

Diggin' in the Dirt: What Happened to the Tree Frogs?

By Chip Bubl
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The OSU Extension Office is fully re-opened. Masks still required inside. The best way to reach me directly is with the email below.

Will there be an OSU Master Gardener class next spring?

We are actively planning for an in-person OSU Master Gardener class starting next February. The class would most likely be held on Monday, during the day, in St. Helens for about 10 weeks. If you think you might be interested, let us know. Call Sonia Reagan or myself (Chip Bubl) at (503) 397-3462. Your statement of interest doesn't commit you to anything but will give us some idea if people are ready to return to in-person classes. If COVID mutates again, it might have to be a digital-only class.

What happened to the Pacific tree frogs last summer?

This question was raised by a reader who was quite bothered by the short cycle of tree frog croaking and thought it needed looking into. I am not an amphibian expert but it is a question worth pursuing. Changes in natural patterns can open our eyes to larger factors in play.

To understand what might have happened, it is important to know something about our Northern Pacific tree frog (*Pseudacris regilla*). Our frog is a sub-species of a larger population that extends from British Columbia to southern California. It is the most common frog species in our region and one most of us have seen often. It is small, from 3/4 of an inch to 2 inches in length. The females are larger than the males. Their overall color can be bright green to a more subtle brown. But here's the trick. They can change color and/or hue intensity to assist their insect hunting or to escape predation. There are rare cream-colored variants. All Pacific tree frogs have a dark brown line that extends from their snout backwards on both sides of their head to where their forelegs start. This is easy to see on green frogs, more obscure on brown ones.

Our tree frogs have little webbing in their feet but extraordinarily large round toe pads that act like suction cups and allow them to climb almost anything. At our home, they often climb

into hanging fuchsia baskets near an evening light source that attracts night flying insects, their favorite food. Some nights they are quite talkative, others, not so much. Other food includes ants, beetles, mites, small snails, and other more land active creatures.

They need water to breed. That water can be as small as vernal pools (very common in some basalt areas in St. Helens), marshy pastures, edges of ponds, and the like. Mating is generally the only time they take to water. The rest of the year they are on land in a variety of habitats. It is thought that their ability to live mainly out of water makes them less vulnerable to fish or other amphibians that might fancy them. Their major predators are garter snakes (I have seen the snakes swimming in vernal pools eating tadpoles), raccoons, skunks, and herons. Rough-skinned newts eat their eggs as do other amphibians.

Tree frogs mate from late February through June. It is somewhat weather dependent as they need water and a bit of warmth to get active. There are sometimes deafening male choruses which often start after a rain. These are "advertisement calls" to females and probably other males. One year, a person in Warren called me, asking what she could do about the "irritating" calls of the frogs. She didn't think it was funny when I said, "love them". I did wonder why she moved into a rural area. "krr-r-r-ek!"

There are good descriptions of male tree frogs head butting or wrestling other males to control their territory, temporary as that territory may be. When mating, the male climbs on the back of the female. She releases her eggs into the water and the male follows by releasing his sperm on top of the now floating eggs. Tadpoles follow. The tadpoles mainly consume algae and other pond micro-plants.

During dry periods, tree frogs are mainly nocturnal. They avoid predation by blending in and staying still so as not to draw unwanted attention. That said, I have seen great blue herons spearing them in pastures, so they do face challenges.

Back to the first question, why was their croaking subdued if not com-



Pacific tree frog (*Pseudacris regilla*)
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pletely silenced for a time this year? My best bet was that they were late getting ready to mate and then everything dried up fast. They need ponds nearby to lay their eggs in, and therefore will stop calling if those ponds start to dry up. Also, if it gets really dry, the males will retreat back to their hibernacula. They are amphibians, which means they need to stay cool and moist. So if it's too dry, it will be hard to find them outside of a cool, wet location. While there are relatives that survive in the intense heat of the San Joaquin Valley, I don't think our Vernonia green friends were physiologically prepared for it. Schedules were scrambled. Timing was off and then it was 116°F. It stopped mosquitoes dead in their tracks. Probably other insects as well. Our chorus tree frogs certainly haven't experienced those conditions much in their evolution here. I couldn't find any information about diseases affecting this population in this area al-

though there is one that is a problem further south in their range. Heat could create more disease pressure. Their response to last summer is yet to be determined. I believe these great little frogs are survivors and will be back strong. And that is where I have to leave the question, for now.

Free newsletter (what a deal!)

The Oregon State University Extension office in Columbia County publishes a monthly newsletter on gardening and farming topics (called *Country Living*) written/edited by yours truly. All you need to do is ask for it and it will be mailed or emailed to you. Call (503) 397-3462 to be put on the list. Alternatively, you can find it on the web at <http://extension.oregonstate.edu/columbia/> and click on newsletters.

Take excess produce to the food bank, senior centers, or community meals programs. Cash donations to buy food are also greatly appreciated.

The Extension Service offers its programs and materials equally to all people.

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