

## What a wonderful (and weird) world it is

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The annual City Nature Challenge is a great opportunity to explore. I love a BioBlitz. It's a time to challenge myself. It's an anything goes, exciting nature venture that's ever-changing, whether because of human involvement of the land or from the elements of the great beyond. This year was especially interesting, possibly because of storms at sea sending a variety of treasures to the beach. The dry land also gave up a few secrets. I've captured some interesting observations in this story-trilogy.

### Beachcombing during the City Nature Challenge 2023

I had the Isla Blanca Park beach nearly all to myself on the last morning of the City Nature Challenge 2023, sharing it mostly with beached wonders that had washed ashore from recent stormy turbulence in the Gulf.

Little pink discs a bit larger than a quarter dotted the beach every so often; objects with which I was not familiar. I have since identified them as **sea pansies**, *Renilla muelleri*. It took some research, and I was able to find that the sea pansy is a colony of polyps, their shape is similar to a lily pad, according to [txmarspecies.tamug.edu](http://txmarspecies.tamug.edu). The rachis (body) is flattened but fleshy and has a single polyp which forms an anchoring stem (peduncle) on the underside, which anchors it into the sand or mud.



Sea pansies are generally reddish to reddish-purple to deep purple in color. The *R. muelleri* is the only sea pansy in the Gulf of Mexico, spending its time on the sandy bottoms. They can grow to four inches in diameter.

Sea pansy (*Renilla muelleri*)

The polyps bear stinging cells, which are used to snag tiny, drifting animals known as zooplankton. When handled in the dark, waves of luminescence move concentrically over the colony, according to [gulfspecimen.org](http://gulfspecimen.org).

Sea pansies are a type of soft coral. Even if uprooted by rough seas the peduncle can establish a new mooring once it settles back onto the sand, according to [CoastalReview.org](http://CoastalReview.org).

A cluster of tentacle-less polyps form an outlet valve that releases water to deflate the colony. If the colony is on a sand bar at low tide, it usually deflates and becomes covered with a thin film of silty sand. Small white dots between the feeding polyps are polyps that act as pumps to expand the deflated colony. The feeding polyps secrete a sticky mucus to trap tiny organisms suspended in the water. The colony's rigidity and purple color come from calcium carbonate spicules throughout the polyps' tissues, according to [What'sthatfish.com](http://What'sthatfish.com).

Interspersed between the sea pansies were remnants of interesting sea creatures that looked like broken, shell-studded elastic bracelets you'd expect to find in a touristy beach shop. **Plumed worms, *Diopatra cuprea***, also known as decorator worm or ornate worm. It is a species of polychaete worm in the family Onuphidae, native to the northwestern Atlantic Ocean, Caribbean Sea and the Gulf of Mexico.



According to Wikipedia, the *D. cuprea* inhabits a parchment-like tube. The deflated tube is visible in the photos. The tube is made of a mucous polysaccharide material, the tip of which projects from the sediment in which the rest of the tube is buried. This tube acts as a chimney; the outer surface is reinforced with shell fragments and tiny pebbles which are cemented in the style of an overlapping mosaic.

Plumed worms (*Diopatra cuprea*)

When the tubes are no longer occupied, they get washed out of the seabed and washed ashore. The living worm is described as colorful, with an iridescent reddish-brown segmented body, dotted with grey. The worm is an omnivore and scavenger; often found in seagrasses, it feeds on algae and small invertebrates such as gastropod molluscs and barnacle larvae.

**Puzzling matter stuck on shells**

What in the world? Plant, animal, jellyfish, coral? I was mystified. I examined the first one I found while I was walking the wrack line in the wake of a receding tide on Boca Chica Beach.

I'd picked up an Eastern oyster shell nearly half covered in some sort of growth that seemed cemented onto the shell. The growth appeared silky, pliable and reminiscent of the texture of squid, the coloring creamy white to lavender and pink; they were pretty, in a frightening sort of way, as the unknown can sometimes be. I didn't want to poke it in case it bit or stung.



Oyster drill egg casings attached to oyster shell

There were many more shells in similar states. Whatever the growth, it seemed indiscriminate as to what it decorated, Eastern oyster, angelwing and other shells.

The motherlode was at Isla Blanca on a piece of dark wood nearly two feet long; it was completely covered in pinkish, blunt topped “fingers;” from the distance, it looked like a castoff mophead.

After having no luck with identification, I sent the photos to our chapter sponsor, Tony Reisinger, Cameron County extension agent for coastal & marine resources with Texas Sea Grant at Texas A&M University and the Texas AgriLife Extension Service. He suspected they were egg casings and knew just who to ask and the mystery was solved:

***Stramonita haemastomav*, oyster drill egg casings.** Oyster drill is in the Muricidae family, rocksnails. Other common names include Florida rocksnail, Florida dog winkle and red-mouthed rock shell. It is not a good thing. Wikipedia defines it as a species of predatory sea snail.

Oyster drill can be found throughout the Gulf of Mexico. They are one of the most devastating predators to oyster reefs because of their large population, according to a Mississippi Department of Marine Resources document prepared by the Mississippi Oyster Stewardship Team. Oyster drill lay their eggs in creamy yellow casings and attach them to any hard surface, including live oyster shells. Once the eggs hatch or the casings have dried out, the casings turn purple. The egg casings can each contain up to 900 embryos.

The adult sea snail is a gastropod; the shell is spiral shaped, similar to a whelk, and has a maximum length of three and one-half inches. The shell has gray to tan spiral lines mottled with dark brown, grayish or orange marks; the inside aperture is orange, according to a Texas A&M University at Galveston Webpage.

Oyster drill are so named because of their mechanism of feeding: they use a tongue-like muscle, called a radula, to rasp away like a saw at the shells of bivalves such as oysters and mussels, drilling a small pinhole through which to feed on the soft tissue underneath.

### **The land is not without its own mysteries**

I admit to a frisson of fear sometimes when I’m taking photos, especially during a BioBlitz when I’m keen to notice everything and anything that might be a unique species.

Last fall, during a pollinator BioBlitz, I came across two weird looking objects sticking out of the bare ground with nothing surrounding them. I was walking a barren track between a plowed field and the top bank of a resaca. I stared at the mystifying masses, but any recollection of an image memory was absent. The six-inch stubby fixtures were like alien matter, poking up from who knows where, or little clubs that had been stuck in the soil, for whatever reason.

They were a bit creepy because they were such an unknown, so I was wary and kept my distance; I certainly wasn’t going to touch them in case they were some sort of farmer-rigged security system. In the end, I took a couple of photos, then backed away.

Later, viewing the photographs on the big monitor, I plugged them into iNaturalist, which offered no clues with identification, so I forgot about them.

This year, during the City Nature Challenge, along that same field path, the woody clubs were still there, or so I thought, weird as that seemed, standing like chess pieces out of sync. This time, iNaturalist identified one as a **termite inkcap**, Genus ***Podaxis***, which gave me a starting point for later research.



After the spring bioblitz ended, my curiosity piqued. I walked the dusty path to see if I could find the odd-looking things and I found about a half dozen or so in various stages of growth and decomposition. They were each identified as ***Podaxis pistillaris***, **desert shaggy mane**. The earlier one identified only by genus had apparently not completed maturity.

*Podaxis pistillaris* is a desert fungus. It grows alone or scattered in arid, desert settings, including wasteland, and fields. It is usually found during the fall through spring and is more common in the deserts of the southwest and California.

Desert shaggy mane (*Podaxis pistillaris*)

When young, the growth is oval and becomes more or less cylindrical with a rounded apex; it is described as being shaggy to scaly, composed of gill-like plates that are white initially but turn into dark brown or nearly black powder. It does not have a distinctive odor. When it begins deteriorating, the outer scales become discolored and seem to slide off the stalk and sink to the ground, leaving only a rusty-looking spike, like an overcooked, desiccated corn dog.



Deteriorating desert shaggy mane

Interestingly, in Australia, desert shaggy mane was used by many desert tribes to darken the white hair in old men's whiskers and for body painting. Another *Podaxis* species in Australia, *Podaxis beringamensis*, was found on termite mounds. Hence the initial identification on iNat, perhaps.

Desert shaggy mane is related to the fungus, puffballs, and like many puffballs, the species was used to dye textiles to give them a tan or reddish hue; the process requires an alkaline base which was solved back in the day by using urine. A more modern substitute is ammonia.

A number of websites were helpful in gathering this information, including Wikipedia, mushroomexpert.com, out-grow.com, birdandhike.com, arizonanensis.org, mykoweb.com, kcet.org, projectnoah.org and ultimate-mushroom.com.