascending/descending trail that parallels Live Oak Creek on the **Live Oak Wilderness Trail**. The handrail will allow hikers to safely traverse these sections of trail & provide a more enjoyable experience for our visitors. Come try it out!

Photos by Lonnie Childs

Right: Carl Luckenbach, Tom Burke, Billy Guin, & Dave Oelrich install exclosures to protect Chinkapin Oak seedlings from deer browsing in the Live Oak forest.



Chinkapin Oak (*Quercus Muhlenbergia*)
Photo by Sally & Andy Wasowski



Friends of Fredericksburg Nature Center

2025 PROGRAMS

February Programs

Saturday - February 8

Monarch Butterfly Conservation Through
Citizen Science

Saturday - February 22

What's That Bird?

Presenters: Tom & Patsy Inglet

March Programs

Saturday - March 1

Guided Trail Walk with Lonnie Childs

April Programs

Saturday - April 5

Guided Trail Walk with Phil and Rebecca
Stapleton

Saturday - April 19

Kids Easter Program and Story Walk

Saturday - April 26

**City Nature Challenge (iNaturalist
BioBlitz)**

Trail Guides: Lonnie Childs and Billy Guin

June Programs

Saturday - June 7

Lessons From Leopold

Presenter: Natural Resource Specialist and
Wildlife Biologist Steve Nelle

Saturday - June 7

**Guided Trail Walk with Phil & Rebecca
Stapleton**

July Programs

Saturday - July 19

B. K. Bones (The Dinosaur Lady)

August Programs

Thursday - August 7

Bugs in the Backyard

Presenter: Molly Keck, Entomologist
& Texas AgriLife Extension
Integrated Pest Management
Program Specialist

September Programs

TBD

November Programs

TBD

Additional Programs for Kids:

*Summer Story Time
at the Pollinator Garden*

Tuesdays @ 10:15 a.m.

June 17 through August 5

Holiday Story walks at the park

**Easter, Memorial Day, Labor Day &
Thanksgiving**

Explore the Wonders of Fredericksburg Nature Center with Saturday Guided Hikes

By Patti Guin

The Friends of Fredericksburg Nature Center (FFNC) has launched an exciting new initiative titled **“Saturday in the Park,”** featuring a series of guided nature hikes at Lady Bird Johnson Municipal Park. This program aims to bring the community together to explore the natural beauty of the park while learning about its unique flora and fauna. The first hike of this series commenced on March 1, led by Lonnie Childs, Texas Master Naturalist and President of FFNC. His expertise across a wide range of topics, including flora and fauna, ecosystem dynamics and conservation practices, along with his passion for nature made the event both educational and engaging for all participants.

The series continues with three more guided hikes scheduled from 9 to 10:30 a.m. on the following dates:

- **Saturday, April 5:** Participants can look forward to observing the springtime bloom and the return of migratory birds. Leading this hike will be the Texas Master Naturalist husband and wife team of Phil and Rebecca Stapleton.
- **Saturday, April 26:** Coinciding with the annual City Nature Challenge, a global event encouraging people to document urban biodiversity, this hike promises a unique opportunity to contribute to citizen science efforts while enjoying a guided tour of the park. Leading this hike will be Texas Master Naturalist and President of FFNC Lonnie Childs and TMN Land Management Assistance Coordinator Billy Guin.
- **Saturday, June 7:** Phil and Rebecca Stapleton will return to lead the last hike in the series. As summer approaches, hikers will experience seasonal changes in the park’s landscape and wildlife activities.

The guided hike covers approximately one mile and is classified as easy to moderate with a few short sections of challenging terrain. Participants will traverse all seven microhabitats within the nature center, gaining insights into each habitat’s unique characteristics. Among the highlights of the hike will be visits to a Butterfly Habitat, Bird Blind, and a Pollinator Garden, each constructed to replicate natural environments to attract birds and pollinators.

Attendees are advised to meet at the entrance kiosk near the trailhead adjacent to the parking lot directly across from the park office. Look for the distinctive green and white sign signifying “Fredericksburg Nature Center.” Attendees are also advised to wear comfortable clothing and hiking shoes, bring water, a hiking stick (if needed), and a hat. Binoculars and cameras are also recommended for those interested in bird-watching or photography.

The “Saturday in the Park” guided nature hikes series is more than just a walk in the park; it is an invitation to rediscover the natural world, to engage with fellow nature enthusiasts, and to contribute to the conservation efforts in our community. The Friends of Fredericksburg Nature Center has created a platform for education, inspiration, and connection through these guided hikes. Don’t miss the opportunity to be a part of this remarkable initiative and to experience the natural wonders of Fredericksburg Nature Center.

Please reserve your spot on one or all of the guided nature hikes by emailing your RSVP to info@fredericksburgnaturecenter.com

Conserving Monarch Butterflies

A healthy crowd of emerging Lepidopterists attended our February workshop on *Monarch Butterfly Conservation Through Citizen Science* where they learned how to create & restore Monarch habitat on private & public lands. Since the Hill Country is located on their central flyway migration path, our efforts here are especially significant to their continued health.



Carla Stang presents to audience



Presenters: Gracie Waggener, Sarah Hilburn, Cathy Downs, Carla Stang, Maura Windlinger, Barb Jansen.



Gracie Waggener



Cathy Downs



Jane Crone, Board member, hosts our FFNC info table



Mary Ellen Terrell, Board member, & Nancy Person staff the registration table

Photos by Patti Guin

Birding by Ear

Who cooks for you?



Photo by Patti Guin

Northern Mockingbird

Bob white!



Photo by Patti Guin

On February 22nd, **Patsy Inglet**, birding extraordinaire and friend of FFNC, presented another workshop to our community on learning to bird by ear. More often than not, you hear birds before you see them, so this lesson was valuable for the would-be & experienced birder. And as always with Patsy, her talks are not only very informative, but great fun!



Photo by Lonnie Childs

1st Saturday Hike @ FNC

On March 1st, FFNC hosted its first 1st Saturday Hike led by Lonnie Childs. Nine hikers were treated to a spring-like day with plenty to see and enjoy despite the lack of wildflowers at this point in the season. A good walk in the park will always cleanse the spirit, lower your blood pressure, & Mother Nature always has something to teach & inspire. The next hike is April 5th—see page 5 for details.



Rebecca & Phil Stapleton will lead our April & June hikes.



Photos by
Patti Guin

Thanks to our business supporters!

Kevin Pillow of Wild Birds Unlimited in Kerrville graciously provides us a free 40lb bag of bird seed monthly to help defray the costs of our hungry birds.

Matt Kolodzie of Friendly Natives Nursery has donated a beautiful Texas Ash tree for planting at the Pollinator Garden at our upcoming April 19th Kids Easter & Story Walk program.

Thanks!

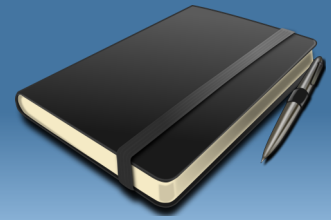
Info at the Office

Check out our FFNC information display booth located at the LBJ Park office. There are checklists, guide books, & a slide show of Bill Lindemann photos to enjoy. Thanks to Jane Crone, board member, who maintains the kiosk for us.



Nature Journaling

It's Gardening Time! **By Rebecca Stapleton, TMN**



Spring is around the corner and many of us will be out in our garden preparing for the growing season. Many of us will also rely on the use of garden chemicals to control weeds and garden pests along with synthetic fertilizers to nourish our plants.

The popularity of chemicals for garden use came about after World War II when nitrogen was no longer needed to make bombs and was converted over to fertilizer production and DDT was produced as an insecticide. These evolved into the lawn and garden treatments we have today.

Runoff from synthetic garden and lawn chemicals can have an adverse effect on the environment. It contaminates rivers, streams, lakes, and bays. It accumulates in the soil impacting beneficial bees, butterflies and other pollinators.

Chemicals like Glyphosate, which is the main ingredient in the weed killer Roundup, have been banned in some countries. Both Glyphosate and 2,4-D found in other herbicides has been linked to cancer in humans and animals, including outside pets.

This begs the question, what can we do to avoid using toxic chemicals in our garden and on our lawn? Opt for natural alternatives! Use organic mulch to suppress weeds and organic compost and manure as fertilizers to nourish the soil. Food grade Diatomaceous earth to control crawling pests, Neem oil or Cedar granules along with companion plants that help deter garden pests are effective alternatives. Marigolds and nematodes are two examples of natural pest control alternatives as are Lady bugs!

If you must use chemicals, pay attention to the application directions and any product warnings. Take into consideration environmental conditions. Wind direction, rain and temperatures matter. Wear a long sleeve shirt, long pants, gloves and close toe shoes to protect yourself from direct chemical exposure.

Sources: Time Magazine and the Sierra Club



Mr. Northern Cardinal

Northern Cardinal male

Cardinalis cardinalis

Cardinals are one of the most prevalent & recognizable birds at our backyard feeders & in the wild. With their showy vermilion appearance, they do not migrate or molt, & both males & females sing a variety of songs (males up to 20), making them the “Uncle Sam” for recruiting new birders.

Males aggressively protect their own territory which explains why they attack their own reflection in windows. They prefer to nest in understory trees & shrubs, so please don't clear that “brush” from your surrounding area. Northern Cardinals eat mainly seeds & fruit, supplementing these with insects, but will eat most of the seed mixes, with sunflower seeds being a favorite.

Source: allaboutbirds.org



Photos by Phil Stapleton



Ms. Northern Cardinal

Northern Cardinal female (*Cardinalis cardinalis*)

Cardinals represent many virtues to different cultures including love, faith, devotion, & renewal. "Cardinals appear when Angels are near."



Photos by Phil Stapleton



Let's Party Turtle Style!



Texas River Cooters

Pseudemys texana

The original sunbathers.

Note how they improvise & use a mud smear as a sun-block, much more savvy than we humans!

"Spring is nature's way of saying, Let's Party!" Robin Williams



Photos by Phil Stapleton

Feature Story:
The Diversity of Ferns in the Hill Country
By Lonnie Childs

If you were to examine the 10 major ecoregions of Texas, and I were to ask you which region harbored the most Fern species, I'm betting that most people would answer East Texas with its higher rainfall and humidity. But sorry, you would be wrong. East Texas hosts 62 species, the Edwards Plateau has 63 species, while the Trans-Pecos wins overwhelmingly with 80 species! How can that be? I'll answer that later, but first let's examine what are Ferns and Fern allies?

What are Ferns and Fern Allies? The answer to that question has been changing dramatically over the last 25 years as more research has been focused on this group of plants, which has resulted in changes in their nomenclature and classification. One might deem them as botanical oddities, since they did not readily fit into existing classification schemes. If you have been confused about them, so have botanists!

Traditionally, they have been referred to as ***Pteridophytes*** from the Greek words pteron (feather or wing) and phuton (plant), thus aptly paying tribute to their leaf form – the “feathered leaf plants.” Collectively, **Ferns and their Allies share the following characteristics in common:**

- They are non-flowering vascular plants;
- They share a unique and complicated sexual cycle which includes swimming sperm (more on that later);
- They are the surviving descendants of evolutionary lineages that date back to over 350 million years ago shortly after plants colonized land;
- They are “seed-free” unlike angiosperms (flowering plants) and gymnosperms (cone-bearing plants) and reproduce via microscopic spores. Seedless reproduction is an evolutionary throwback and a drawback to success (95% of plants reproduce via seeds). (Diggs and Lipscomb)

So how do we distinguish Ferns from their Allies? Previously, botanists could only utilize more subjective factors such as form and structure to distinguish the two, which led to some uncertainty. If Ferns appeared to be botanical anomalies, their Allies were surely botanical misfits. However, recent advances in DNA technology have allowed for a more precise distinction between the two, better defined their relationship in the overall botanical schemata, and highlighted the discovery that the two groups represent only two distinct evolutionary lineages.

About 400 million years ago, an evolutionary split occurred that gave rise to the Lycophytes (the Allies – liverworts, quillworts, club-mosses, and spike-mosses) and the vascular plants. A subsequent evolutionary split in the vascular plant lineage produced the Ferns (aka Polypodiophytes – too hard to say so most still call them Ferns) and a lineage which would ultimately result in the Gymnosperms and Angiosperms. Thus, the Ferns are genetically closer to flowering plants than their Allies. The DNA analysis also helped identify that some species previously identified as Allies (ex. Equisetum or Horsetails) were really Ferns. As the old adage goes, you can't always judge a plant by its form. Actually, I just made that adage up, but it seems true.

The Diversity of Ferns in the Hill Country

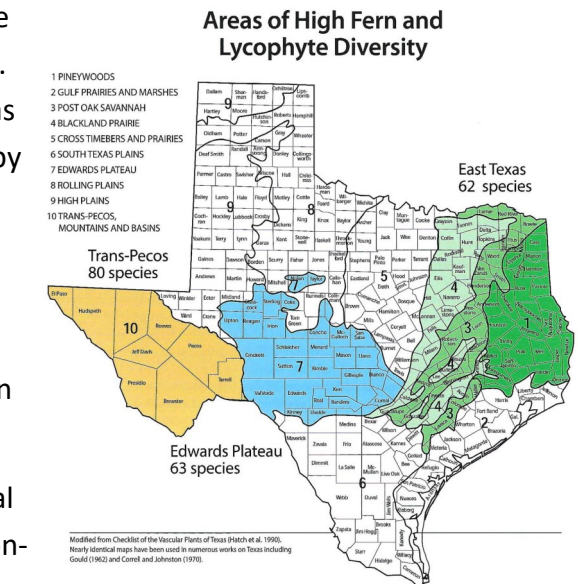
So, why so many Ferns and Lycophytes in Texas? Currently, there are about 12,000 known Ferns and 1,000 Lycophytes in the world. North America harbors 424 species of Ferns and Lycophytes. Texas has 146 taxa (species plus subspecies and varieties) represented by 138 species. While Texas has only 4% of the landmass of North America, it contains 30% of the species. Interestingly, of the 138 species, 127 of the species are native only to Texas. For comparison, the state with the most species is Florida with 152, of which only 113 are native. The analysis of all this data spotlights the Fern diversity of Texas.

However, before we toot our horn too loud, note that wet tropical areas such as Costa Rica with 1,100 species do hold true to our conception that Ferns like wet and moist areas the best. The other point to be made is that while the Trans-Pecos might have more species than East Texas, those arid tolerant species are rare, small and isolated and their total biomass would not equal that of a several mile stretch of an East Texas river bottom habitat teeming with waist high Ferns.

Finally, our local Gillespie County Fern diversity reveals that while the Atlas of Vascular Plants of Texas (Turner, et al) published in 2003 only identified 8 species as occurring in our county. Enchanted Rock now has 29 species subsequently recorded as occurring there. That represents 23% of the known species in Texas on 1,644 acres! The park is a great place to see dry land Fern species and an endangered endemic Rock Quillwort (a Lycophyte) that only lives in the vernal pools on top of the rock.

So enough numbers, back to **why all the Fern diversity in Texas?** The shortest answer is that we have a great diversity of ecological conditions that promote the diversity of Ferns that might live here. Here are a few of the extant environmental conditions:

- Southern latitude where the weather is warmer and relatively more humid
- Great geographic, geologic, and edaphic (pertaining to soil) variation – varying elevations and soil types promote varying microhabitats on a local level
- Wide climate variation
- Proximity to source floras and biographic history meaning that our *Pteridophytes* derive from diverse floristic provinces that exist nearby – Mexico and the Eastern US
- Habitat diversity – All these previous factors contribute to high habitat diversity



(Diggs and Lipscomb)

Structure of Ferns. Ferns can be quite varied in form and structure from 80 ft. tree ferns to free-floating forms. However, our Texas ferns are more consistently perennial herbs in their sporophyte (adult stage) with

The Diversity of Ferns in the Hill Country

a stem that typically creeps above ground or underground (rhizomes). The emerging leaves resemble the head of a violin and are called fiddleheads or croziers after the head of clerical staffs. Typically, the leaves are compound with the leaflets distributed along an elongated stem. The flat stalks of leaflets are commonly referred to as fronds and provide that feathery look. Ferns can spread through their underground stems (rhizomes) to form dense mats.

The unique sexual life cycle of Ferns.

"We have the receipt of fern-seed, we walk invisible." Shakespeare's King Henry IV

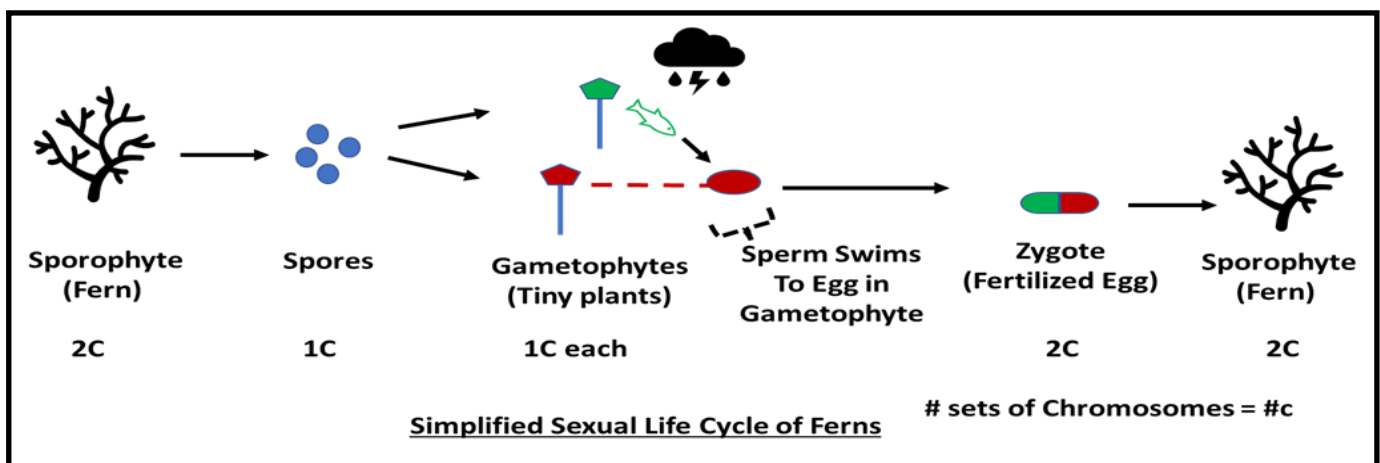
Until the 1800s, it was not known how Ferns reproduced, since there were no obvious seeds produced. Thus, Shakespeare's quote pays homage to the idea that if we could find the invisible Fern seed, we might become invisible ourselves.

As I said earlier, Ferns produce no seeds in their reproductive cycle. Instead, they produce spores via specialized structures called Sporangia which cluster into circular shapes named Sori. If you have ever looked on the underside of a Fern leaf and seen strange brown circles, those are the Sori or Sorus. Although there are some disadvantages to spores versus seeds in reproductive success, spores are microscopic and thus able to be distributed long distances via wind or water. Since the spores only carry one set of chromosomes, this allows for cross-fertilization with other sporophytes (other Fern individuals) and thus for increasing genetic diversity and survivability.



Fern Sori

Following is a simplified version of the sexual life cycle of Ferns.



And now for a few common Ferns of the Edwards Plateau.

Maidenhair Fern (*Adiantum capillus veneris*) This is the typical bright green fern found cascading off cliff fac-

The Diversity of Ferns in the Hill Country

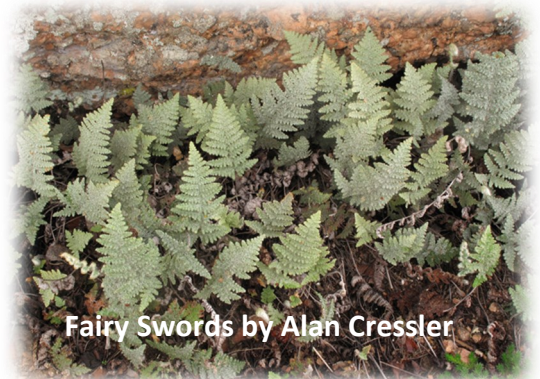
es adjacent to a waterfall or on a seep face and is the fern growing on our Live Oak Creek Fern Grotto. It enjoys having wet roots from the seep or splash from the waterfall. Dying back to its roots in winter, it grows back in the spring. It grows across much of the southern US and much of the central section, particularly along the Balcones Escarpment where seeps and springs are abundant. Occasionally, it can be found in the nursery trade but mostly you find other non-native species.



Maidenhair Fern @ Live Oak Grotto

Lindheimer's Lipfern or Fairy Swords (*Cheilanthes lindheimeri*)

These ferns can be found in abundance at Enchanted Rock growing in small, eroded gravel beds on the east side of granite boulders protected by the overhang. It also dies back in winter to its roots but returns in spring. Ferns have interesting common names, and this is one of them. It does resemble a fairy sword, and the Lipfern refers to its curled leaf margin. This typical xeric fern inhabits the Llano uplift and periphery as well as Trans-Pecos areas.



Fairy Swords by Alan Cressler

Purple-stem Cliffbrake (*Pellaea atropurpurea*) grows in the crevices of dry limestone cliffs, rocky slopes and produces clumps of widely arching fronds. It's ecological diversity is demonstrated by its geographic range that stretches from eastern Canada to Guatemala. You can find it growing on the bank along the Live Oak Creek Trail as it parallels Live Oak Lake below the Cactus Garden.



Cliffbrake

Horsetail or Scouring Rush (*Equisetum hyemale* or *prealtum*) also inhabits the creek bank along Live Oak Lake. This is a typical habitat of reliably moist sandy soil that occasionally floods where it forms clonal colonies. Sporting a reed-like appearance, it was formerly classified as a Fern ally, but DNA analysis supported the re-classification of it as a true fern. The "scouring" moniker results from its use by early pioneers as a cleaning pad for pots and pans, since its surface contains silica.



Horsetail

Wavy Scaly Cloak Fern (*Astrolepis sinuata*) This is another xeric, boulder hugging species with a less "feathery look". It has erect, elongated stalks festooned with small, lobed leaves that resemble waves. The underside of the leaves is covered with white scales, and the topside is dotted with fuzzy scales also which protect the plant from the scorching sun. It can be found distributed from the Edwards Plateau to Arizona

The Diversity of Ferns in the Hill Country

with primary areas around Enchanted Rock and the Trans-Pecos.

Star Cloak Fern (*Notholaena standleyi*) This attractive small fern is easily recognizable by its star-shaped leaf which resembles a five-pointed star with the two bottom points truncated. It is a Texas endemic that grows in the Llano Uplift and the Trans-Pecos.

Hopefully, I have cleared up some points of confusion about Ferns and their Allies. Beyond that, I hope that you will pay attention to them in the wild a bit more. Even if they elude your identification, they represent true botanical curiosities and are alluring plants pleasing to the eye and mystical to the psyche. If you can find a native species for your landscape, try it out as a unique addition.

If you visit the Davis Mountains, definitely make a stop at the Chihuahuan Desert Nature Center (CDNC) where amongst all the cacti and other plants, they host a great selection of west Texas ferns growing in the Madera Canyon hike. And finally, closer to home, I would highly encourage you to either make a field trip to Enchanted Rock and look under those rock ledges for a new-found ferny friend or better yet, take a fern id hike along the trails at FNC.



Sources:

The Ferns and Lycophytes of Texas (2014) by

George Diggs Jr. and Barney L. Lipscomb: The bulk of my article is taken from this book. If you are interested in ferns, I would highly recommend this book.

"Ferns of Texas – Diverse, Adaptive", Texas Gardener (May/June, 2000)
by Susan Crawford Tracy

<https://www.amerfernsoc.org> American Fern Society

All photos by Lonnie Childs except as noted.

What? Cloak Fern species growing near Cactus species in Madera Canyon (CDNC) in Davis Mtns.

"Only spread a fern-frond over a man's head and worldly cares are cast out, and freedom and beauty and peace come in." John Muir

In Closing: The Purple Martins are Back!



Photo by Dot Maginot

Photo by Lonnie Childs

After a 5,000 mile flight, the Purple Martins have returned from their winter sojourn in South America. Come out to the park to watch & listen. It will lighten your heart & make you smile. Relaxing with the Martins beats a Martini, & no hangover!

Watch & listen to the Martins chattering by Right Clicking [HERE](#) & Open Hyperlink



"It was one of those March days when the sun shines hot and the wind blows cold, when it is summer in the light and winter in the shade." Charles Dickens

Juniper Hairstreak on Texas Redbud (*Cercis canadensis* L. var. *texensis*)

Photo by Lonnie Childs

Support FNC in 2025!

Please consider becoming a Member of FFNC.

Our operations are funded by membership fees & donations.

Donate to the

A Vision Worth Growing Campaign

(Bill Lindemann Capital Fund)

which will fund our future Interpretive Center project.

Go to <https://fredericksburgnaturecenter.com/>



Find the latest news about FFNC at
[Facebook@fredericksburgnaturecenter](https://www.facebook.com/fredericksburgnaturecenter)

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Go to <http://fredericksburgNaturecenter.com/membership> for more information

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