



# Naturalist Notes



Misty Morning at Sims Bayou

## NEW WASP SPECIES

*Neuroterus valhalla* is a tiny nonstinging gall wasp. Once emerging from the gall, the wasp lives only 3-4 days, just long enough to mate and lay eggs.

The wasp lays two sets of eggs, one in oak catkins, the other in oak branches. The eggs laid in catkins go from eggs to adults in 2-3 weeks. The generation laid in branches take 11 months to emerge.

It is still unclear what effect the February 2021 freeze had on these tiny Rice University residents.

## UPCOMING PLANT SALES

Bellaire Garden Club is selling natives and other plants at the Nature Discovery Center Mar 17<sup>th</sup>.

Mercer Botanic Garden is holding March Mart March 25<sup>th</sup> & 26<sup>th</sup>.

NPSOT Clear Lake Chapter's sale is Mar 26<sup>th</sup>.

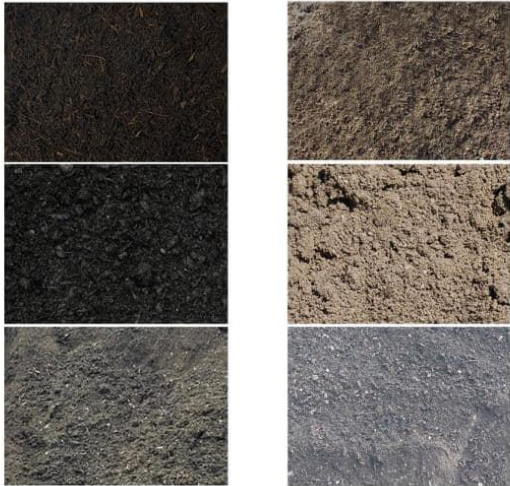
Houston Arboretum's Spring Plant Sale is April 1<sup>st</sup> and 2<sup>nd</sup>.

## MN MERCHANDISE

AgriLife Learn is the new name of the bookstore.

<https://agrilifelearn.tamu.edu>

Click on Merchandise, then search for Master Naturalist. According to TMN Tuesday, new merchandise may appear starting in February.



Garden soil is sourced locally and is native to the region. Product will have variations in color, particle size and texture.

Variety of locally sourced garden soils (Home Depot)

## SOIL OF THE MONTH - SOIL AS PLANT GROWTH MEDIUM

Unlike animals, most land plants are not mobile. Plants need a place to grow, to put down their roots. Soil supports plants by holding the roots in place so the plant can grow upright. Soil also supplies nutrients, in particularly minerals that a plant needs. These minerals come both from the parent material and decomposition of organic matter.

When rain falls, soil becomes temporary water storage, keeping the water close to the roots for the plant to use. This is especially important in places where rain fall is intermittent. Plants need water all the time and can draw on the soil's water store.

Lastly, roots require air. Those of us who have helped plant prairie plants know that the soil around each plant must be tamped down using our feet, and then watered to prevent air pockets. Large air pockets can kill the roots, and ultimately the plant. The air pockets or voids in the soil are between soil particles and microscopic. Root cells use the oxygen in the voids for respiration.

“Land is not merely soil, it is a fountain of energy flowing through a circuit of soils, plants and animals” - Aldo Leopold

“How can I stand on the ground every day and not feel its power? How can I live my life stepping on this stuff and not wonder at it?” - William Bryant Logan, Award-winning writer, faculty member at the New York Botanical Garden, and practicing arborist

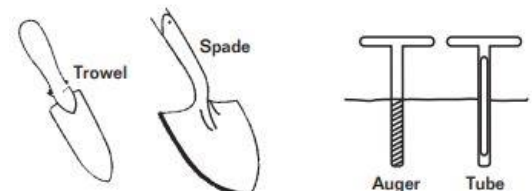


Figure 3. These tools can be used to collect soil samples.

## ORGANISM OF THE MONTH

### BOLD JUMPING SPIDER (*PHIDIPPUS AUDAX*)

Jumping spiders make up about 13% of all spiders. They have 4 pairs of eyes, with the anterior median pair particularly large. Jumping spiders prefer open habitat to seek and stalk their prey. They use silk only when laying eggs, hiding, or tethering themselves when jumping for prey or evading predators.



Jumping spiders are diurnal, active hunters. Unlike grasshoppers with big muscles, jumping spiders move their hemolymph to jump. Their courtship depends on visual display, with males having plumose, colored hair or fringes on their front legs. Females only mate once. Each female produces multiple clutches of eggs and protects each clutch until the spiderlings hatch.

Bold jumping spiders are widespread across North America from southern Canada to northern Mexico, Cuba and Puerto Rico. The size varies greatly from 4-15 mm for males and slightly larger for females. The body is black, with a pattern of spots and stripes. In most locations, the color of the markings changes from orange-tinted in juveniles to white as the spider matures. In Florida, adult spiders retain their orange markings. The chelicerae are metallic blue or green.

I took the photo while kayaking at Buffalo Run Park. As I was resting, I noticed a light brown spider on top of my paddle. As I was watching, the bold jumping spider came over the edge of the paddle, ran up to the other spider and started biting it. In this picture it is holding onto its prey, trying to drag it away. I dropped them off at the shore before paddling away. Based on the descriptions, this was most likely a juvenile male.

Researchers working on a European jumping spider species discovered that spiders have arachnophobia. Predator avoidance behavior included freezing and retreating. Even newly hatched spiderlings were able to distinguish between simple objects and spiders, either 3D printed or preserved. The large, reflective eyes were important for predator recognition, but not required. Running away before being attacked is important for survival.

#### Sources

Wikipedia,

Animaldiversity.org

Roessler D et al (2021) Static visual predator recognition in jumping spiders <https://doi.org/10.1111/1365-2435.13953>

## Texas Coastal Exchange Launches 1000-Mile Living Shoreline Project

Today the Texas Coastal Exchange (TCX) is publicly announcing its program to design a 1000-mile living shoreline for the Texas coast. This project is designed to mitigate the destructive impacts of sea level rise on estuarine wetlands while creating new revenue streams for coastal landowners. The project is funded by a grant from John Teutsch of Seattle, Washington, and The Meadows Foundation.

Estuarine wetlands, which line bay systems from Corpus Christi to Port Arthur, are threatened with destruction by sea level rise. The goal of this project is to design a nature-based structural support and adaptation mechanism for some or all of the 500,000 acres of estuarine wetlands along the Texas Gulf coast using constructed oyster reefs.

The first step in the 1000-mile shoreline project is to identify the sites suitable for living shoreline construction. This analysis will involve an evaluation of the shorelines of the Texas coast from Sabine Lake to Corpus Christi, specifically the location of existing oyster reefs, the location of estuarine wetlands and adjacent fresher wetland systems and coastal land elevation. Several of these variables are shown in the figure below from Region 2 of the Texas coast, which includes Matagorda Bay.

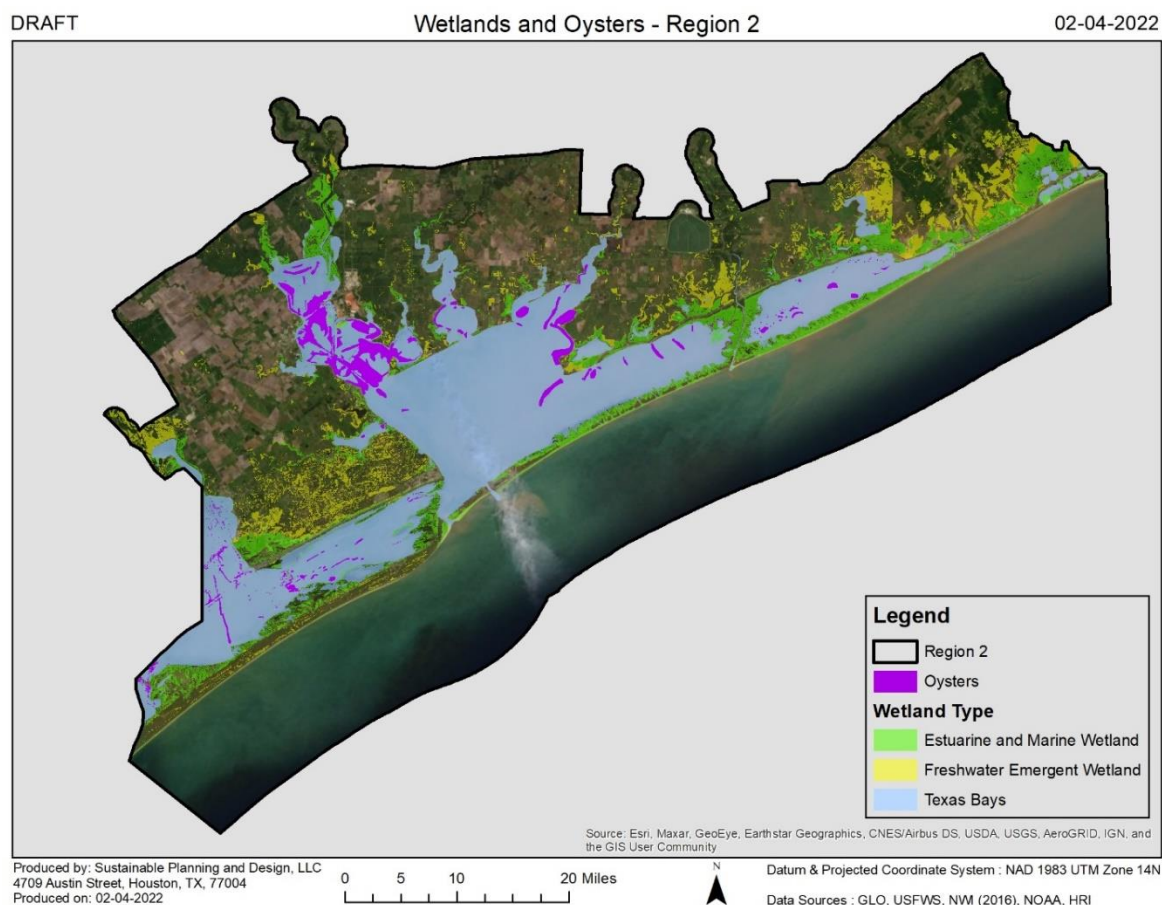


Figure 1. Base information assembled for suitability analysis for living shoreline. Information prepared by Sustainable Planning and Design by Jace Hodder and Emily Fucile.