

AQUATIC ANECDOTES

Number 1

Taking the Plunge

I find the most intriguing animals to often be the most overlooked. It is usually the ones caked in mud, on a barren cliff face, or 15 ft up in a tree that have the most interesting ecologies and traits. I have found if you search in a beautiful field, you may only find mice and bees but when looking in a bog or swamp, the diversity of bizarre plants and animals is astonishing. And so, each year, I have found myself in increasingly weird situations looking for increasingly bizarre animals. Last weekend, in a freezing cold, alligator filled, black-water creek, was no exception.

I had been to this spot before. A small, unassuming southern Alabama creek, only a few alligators wide, with water the color of sweet tea. When I was there a few months prior the water was as dark as coffee, but a recent drought settled the water, increasing clarity, and creating a nice golden-brown color. With winter rapidly approaching, the water was already numbing. The remains of trees, that the creek had claimed, were littered everywhere. And the constant awareness for alligators was scathing. But I was there for a reason. And so there I stood, on the edge of a cold, muddy creek, while my toes slowly went numb.



Figure 1: An unassuming southern Alabama creek.

I was hoping to see a turtle from the comfort of the bank but had no such luck. If I wanted to see it, I would have to take the plunge. I knew the water was cold and I was expecting it to be unclear so I wasn't planning on swimming. But as I stood over the flowing waters, curiosity consumed me. I grabbed my snorkel, stripped down to my briefs and jumped in.

Immediately, everything went dark. My skin went numb, and my instincts were screaming at me to get out. But as I drifted there, my eyes slowly adjusted to a marvelous world. Minnows were busy like ants, rock bass glared at me disapprovingly, and the skeletons of trees revealed themselves to be the skyscrapers of a bustling city. I swam around a bit, acting as a tourist, but I was itching to see what other curiosities the creek held. I swam over to a deep hole and dove under. Immediately, the branches and twigs began clawing into my back; I knew if I took the wrong turn, they would hug me in their grasps forever. I positioned myself under a large log, about 8ft underwater, and ceased all movement. I have found that if you do not act as a threat, animals become curious and will approach you. As I laid there, jammed under a bloated tree in cold dark water, thoughts of alligators trampled around in my mind. They are common in this creek, but I took comfort in the cold water knowing they were likely tucked away in the creekbank. I repeated these dives several times. Fish would cautiously approach me then dart away if I made the slightest movement. I felt at peace in this alien world. I was just an observer to these organisms battling their way through life. I swam down to the bottom, crawling my way through branches, and positioned myself under a large root ball. I looked to my right - a large bass was checking me out; I looked to my left - the iconic dome of a large turtle. I recognized it immediately: broad shoulders, fat head, and blue face paint - this was an Escambia map turtle (*Graptemys ernsti*). Nearly the size of a basketball, this turtle is as impressive as it is beautiful. We stared at each other: me with amazement, the turtle with bewilderment. It was a moment of peace, tranquility, and curiosity. I laid silently until my blood boiled with carbon dioxide; I needed to breathe.



Figure 2. A look upwards through sweet tea water



Figure 3. An adult female Escambia map turtle.

The swift waters repositioned me before I could dive again. When I swam back down, I was in a new place. I peered under a log, to see how I could wedge myself within, when I saw another face staring back at me. A smaller turtle, about the size of a grapefruit, with a small head, and stunning shell pattern. I knew immediately that this was another Escambia map turtle.



Figure 4. An adult male Escambia map turtle.

These turtles have an astonishing adaptation. If you held the male and female in your hands, you would think they were different species. Although they are both full grown, the female is nearly 5x the size of the male. Additionally, the female has a massive, wide head while the males head is narrow and pointy. This is called "sexual-dimorphism" in which the two sexes have different physical characteristics. This is common in most species - for example, in humans, men generally have broad shoulders and women generally have broad hips - but these turtles take it to a whole new level. It is thought that competition drove this evolution. The female is large so she can lay many eggs, but the male remains small because his only evolutionary purpose is to deliver sperm. The female has a very large, wide head used for crushing freshwater mussels while the males narrow head is specialized for eating insects. These turtles have evolved to have totally different diets as to not compete for food. This allows more turtles to occupy a smaller area - a concept that absolutely fascinates me. I once asked my biology professor why these turtles evolved like this and he responded, "I think the better question is why didn't more species evolve

like this?”. It seems crazy at first but when looking at it logically, each sex is perfectly adapted to live within its niche without competing with the opposite sex. So why haven’t more species evolved like this? My theory is that, within species that form groups, dietary divergence is unlikely as the group would likely stick together while feeding.

I ran back to my car, grabbed my camera, and spent the next 30 minutes photographing them. The thoughts of cold water and alligators never crossed my mind again. Taking the plunge can be difficult, but sometimes not taking a risk can be the riskiest decision of all



Figure 5. Adult female (left) compared to adult male Escambia map turtle.