



Naturalist Notes

President's Note

Hello Gulf Coast Members,

Spring has sprung and our chapter is up and running with activities. There are 3 (Saturday) opportunities to work on our Chapter-wide project at Hermann Park and there is still room to sign up! I have send out the sign up info, but if you need the info again just let me know.

Earth Day is Monday April 22 and I am sure you know that the environmental and conservation communities have embraced it so much that April has almost become Earth month! Watch for activity announcements via email and be sure to check the calendar on our website for volunteer and AT opportunities. <https://txmn.org/gulfcoast/>

Our April chapter meeting will be April 4th and it will be our 1st quarter awards meeting. Be sure you have your hours updated by the end of March, and make any awards requests ahead of time, to give our Membership Director time to get your information checked and updated. To make an award/re-cert/milestone request, please email boardmembers@txgcmn.org

I look forward to working with you this Spring!

Julia Trimble, President
Texas Master Naturalist - Gulf Coast Chapter
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Buffalo Bayou Park Finalist for 2019 Rudy Bruner Award for Urban Excellence

The Bruner award was created in 1989 by architect Simeon Bruner to recognize transformative places that contribute to the vitality of American cities. Apart from bragging rights, the Gold Medal winner receives \$50,000, while the Silver Medal winners will receive \$10,000 for project enhancements. Stay tuned for the outcome!



Southern Skipperling on frog fruit at Willow Waterhole Greenspace
credit Irmi Willcockson

 **Organism of the Month**

Southern Skipperling (*Copaodes minima*)

Many people who observe butterflies in Texas are familiar with skippers. Small, often difficult to identify as they rarely sit still, about 275 species live in North America. They occur mostly in Arizona and Texas. In general, skippers have large eyes, short antennae, stout bodies, and three pairs of walking legs. The Southern Skipperling is the smallest North American skipper, with a wingspan of $\frac{5}{8}$ to $\frac{7}{8}$ in. It fits comfortably on frog fruit flowers, as seen in the picture at left.

Southern Skipperlings are orange, and can be distinguished from Orange Skipperlings by the white stripe on the underside of the hind wing. The caterpillar host is Bermuda grass (*Cyndon dactylon*). Males have scent glands in modified forewing patches, and locate their mates mostly by perching. Globular eggs are laid singly, generally two broods in Texas.

Sources
<https://www.butterfliesandmoths.org/taxonomy/Hesperiidae>



National Bat Appreciation Day is April 17th

Take time to watch the only truly flying mammal in action this spring. The Mexican free-tailed bat is the state flying mammal of Texas and Oklahoma, and lives under the Waugh bridge and all around town. Fun bat facts:

- Bats evolved around 52 million years ago.
- Bats are more closely related to humans than to rats and mice.
- Bats emit sound and analyze the echoes to catch fast flying insects at night.
- Seven bat species occur in Houston in addition to Mexican free-tailed bats
- Some bats roost under dead palm fronds, in Spanish moss, or under house eaves.

Sources: <https://ucmp.berkeley.edu/vertebrates/flight/bats.html>, <http://www.batcon.org/>, <https://houstonaudubon.org/programs/learn/bats.html>

Is it a Bee or a ...?

Wasp- All bees have branched hair i.e. “setae” somewhere on their bodies, but these are only visible under high magnification (>40X). The filamentous hairs of wasps reflect light more brightly than the branched hairs of bees which disperse the light in different directions. Many sources mention observing wasp faces for shiny silver hair. Wasp antennae are sometimes mounted lower on the face. Also, some wasps move their antennae up and down while searching; bees don’t generally do this. Wasps have chewing mouth parts that lack the siphoning proboscises of bees, but bees keep their proboscises folded under their mandibles. Bees are generally more hairy, but that’s not a definite indicator. Wasps have differently shaped hind legs than bees. **If it’s transporting a pollen load, it’s a female bee.** That doesn’t help though for male bees, the *Hylaeus* genus, and cleptoparasitic species, none of which carry pollen.

Fly – There are several anatomical indicators of flies, but the easiest for quick field ID is the size and shape of antennae. Flies usually have very tiny stubby antennae and **bees have longer bent (“geniculate”) antennae.** Flies may rest with their wings in a “V” shaped angle and bees may hold them folded over their abdomens. Some flies have large eyes which may nearly meet at the top of the head. Most bees’ eyes would appear to be more on the side of the head with space in between compared to most flies.

Moth - Some of the sphinx moths (AKA hawk or clearwing moths) can resemble large bees when nectaring at flowers. The give-away, these moths take nectar on the wing with their long proboscises while bees always land to take nectar. Bees will only very rarely hover in a stationary position and usually not for as long as hover flies will.

In addition to morphology, **other cues may point to an ID- phenology (i.e. seasonality or flight time), range, habitat, floral association, and behavior.**

Michael Eckenfels



Polistes dorsalis, a member of the paper wasps observed in Houston.

credit cloverwick on iNaturalist



Oblique Stripetail Hoverfly (*Allograpta obliqua*) observed at Edith L. Moore Nature Center.

credit japearce on iNaturalist



Hummingbird Clearwing Moth (*Hemaris thysbe*). Observations near Houston.

credit David Joly on flickr

Native Bee Natural History Overview

For many people in the general community it comes as a huge surprise that there are so many species of bees. A vast majority of them are nothing like honey bees which live in large colonies directed by a single queen. At one presentation to TMN's, at the first reference of "solitary bees", a perplexed "What?!" shot from the audience. The expression called forth an amusing image of an introverted honey bee home alone.

Not All Bees are Honeybees

The genus to which honey bees belong is represented by 11 species world-wide. Only the European Honey bee, *Apis mellifera*, is found the US, brought by settlers in the 1620's. It has at least 44 subspecies including the Africanized honey bee (AKA killer bee) *A. mellifera* is a necessity for crop pollination given human population density. However, native plant pollination was effected for many millennia by native bees and other pollinators long before *A. mellifera* was transported to the western hemisphere. There are an estimated 4,000 bee species in North America. Many more are as-yet-to-be-described to science.

Bumble bees form colonies

Bumble bees are our only native colony formers with nine species in Texas, two of which are found in the greater Houston area. The other 1,100 Texas native bee species are solitary, "single moms" that don't make honey, but that nonetheless contribute greatly to the enormous task of pollination.



American Bumble Bee
(*Bumbus pensylvanicus*)
observed In Memorial Park.
credit Irmi Willcockson

Bee Life Cycle

As most other insects, native bees go through complete metamorphosis through several stages:

egg, several instars of larva, prepupa, pupa, and lastly the adult. Solitary bees never see their offspring after building and provisioning a brood cell and laying an egg in it. There may be more than one brood for a species a year (a multivoltine species), but usually only one generation annually (univoltine species). They spend a vast majority of their entire lives as juveniles walled up in their brood chambers, most often underground, until it's time for them to emerge.

Nectar generalists, pollen specialists

They will nectar on a broad range of flowers. In pollen selection, it's estimated that 20 to 30 percent of bees are generalist foragers. But the others are specialists in their choice of pollen species to provide their young. In extreme cases this can be pollen from a single plant species, but usually it's from a selection of individual species from a genus or family.

In order to complete their brief adult stages, lasting generally 2 to 6 weeks, emergence of adults in specialist species has to be timed accurately with their host pollen species. Scientists are baffled as to how bees are able to synchronize emergence with the bloom time of flowers species they need. Climate disruption poses a potential challenge to the stability of co-occurrence of adult bee emergence with host plant bloom time.

Resources

An array of Texas native bee biodiversity can be viewed on the bee guides at the Jha Bee Lab of the University of Texas in Austin at

<http://w3.biosci.utexas.edu/jha/landowners-naturalists/texas-pollinator-guides> or for the National Butterfly Center in Mission Texas at Sharp Eatman Nature Photography - <https://www.wildbeestexas.com/picture-index>. This is new resource with phenomenal images, unusual species, and info pages about the bees that can be linked to after clicking on the images.

An early step is learning anatomical diagrams and ID terminology. The Very Handy Bee Manual by Sam Droege has a glossary of descriptive terms used in ID keys. The Discover Life key (https://www.discoverlife.org/mp/20q?guide=Bee_genera) is the best online resource for ID for the North Eastern United States. Some Texas species are not on the guide, however.

A great print reference for “everyday folk” is *The Bees in Your Backyard* by Joseph S. Wilson and Olivia Messinger Carril.

Michael Eckenfels



American Bumblebee Queen (*Bombus pennsylvanicus*)

credit Michael Eckenfels



Texas Striped-sweat bee (*Agapostemon texanus*)

credit Michael Eckenfels

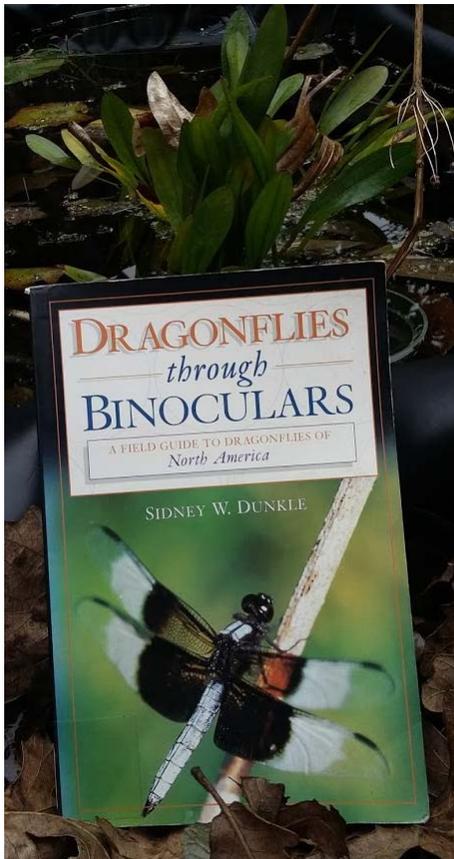


Ecoregional Revegetation Application

A New Tool for Locally Appropriate Native Plant Species Selection

The Ecoregional Revegetation Application (ERA) is an online mapping and native plant selection tool that is being developed by botanists and others in the Federal Highway Administration and USDA Forest Service. It is scheduled to be completed in 2019. The goal of this tool is to aid restoration practitioners and land managers in selecting and sourcing appropriate native plant materials for various rehabilitation and revegetation objectives, including pollinator conservation through habitat creation.

Check it out at www.nativerrevegetation.org/era



Book Review

Dragonflies through Binoculars: A Field Guide to Dragonflies of North America

Sidney W. Dunkle

2000, available from Amazon and Houston Public Library

This field guide assumes that you have a decent pair of close-focus binoculars and that you want to observe dragonflies without harming them. Each section includes an overview as well as detailed descriptions of each species. The back includes full color photographs of each species, along with a range map. Where males and females are significantly different, both are pictured.

The advantages of this field guide lie in the assumption of observing without dissecting and the photography. The disadvantage is that the majority of species mentioned are not found in our area. However, if you are looking for a guide that works locally as well as throughout your North American travels, it's a great choice.



Spring Outreach Events

- **STEM Conference for girls in grades 3-12 Saturday, March 23, 2019, 10:10-11:00 AM & 2:15 – 3:00 PM** at Klein Cain High School on Spring Cypress Rd. (Irmie Willcockson)
- **Scout Fair at NRG Arena, Saturday, April 6, 2019 10 AM - 3 PM** (TJ Butler, Jim Kennedy)
- **Baytown Nurture Nature Festival Saturday, April 13, 2019, 10 AM to 4 PM** at Baytown Nurture Center 6213 Bayway Dr Baytown, Tx 77520 (Irmie Willcockson, Rebecca Lloyd)
- **Willow Waterhole 2019 Music Fest, Saturday, April 13, 12 PM – 8 PM, Sunday, April 14, 12 PM – 6 PM** (Virginia Livingston)
- **Earth Day Houston at Discovery Green, Sunday, April 14, 2019 12 PM – 5 PM** (Shared Booth with Bayou Land Conservancy and The Native Plant Society of Texas Houston Chapter)
- **6th annual UH Sustainability Fest Tuesday April 16, 2019, 11:30 AM - 1:30 PM** at central campus in Butler Plaza (located in the center of campus) (Bob Romero)
- **Earth Day 2019 at the Houston Arboretum, Saturday, April 20, 2019 10 AM to 2 PM** (Rebecca Lloyd, Julia Trimble)
- **Kickerillo-Mischer Preserve Nature4Health Day Saturday, April 27, 2019** at Kickerillo-Mischer Preserve (TJ Butler)
- **4th Annual Spring Outdoor Celebration May 4, 2019, 11:00 AM - 4:00 PM** in Mont Belvieu (Irmie Willcockson, Rebecca Lloyd)

Contact Bob Romero (Bob.Romero@txgcmn.org) to volunteer for any of the events.