

A Voice From the Past

It was early morning when I stepped outside to greet the desert morning, listening for bird calls, watching for javelina and deer down in the bed of Cibolo Creek forty feet below me. The rains, as erratic and as minimal as ever had restored some moisture to the creek and this made me smile but it was another sound that delighted my ears and my memory....a sound I had not heard for almost two years. It sounded like the echoes of a rivet gun, starting and stopping. It came from the rocks that line the Cibolo on its western side. Others have described the sound as the unremitting call of a sheep with serious allergies. I recognized the sound as the call of a male canyon tree frog (*Hyla arenicolor*) making its presence known along Cibolo Creek.

I quickly donned a pair of hiking boots and headed down to creek level, continuously listening for the frog. It called intermittently and then gave up as I closed in on his location. I stopped and listened for maybe 3 minutes before he called again and then I saw him through my binoculars (yes, I do still use them). He was a dark grey that matched the limestone he was sitting on. Scattered along his back were blotches that were a darker grey. I stood still and just watched as his chin extended outwards and then his call came. The chin hides his vocal sacs which are used to increase the resonance of his call. I have to admit, for such a small frog (1.5 to 2.5 inches total length from head to vent) he has a very loud call!

I first encountered the canyon tree frog decades earlier under the guidance of one of my favorite professors, Dr. Jim Scudday. He did not call the frog by its scientific name but rather by a common name: Mr Orange Pants. I asked him about the name and he held one in his hand, showing me the blotched dorsal part of the frog and then turning him over to reveal a creamy ventral side except for the bright yellowish-orange on the underside of the frog's thighs. Yes, I understood the common name. Scudday assured me that I would have to know the scientific name on a test so I learned that, too, *Hyla* (from the Latin word for tree), *arenicolor* (from the Latin name describing the color of sand). It is not a particularly accurate name as this tree frog does not dwell in trees (for the most part), preferring rocks in canyons where water is merely a leap away.

What was unusual about this particular frog was that it was singing in October. They usually call in spring and early summer, after good rains. Okay, this guy at least waited for the good rains of last week when we received 1.5 inches of rain in 48 hours. It is the males that call and they all seem to make only two sounds with the echoing rivet gun being the most common. This is the sound that he uses to attract the females, with whom he will mate. The female is attracted to the sound and when she comes within range he will grab her and squeeze out eggs, which he then fertilizes as they drop into the water.

The eggs (which vary in number from one to over 200) may take up to 10 weeks to mature, depending on water and air temperature. During this time they are completely on their own and are considered treats for many, many organisms, from birds to hellgrammites. The individual egg has very little chance of surviving. It has been estimated that if two hundred eggs are laid, an average of two will survive to hatch.

Upon metamorphosing into an actual frog (from the larval tadpole stage), the frog crawls out of the water and spends most its time on nearby rocks, occasionally diving into the water if threatened (although usually they will wedge their way into crevices too narrow to be pried from). An adult frog in the water can exchange oxygen through its skin, allowing it to remain submerged for very long periods. On land they breathe like most terrestrial vertebrates, with their lungs.

These frogs are well designed for the cliffs like the one I was watching cling to. The finger tips are disc-shaped and have numerous divisions which spread apart as the frog lands on vertical rock and then close up, creating a suction that holds the frog in position. In addition they have extra cartilage between their toes allowing them to hold firmly on the rock.

After about ten minutes I tired of watching my frog and approached it slowly, getting to within two feet before it dipped into a crevice in the limestone. I think I got so close because it trusted its camouflage coloration and hoped I did not see him, but I did. I waited for maybe ten minutes before he finally thought the coast was clear. Although I looked at him closely, I did not try to touch him in any way. I merely studied him at close distance. I was looking for any sign of a fungal infection. Although the life cycle of a frog is fraught with dangerous predators, it is a fungus (Chytridiomycosis) that is destroying the frog population (all frogs) worldwide. This fungus is easily spread from humans (whom it does not harm) to frogs, all kinds of frogs. It is estimated that already one third of the worldwide frog population is extinct. Although canyon tree frogs used to be common along the Cibolo, their disappearance seemed to be directly related to the severe cold of February in 2011.

That brings me to the second sound made by the canyon tree frog as well as all other male frogs and toads worldwide. That sound is a tiny squeak which tells everyone to "let go". I did not have to listen for that sound. I walked away, hoping my canyon tree frog would live a productive life along Cibolo Creek.

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