

Fredericksburg Nature Notes



Newsletter of the Friends of the Fredericksburg Nature Center

September, 2020 Volume 1 Number 5

<http://fredericksburgnaturecenter.com/>

Editor's Musings: **Lonnie Childs**

Dear Friends of the Fredericksburg Nature Center,

"To everything there is a season, A time for every purpose under heaven..." (Ecclesiastes). Increasingly, each year when we reach the 31st of August, my baked consciousness fails to recall to what purpose Texas summer serves. Perhaps it presides only as a contrasting antecedent to the hopeful rejuvenation of September?

John Steinbeck said, *"What good is the warmth of summer, without the cold of winter to give it sweetness."* There must be some derivation of that quote that could cool our summer heat stroke at least mentally and makes us recognize its relevance.

But the September turn at least provides hope of fall rains and offers up the chance, sometimes later than sooner, of that first cool front that brings an atmospheric flush and morning temps in the 50s. And just when we think that we can suffer no more, and as I write, rain arrives along with a morning forecast of 53 degrees! Mother Nature wilts and retreats in summer but will quickly demonstrate her resilience, and at her best, break green in a display resembling a mini-spring. Temps cool, minds recharge, hearts leap... Stop! Too much hope like too much heat can cloud the mind and turn lyrical waxing into lyrical delirium.

On the hottest of August mornings, I would sit in the shade at the Bird Blind or the Pollinator Garden and enjoy the relative coolness or promise thereof. If that was not enough, I would focus on the thought that at least I was not sitting in a car in a parking lot at 4pm on the west side of Houston. The things we think of to get by.

Happy September and Happy Nature Trails!

Lonnie

In this issue:

- We explore the Overlooked and Underseen along the trails.
- An Update on a needed handrail along the Live Oak Trail.
- For an alternative to birdwatching, check out Blooms and Frogs in the Blind.
- More spectacular photos by Bill Lindemann of Butterflies and Dragonflies in the Pollinator Garden.
- Sex in the Garden!? Go to page 10 to find out.
- Volunteer Spotlight on Patti and Billy Guin.
- Feature Story: The ABCees of Native Bees



OUR MISSION STATEMENT: “To enhance, protect and interpret the natural ecosystems of the Texas hill country while providing educational and quality of life opportunities for members of the community and visitors”

Trail and Garden Projects

New Handrail & Steps along Live Oak Trail!

Handrails have been added to the section of Live Oak Trail where it returns from the Cactus Garden and descends to the lower banks of Live Oak Creek. Cross timbers have been added to the trail surface with fill gravel to follow. Geriatric knees and those who are balance challenged will appreciate this renovation. Concerns about falling and rolling down to the creek should disappear! Thanks to our Chief Engineer, Tom Hynes, and President, Bill Lindemann, along with Carl Luckenbach, Billy Guin, and Frank Garcia for implementing this major improvement.

Reminder to all Texas Master Naturalists—

Hours expended on project work on our trails and gardens qualifies towards your TMN certification or re-certification.



Photos by Carl Luckenbach

Above: Looking up the trail.

Left: Tom Hynes & Bill Lindemann setting upright posts for the handrail. This view pro-





*"Me thinks that the moment my legs begin to move,
my thoughts begin to flow."*

Henry David Thoreau

Along the Trail Observations—The Overlooked and Underseen

In the heat of our Hadean summer (note: Hell called the other day and wants its weather back !), when the showy wildflowers wilt and go to seed, we might think that there is nothing special to see along the trails. But I would call you out on that and argue that now that the showy flowers have been blotted from nature's palette, our purview can gaze deeper into nature to view all those flora and fauna that provide the backdrop for Mother Nature's paintings. Get down on your knees and find the overlooked miniature species, the creepy-crawlys, or simply appreciate the wallpaper species splashed across your visual landscape. Here are just a few species that I enjoyed in the last few weeks.

Learn to Like Lichens! Lichens are composite organisms composed of part algae or cyanobacteria growing on fungus and living in a symbiotic relationship. Lichens have different properties from those of its component organisms and function like mini-ecosystems. The algae/cyanobacteria conduct photosynthesis and provide sugars for their part while the fungus contributes a filamentous structure and moisture and other nutrients. Lichen can grow on virtually any surface at elevations from sea level to mountainous and in many different physical forms. The coloration of Lichens is varied and determined by its photosynthetic components. Lichen taxonomy is still well disputed.



Two forms of Lichens growing together on an Oak branch. The green orange form is fruticose (multi-branched, mini-shrub). The gray green form is referred to as foliose (flat, leaf-like lobes).



Orange lichen growing on igneous rock makes for an attractive color palette. This form is termed crustose (crust-like). Lichen seems to prefer the acidic chemical composition of igneous rock which provides nutrients to the Lichen while it decomposes the igneous substrate on which it resides.

Two more fun facts: They are extremely long-lived and are estimated to cover 6% of the world's surface. Source: Wikipedia

Photos by Lonnie Childs

"Walking is a man's best medicine."

Hippocrates

Along the Trail Observations—The Overlooked and Underseen continued



Photo Courtesy of Texas Fire Ant Gazette

Texas Spotted Whiptail (*Aspidoscelis gularis*) can often be seen scurrying along our gravel paths. It is endemic to south central and SW US as well as northern Mexico and lives in a variety of habitats incl. grasslands, semi-arid areas, and rocky canyons. It occupies most of Texas and is one of the most common amongst the 9 species of this genus in Texas. You rarely see the row of spots that distinguishes it since it is wary by nature like all Whiptails. An insectivore who loves a fat, juicy termite. Yummy!

From June Blooms to Kissing Tunas in August

Our native *Opuntia engelmannii*, aka Nopal or Prickly Pear, produces beautiful pollen-laden blooms much beloved by bees who organically roll in it. A few months later, fruits known as Tunas appear that feed a multitude of animals, including humans. The tunas are rife with anti-oxidants and other healthy compounds. Nopal leaves

O. engelmannii



Photos by Lonnie Childs



of a different species are widely grown & eaten in Mexico. *Opuntia* provides good habitat cover for birds such as quail and small mammals. It really is an important anchor plant for our savannah ecozones to be valued. Historically, natural fires kept it in check. Overgrazing further liberated it from competition with native grasses, & so it has become invasive in some terrains. And of course, while Mother Nature dazzles you with her beauty, she'll sometimes stick you in the behind!



"Let Nature be your teacher."

William Wordsworth

Hill Country Master Naturalists Visit the Trails and Gardens

Our Hill Country Master Naturalists (HCMN) have been instrumental throughout the history of the FNC in providing support mostly in the form of labor to complete our trails, gardens and demonstration areas. Without them, we would not have accomplished all that we have. The COVID pandemic affected them just as significantly as any organization by forcing them to postpone their 2020 fall training classes. However, in payback and as a way to at least provide an appetizer of mini-training classes, FFNC members are conducting some outdoor hikes and training sessions.

On September 3, Bill Lindemann and Jane Crone led a field trip to the nature center for members of the 2020 HCMN class. A hike along our trails and visits to our gardens provided them with an up close sampling of our natural bounty at the park. Following is a listing of some of the more interesting Birds and Butterflies seen on the hike. Note that some of our Fall migrating Birds are starting to appear.

24 Bird species were observed including:

Yellow Warbler
Yellow-billed Cuckoo
Northern Roughwing Swallows
American Robins
White-eyed Vireo
Western Kingbird
Scissor-tailed Flycatcher
Loggerhead Shrike
Ruby-throated Hummingbird



24 Butterfly species were observed including:

Juniper Hairstreak
Large Orange Sulphur
Goatweed Leafwing
American Snout
Horace's Duskywing
Southern Dogface
Pearl Crescent
Dusky Blue Groundstreak
Ceraunus Blue



Ruby-throated Hummingbird
Archilochus colubris



Goatweed-Leafwing
Anaea andria



Photos by Bill Lindemann

Blooms and a Frog at the Blind?

Blooms

Birds seen at the Blind have been at summer lows but the Fall Migration is beginning! In the meantime, with our understory restoration project growing into its own, a couple of resplendent botanical species may have caught your eye. We also have recently had a newly recorded visitor show up to grace our water feature. So here you go—Blooms and a Frog at the Blind.



Pokeweed at the Bird Blind

Mockingbirds are vigorously guarding our Pokeweed for their own consumption.

Photos by Lonnie Childs



Toxic berries are edible by Birds .



Small delicate flowers.

The interesting berry-laden plant growing just behind the water feature is **American Pokeweed (*Phytolacca americana*)**, aka "Poke Sallet". It is a unique plant that elicits a wide variety of opinions as to its value dependent on your ecological perspective.

Pokeweed is an herbaceous perennial that grows to 6-12 feet in preferred habitats of open woods, damp thickets, clearings, and roadsides. Historically, Pokeweed grew in the eastern half of the US from Canada to the Gulf Coast. Most of us might think of it as a swamp plant ("Poke Sallet Annie...") but, it has been officially recorded growing in the Hill Country surrounding Gillespie County.

Much of Pokeweed's controversy derives from its uses as a food and health supplement. Make no mistake—all of the plant is highly toxic. Hungry folks did learn that the fresh leaves and shoots could be boiled three times and eaten if necessary preparatory precautions were taken. Also, it reportedly did serve as a purgative for worms!

"Frogs have it made, they get to eat what bugs them. "

Anonymous

Blooms and a Frog at the Blind? (continued)

Blooms

**Clammyweed or
Red-whisker Clammyweed**

Polanisia dodecandra

Its name refers to its red stamens and the sticky, moist glands on the surface of this plant.



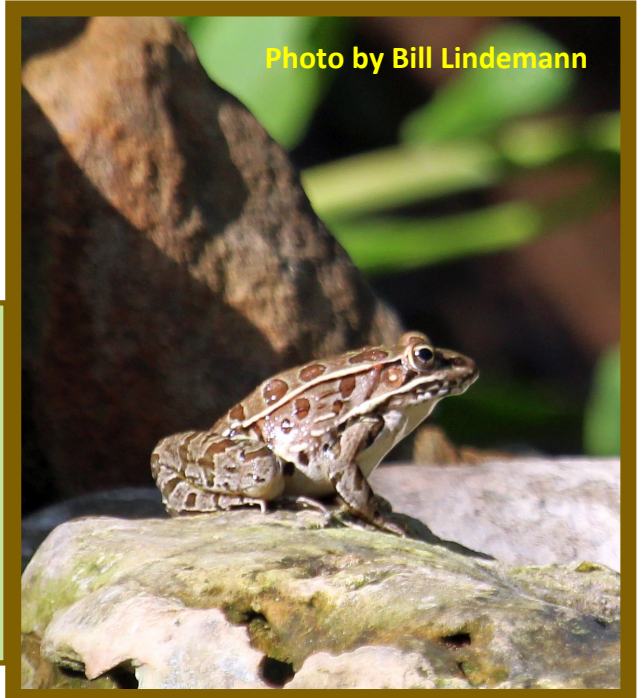
Blooms

Photos by Lonnie Childs



Clammyweed is a 3-4 ft annual herb in the Caper family that grows almost throughout the US in full to part-sun, mesic to dry conditions, and on barren sandy or gravelly soils. It has excellent drought tolerance and adapts well to highly disturbed areas where there is little other ground vegetation. Despite its sulphurous smell, butterflies do like it. Note the 3" long seedpods at left.

Photo by Bill Lindemann



Rio Grande (aka Mexican) Leopard Frog
Lithobates berlandieri (formerly *Rana berlandieri*)

This handsome prince recently showed up to enjoy our water feature and was a first recording of the species in the park. They historically ranged across the southern half of Texas into New Mexico mostly in arid regions with nearby water sources. Click [here](#) to hear the call of the RGLP.

"Diversity is a flower that blooms with greater beauty and greater strength each time it is cross-pollinated."

K. Ancrum

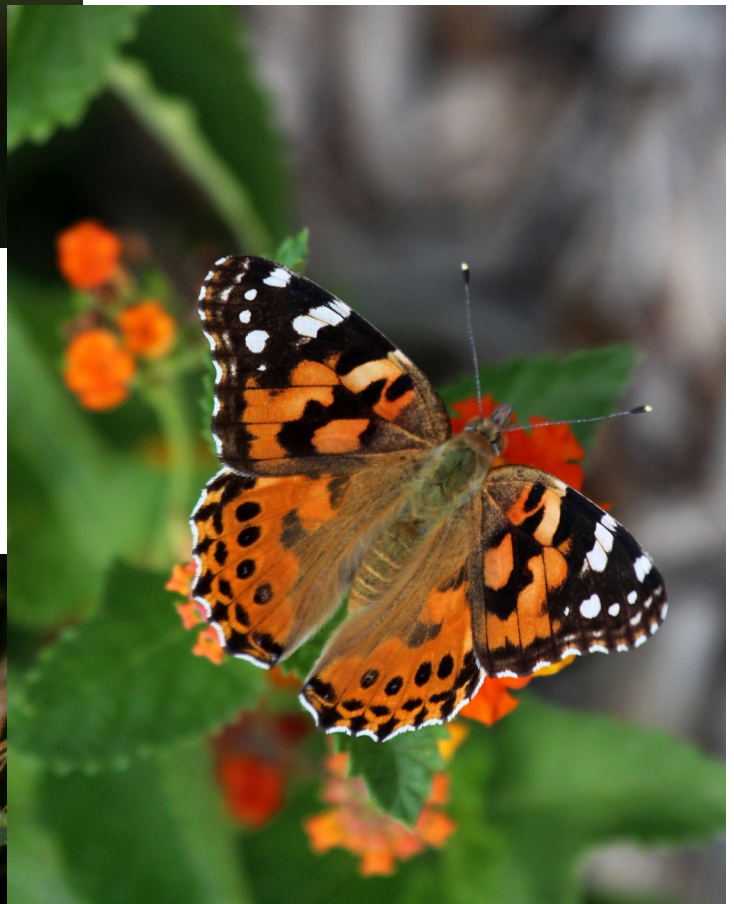
What's Blumen and Buzzin' at the Pollinator Garden?

Butterflies



Large Orange Sulphur
on Turk's Cap
Phoebis agarithe

Painted Lady
Vanessa cardui



Common Mestra
Mestra amymone



All Photos by Bill Lindemann

Noseburn is the host plant for Mestra. Something that loves Noseburn! I wonder if his nose burns, & how does he itch his nose?



*"I love to see the sunshine on the wings of the Dragonflies...
there is magic in it."*

Ama H.Vanniarachchy

What's Blumen and Buzzin' at the Pollinator Garden? (continued)



Predators
Lookin' for a Meal
bleqsfola

Common Whitetail
(*Plathemis lydia*)

Four-striped Leaf-tail
(*Phyllogomphoides stigmatus*)



"The caterpillar does all the work, but the butterfly gets all the publicity."

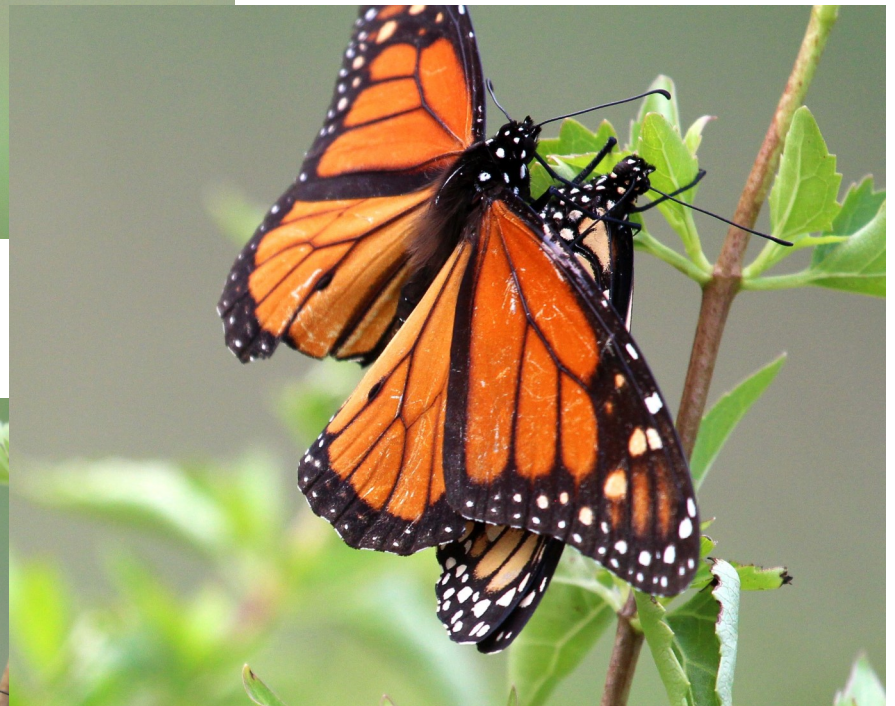
George Carlin

Sex in the Pollinator Garden

Monarch's Mating



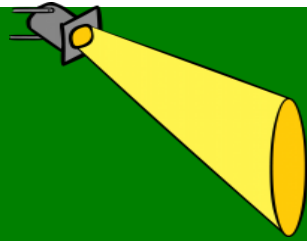
Shh. Say no more.
These are some late
season breeders.



Dancing the Monarch Waltz



Photos by Bill Lindemann



"You make a living by what you get.

You make a life by what you give."

Winston Churchill

Volunteer Spotlight: Patti & Billy Guin

Patti and Billy are two of our newer converts who have jumped in feet first to make a real contribution to FNC. We always welcome the enthusiasm and ideas of new members. Here is their story in their own words.

Patti and Billy moved to Fredericksburg in 2018 from Shreveport, Louisiana, where Billy practiced law for over 40 years and Patti worked as a paralegal for a U.S. federal court judge. After



living in the northwest Louisiana area all their lives, they were attracted to the Hill Country for the climate, the people, and the beauty of the area. Billy was exposed to nature at a young age when he attended YMCA and church camps in the native pine forests of Louisiana. He has been a lifelong bow hunter and has been hunting in a deer and turkey lease in southwest Texas for over 35 years. He became more interested in flora when he worked at a landscape company after school while attending LSU. Patti has always enjoyed gardening and upon moving to Fredericksburg, she has volunteered time working at Cross Mountain and the Lady Bird Johnson Nature Park. Billy and Patti are interested in the native grasses, plants, and trees on their property northeast of Fredericksburg, and are continuing to learn more about how to improve their property. They also enjoy bird and butterfly watching. Billy is a 2019 graduate of the Texas Master Naturalist program, and Patti is enrolled in the upcoming class which will hopefully be held next fall. In working with Master Naturalists, Billy and Patti were introduced to the Friends of the Fredericksburg Nature Center, where they have continued to volunteer their time and Billy currently serves on the FFNC Board of Directors. Billy has recently been working on improving the trails at the park, and Patti devotes her time at the Pollinator Garden and Bird/Butterfly area. They have especially enjoyed working with and getting to know the members of the FFNC.

Thanks to Patti & Billy!



"If the bee disappeared off the surface of the globe, then man would have only four years of life left. No more bees, no more pollination, no more plants, no more animals, no more man." **Albert Einstein**

Feature: The ABCees of Native Bees by Lonnie Childs

Amongst our most overlooked and under appreciated ecological community members, native bees would have to rate high on the list for consideration. Often viewed as small pesky insects who are attracted to our soft drinks or sweaty bodies, they also suffer from a misguided association with wasps and the overarching fear that all bees take enjoyment in stinging or at least terrifying the human species. And if it is hard to identify something, that just adds to the angst and fear. Quick, swat them away!

In recent years, you may have noticed that nature centers such as our own have transitioned from building butterfly gardens to pollinator gardens. This fact largely recognizes that although butterflies perform a more impressive and theatrical version of pollination and bring in the crowds, native bees provide as much as 87% of the pollination services to our native plants. Bees do so much of the work and get so little of the credit.

Two characteristics make bees our preeminent pollinators. First, they purposely collect pollen in order to feed their young. Second, bees have evolved to be specific about the plants that they visit, thus making them to be efficient and targeted pollinators and crucial to a foundational symbiotic relationship in our ecosystem. They are equally important in pollinating many of our agricultural plants. It is not too dramatic to say that without native bees fulfilling the need for pollination, our ecosystem would collapse. Now you begin the increasing recognition for native bees.

Who are the native bees? Bees are classified in the Hymenoptera order of the Insects. If bees are often confused with wasps, perhaps it derives from their common ancestry. About 125 million years ago, as flowering plants came into being, a group of wasps (which are carnivorous) evolved to take advantage of the flower's pollen and nectar as food sources, and thus bees were born. Bees are also visually conflated with flies sometimes which eat decaying matter (detritivores). So remember this rule: If it is eating another insect, it's a wasp (although they will drink some nectar). If it is rolling in the pollen of flower, think bee. And if it is landing on your picnic leftovers, probably it's a fly.



Sonoran Bumblebee

By Bill Lindemann

BEE SPECIES COUNT: World-wide = ~20,000 North America = ~4,000 Texas = ~800

The annual value of native bee pollination to U.S. agriculture is estimated to be \$3 billion .

Feature: The ABCees of Native Bees (continued)

In terms of morphological identification, flies resemble bees the most and some probably evolved to use bee mimicry as a defensive cover, since bees do sting. Here are a few identification rules that may help you to distinguish the two; 1) Bees have two pairs of wings and flies have one; 2) Bees have long antennae and flies have short ones; 3) Flies have larger eyes; 4) Bees sting and flies bite. Ouch, avoid this rule.

I won't try to delve into bee identification as it is beyond my skills and the limits of this article, but here are the major **Families** and common names which you might recognize.

- 1) **Apidae**—Bumble bees, carpenters, stingless, cacti and Italian Honey bees
- 2) **Colletidae**—**Plasterer bees** who line their nests with spitballs
- 3) **Andrenidae**—**Miner bees** dig underground tunnels with chimney entrances
- 4) **Halictidae**—**Sweat bees**; those metallic sheened bees that lick your sweat
- 5) **Melittidae**—**Oil-collector bees** collect plant oils
- 6) **Megachillidae**—**Leaf-cutters** who cut leaves for nest building

For reference guides to identify Texas native bees, go to:

<https://www.wildbeestexas.com/texas-wild-bees-guide> Courtesy of National Butterfly Center

https://tpwd.texas.gov/education/bioblitz/160829_jha_lab_bee_guide.pdf Courtesy of TPWD

By way of clarification, **Italian Honey bees** nor their African counterparts are native to the US. Italian bees were first brought here from Europe with the Pilgrims in 1621 for their honey producing capabilities and quickly naturalized across North America. Their population numbers have been declining since the 1950's with accelerating reductions in recent decades attributed to Colony Collapse Disorder (CCD) which encompasses a range of purported causes acting in concert that include mites, bacterial/viral diseases, nicotinoid pesticides, loss of foraging habitat, bee management practices, and others. The decline of Italian Honey bees has garnered significant press coverage, and its impact does carry substantial agricultural loss. However, the potential economic and ecological damage pales in comparison with the impact we might incur should our native bee population take a dramatic plunge.

I can't avoid a brief mention of **Bumblebees**, since they are one of the larger more infamous bees that unjustifiably haunt the childhood memories of many us. They are one of the few native bees who are social and form colonies of approximately 50 members. Although scary looking, they are not particularly aggressive but



Carpenter Bee

By Bill Lindemann



"You can thank a honey bee for 1/3rd of your diet."

Unknown

Feature: The ABCees of Native Bees (continued)

can sting multiple times thus injecting extra pain. Bumblebees build ground nests under logs and other structures, so unfortunately our interactions with them often result from mower encounters that disrupt their nests and create their reputation for aggressiveness. For Bumblebee therapy, come to the Pollinator Garden and view our resident population of Sonoran Bumblebees engorged on nectar and peacefully ignoring you.

For reference guides to identify Bumblebees, go to:

Courtesy of TPWD

https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/nongame/native-pollinators/bumblebee-id.phtml

Habits. Bees **forage** as far as 1+ miles from their nest which is a considerable distance for their size. Most bees like the Bumblebee are generalist foragers which means that they obtain pollen from many plant groups, although mostly limited to native plant

groups. Other bees are specialist foragers and will feed on only a narrow group of plants. Bees can see both visible and ultra-violet light which provides additional nectar guides to the food source (ex. think UV blue lines radiating to the center of the flower that we cannot see). Bumblebees are interesting foragers in that their body size allows them to cling to the plants' anthers and shake their body to release pollen while generating a buzzing sound.

About 70% of Bees nest in the ground while the others are **cavity-nesters**. **Ground-nesters** either dig their own tunnels up to one foot deep or use tunnels previously dug by other animals such as beetles. Cavity-nesters use their mouths to carve or drill holes in soft wood. Various bees provide leaves or petals, mud, or even secretions to line or plaster their nests. Designs for bee houses are readily available and easily built for the cavity-nesting species and generally only require drilling holes in a soft block of wood.

For instructions, go to: <https://boyslife.org/hobbies-projects/projects/140535/build-a-bee-house/>

Unlike Italian Honey bees or Bumblebees, **90% of bees are solitary nesters** and are not social. They may aggregate the nests in a common area with advantageous features, but they still build and maintain solitary nests. Bee life-cycles involve complete metamorphoses with the four developmental cycles of Egg, Larva, Pupa, and Adult. Females lay their egg on a pollen loaf or near liquid food prepared for the Larva while it develops. Adult bees live from one month (mason bee) to 1 year (Bumblebee) to 3 years (Large Carpenter Bee).

Habitats. Sustainable bee habitat must include appropriate food sources, shelter, and water. If you want



Leaf-cutter Bee

By Bill Lindemann



“Human beings have fabricated the illusion that in the 21st century they have the technological prowess to be independent of nature. Bees underline the reality that we are more, not less, dependent on nature’s services in a world of close to 7 billion people.” Achim Steiner

Feature: The ABCees of Native Bees (continued)

more bees, first assess what favorable conditions in the landscape you have and plan to protect or enhance them. For ground-nesters, patches of bare or sparsely vegetated ground must be available along with thatch for nesting. For cavity-nesters, leave logs or other rock or wood cavities along with thatch. It is important not to disturb the nesting area after the bees emerge in early spring, so garden or land management practices should be conducted prior to that. Essential food sources should be available through surrounding plantings of native plants that have been historically resident in the area and that provide pollen and nectar from March to November. You can find a listing of native pollinator plants at www.wildflower.org/project/pollinator-conservation

If your landscape requires major efforts to create favorable nesting conditions, then there are resource guides for this. One of the best sites is sponsored by the Xerces Society.

<https://xerces.org/pollinator-conservation/yards-and-gardens>

For local assistance from Texas Master Naturalists and Native Plant Society of Texas, check out their Pollinator Garden Assistance and Recognition Program (PGARP) at <https://txmn.org/hillcountry/pgarp/>

What are the threats to our native bees? I wrote previously about the economic and ecological impacts of widespread bee population decline. So what is creating the risks? Well it turns out that it is the same list that always comes up when we discuss ecological risks: 1) habitat loss—conversion of natural habitat to agricultural or developmental use; 2) climate change; and 3) pesticide use. There is scientifically gathered evidence in recent years that indicates declines of bee populations in both Europe and the US. Specifically, Bumblebees populations seem to be showing the most dramatic reductions.

I liken native bees to the working class of the natural world. They toil along in solitude performing their pollination duties in anonymity without the recognition and appreciation that they deserve. If we only begin to appreciate them when we suffer the consequences of their loss, the consequences may be dire. So, build a pollinator garden, create or preserve some habitat, put away those pesticides, advocate for bees, or as a start, don’t swat them away.

Sources:

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Sweat Bee on Opuntia

By Lonnie Childs



***"Wilderness is not a luxury but a necessity of the human spirit,
and as vital to our lives as water and good bread."***

Edward Abbey

**Corona de Cristo (*Passiflora foetida*)
In the Pollinator Garden
Photo by Lonnie Childs**



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