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Texas Field Notes



Spotted Chorus Frog

Pseudacris clarkii

Texas winters can be cold, with biting winds and the occasional ice storm. But Texas winters are often like the tiny north Texas towns of Santo or Venus – you see them coming down the road, but if you blink twice you’ve missed them. And so, by February we often have sunny days where a naturalist’s thoughts turn to springtime. Those earliest sunny days remind us that life and color will return to the fields and woods.

In late February or early March, spring rains begin, and water collects in low places. As the days get a little longer and the land gets wetter, the

prairie night gets a new voice. Where there are a few inches of collected water, spotted chorus frogs gather in the darkness and call with a sound like running your thumb over the teeth of a comb. The sound is quite loud for a frog of such small size. As the frogs brace against prairie grasses in the shallow water, the throats of the males expand into an air-filled sac and call “wrret...wrret...wrret” to nearby females.

Spotted chorus frogs are among the small and easily overlooked herps of our area, but they are beautiful animals with interesting lifestyles.

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michael@texasherp.org • <http://texasherp.org>

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Spotted Chorus Frog (continued)

Classification

This is one of a number of chorus frogs in the genus *Pseudacris*, including Strecker's chorus frog and the upland chorus frog (both species are found in our area along with the spotted chorus frog). All are small frogs in the family Hylidae that includes treefrogs, cricket frogs, and others. "*Pseudacris*" comes from Greek words for "false" and "locust" and it refers to the fact that that these frogs have some resemblance to, but are different from, frogs of the genus *Acris*. The species *P. clarkii* is named in honor of Lt. John Henry Clark, a zoologist who worked on the U.S./Mexican boundary survey in the mid-1800s.

Description

The spotted chorus frog is a slender little amphibian about an inch long. Green spots are scattered in an irregular pattern along the back and head, and the green is edged in black. A green spot occurs on the top of the head between the eyes, generally in the shape of a triangle. The back legs are long, for quick jumps. The skin generally appears smooth but when seen very close up, the surface of the skin has a warty texture.

Habitat

The Amphibian Research and Monitoring Initiative (ARMI) National Atlas for Amphibian Distributions (ARMI Atlas) shows this frog occurring in a broad band from southern Kansas southward to the southern tip of Texas. In our state, its distribution becomes spottier westward into the hill country and the panhandle. Except for records from Red River and Morris counties, the ARMI Atlas did not show this frog occurring east of a line from Fannin county south through Anderson county to Harris county on the Texas coast.

This frog's typical habitat is grasslands and prairies.

One breeding site, where both spotted and Strecker's chorus frogs were heard breeding, was along a Parker County roadside where rainwater had collected in a depression to a depth of about 8 inches. The surrounding area is rolling prairie crossed with small streams. A better description might be that it is an area of shrinking prairie



Breeding site in Parker County

and expanding residential development, as the remnant prairie west of Fort Worth continues to disappear under the bulldozer.

When you think about it, it's amazing to find animals whose lives are so dependent on water living successfully in places that get so dry during part of the year. The north Texas prairies get winter and spring rains but tend to go through a drought in late summer. Streams and ponds dry up, and the ground becomes dry and surface vegetation dies back. At those times, the frogs and toads must hide in deep, protected spaces. Fortunately, the winter and spring rains bring the frogs back to the prairie each year, and the nights sing once again with the calls of these little amphibians.

Prey

As an adult, the spotted chorus frog eats insects and other small invertebrates. Some references to other *Pseudacris* species mention them eating invertebrates that live both in and out of the water.

Behavior

As spring advances and temperatures rise, the breeding period ends for chorus frogs. They move about and feed at night, but the breeding calls of these frogs are less frequently heard. We don't know a great deal about their life histories during the warm, dry months. What is clear is that chorus frogs are able to burrow down into crevices in limestone outcrops and spaces in the prairie soil to escape the heat and drought of summer.

Most frogs have moist skin and can lose water through evaporation rather quickly. Unlike the scaly protective skin of reptiles, liquids can pass fairly easily through frog skin. When their surroundings are dry, frogs can try to limit how much water they lose by crouching and minimizing how much skin is exposed to the air. If they cannot protect themselves from dehydration, the frogs die. Burrowing is a great way to protect from drying out, because it limits contact with dry air and by digging deep enough the frog may reach damp soil.

When the rains come, do the frogs drink? Oddly enough, frogs and toads get most of their water by directly absorbing it through the skin. A frog sitting in water may be replenishing its water supply.

Reproduction

As noted earlier, the breeding call of male spotted chorus frogs sounds like quickly running your thumb over the teeth of a comb. Depending on temperature, it may be a series of quick "wrret-wrret-wrret" sounds (when it is warmer) or it may be somewhat slower (when it is colder). An example of the call can be found at the Texas Parks & Wildlife Dept. website (see references) or on their audio CD-ROM for the North Central Texas Amphibian Watch.

The purpose of the call is to advertise the male's availability to nearby females and to establish territory during breeding. As with other frogs that use temporary pools for breeding, the spotted chorus frog would be considered an "explosive breeder," meaning that when conditions are suitable, a great deal of breeding behavior begins abruptly. A male begins calling at night, and this triggers other nearby males to begin calling. Females are then attracted to suitable males.

When females find calling males, the male gets onto the female's back and hooks his front legs under her to hold on. This behavior, called *amplexus*, allows him to fertilize the female's eggs as they are laid in the water. Small egg masses are attached to grass stems or other objects at or below the surface of the water. The eggs are clear with a small dark center in each one. Once eggs are laid, a race begins between the development of eggs and tadpoles and the evaporation of the pool. The eggs



must grow for a while and produce tadpoles, while sunny or windy days speed the evaporation of the water. Tadpoles appear and begin to eat the algae and other plant matter in the shrinking puddles, and if they don't metamorphose into froglets soon enough, they die on the drying mud of what was the breeding pool.

(continued)

Bullsnake (continued)

Abundance

The Global Amphibian Assessment website notes this frog's Red List status (per the International Union for Conservation of Nature, or IUCN) as follows:

"Listed as Least Concern in view of its wide distribution, tolerance of a degree of habitat modification, presumed large population, and because it is unlikely to be declining fast enough to qualify for listing in a more threatened category."

Threats listed for this species were habitat loss and human settlement.

References & Further Reading

ARMI Atlas. Online: www.pwrc.usgs.gov/armiatlas/species.cfm?recordID=173529

Beltz, Ellin. Names of the Reptiles & Amphibians of North America. Online: <http://ebeltz.net/herps/>

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Texas Parks & Wildlife Dept. Frogs & Toads Found in Texas. Online: <http://www.tpwd.state.tx.us/nature/education/tracker/amphibians/species/>



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