



Cue the Chorus

It's a bird, it's a bug, no it's a treefrog – a southern or northern gray, to be exact – and its call enriches nature's springtime symphony in southern New Jersey.

By J. Morton Galetto, CU Maurice River

One of my friends lives adjacent to the Manumuskin Creek in Cumberland County, NJ not far from Peaslee Wildlife Management area. He described hearing a bird or insect-like call, “sort of a high-pitched fluty trill sound, a rolling call, a warbling musical chirp. But I don't think it is a bird or an insect.”

"I know just what it is," I said. "And you are likely to hear it pick up the pace around dusk and into the evening as the days get warmer."

"Yes, I've noticed that."

"It's a gray treefrog, either the Southern or Northern Gray," I told him.

As spring warms up, treefrogs will increase their courtship calls from May through June. At around 62° Fahrenheit the males will really get tuned up. There are two species of gray treefrog: the northern and southern gray. They are indistinguishable from one another in appearance. Their calls are different but even experts aren't always comfortable making the identification by call alone.

State biologist David Golden, Director of NJ Fish and Wildlife, described the difference to me as such: the Northern Gray Treefrog has a slow trill, while the Southern Gray (also called Cope's) is quicker, shorter, and higher pitched. However, temperature complicates identification. Cooler weather tends to slow down their rhythm. Experts use a combination of tape recordings and recorded temperatures and humidity to decide which species they are hearing.



Air is expelled from the lungs through the larynx and into the vocal sac. The vibration of the larynx produces the sound which resonates on the elastic membrane of the vocal sac. As the frog sings it trembles so much that it's difficult to get a clear photo as the vocal sac expands.

Photo by Author.

The Southern Gray is listed as endangered. In New Jersey, habitat is the most limiting factor since they require vernal pools and wooded areas.

Vernal pools are not plentiful and in dry years they can be fewer in number or non-existent.

I went on to explain to my friend that the gray has a bumpy or warty appearance similar to a Fowler's toad, however there are noticeable enlarged pads on the end of each digit on their four fingers and five toes that are absent in a toad. Treefrogs look shinier and moister, where conversely Fowler's toads have a more matte, dry appearance. Furthermore Fowler's toad generally has a light color stripe the length of its back not present in grays.

The pads are actually suction cups that allow it to cling to many surfaces.

Gray treefrogs' (Northern: *Hyla versicolor*, Southern: *Hyla chrysoscelis*) color changes depend on their surroundings, and vary from green to gray or brown. They normally look greenish-gray to me and blend in well with lichen, advantageous camouflage on the trees they cling to. Their backs have variable black patches. Sometimes these connect and have some symmetry and other times they seem random, or don't seem apparent at all.



This gray treefrog resembles the lichen pattern of the trees it perches upon.

Photo by Author

If you have one in hand you can see that the inner surface of their hind legs has a yellow/orange line. This is not usually visible when they are perched because it is hidden by their bent legs as they assume a sitting position.



Naturalist Fred Akers holds a gray treefrog so its yellow inner thigh can be seen. These frog can regenerate a lost limb or even an injured eye. Scientists have studied this miraculous regeneration of limbs in hopes of someday helping humans who have lost limbs. Photo by Author

Beneath their eyes they have a light-colored patch, sort of like the tear drawn on a circus clown's cheek.

As adults treefrogs are arboreal but they need water to lay their eggs. While off-season these frogs rest high in trees, during mating season they are normally not far from a vernal pool or some other source of water. They stay perched on shrubs around ponds or sometimes pondside, laying their eggs in these seasonal pools. The eggs hatch in about four days and they remain as tadpoles for about two months.

The tadpoles are easily identified. Although the body coloring is inconsistent like the adults, with varying shades of brown to olive green, they have scarlet tails.



Northern Gray treefrog (hyla versicolor) eggs hatch in about four days, and the adult frog-to-be remain as tadpoles for up to two months. During this time it grows first the back legs, then the front legs, then slowly absorbs the tail until resembling a tiny adult frog. The tadpole shown here has emerging back legs.

Photo by GARY MESZAROS/SCIENCE PHOTO LIBRARY

The back legs grow first, then the front legs, the tail becomes smaller as it is absorbed by the body growth, until finally they look like small counterparts of the adult. When fully grown they range in size from 1.25" to 2.5".

Adults feed on insects and spiders in shrubs, trees, plants, and on the ground.

Annually CU Maurice River holds a "Frog Slog," during which children and adults search for frogs and identify the species. Each year I venture off to follow the call of a love-sick gray treefrog. I do my best to sneak around,

knowing their eyesight and hearing are superior. The children run about laughing and giggling as I quietly stalk my prey away from their ruckus. After what seems like an eternity I locate one, capture it, and bring it back for the children to see, only to find that they have collectively amassed a number of different species in my absence, having used techniques as unorthodox as literally diving into the shallows, and are examining them intently with a guest lecturer.

Then I doubt my sanity for having bothered to pursue my quarry stealthily and independently. Their young eyes and enthusiasm seem to outmatch mine each year. I sense the irony of my situation and find it a source of amusement.

Years ago we created a pond in our backyard. This actually does have a "build it and they will come" outcome, so now we have a pretty good mix of frog species near our house. On one particular night, when we were entertaining guests outside, a gray started calling and I went in search of him. Much to my amazement I found him in short course and I began to film him calling. Then, I have no idea what possessed him to do so, but he jumped onto my shoulder where I could no longer see him. At that point I

proclaimed myself to be a frog whisperer, feeling compensated for all the times the children had made my frog discovery abilities pale in comparison to their newbie talents.

I want to share one final observation, one that you may not believe to be true, but I assure you that, beyond a question of a doubt, it's accurate. Frogs bring out the child in all of us. I have no idea why, but on a frog slog the giggling that challenges the night's calm comes from all ages and shows that each of us still has a child hidden within. And it strikes me as fitting that something as seemingly as unlikely as a frog unleashes that universal truth.



Sources:

*Field Guide to Reptiles and Amphibians
of New Jersey*, by Vicki Schwartz and

David M. Golden

Conservation Summit Jackson Hole

Wildlife Film Festival, *Frogs' Eyes*

Wisconsin Department of Natural

Resources