



Foothill Yellow-Legged Frog

Rana boylei

April 2018

Field Notes



Foothill yellow-legged frog (*Rana boylei*).

General Description

It's springtime in the streams and rivers of the Pacific Northwest, and love is in the air. Well, actually, love is underwater for the foothill yellow-legged frog, where males typically broadcast their mating calls.

Foothill yellow-legged frogs are amphibians in the family, Ranidae, whose global presence gives it the widest distribution of any frog family.

A small frog, it measures 3.7 to 8.2 cm (1.5 to 3 in) from snout to vent, and females are typically larger than males (up to 1.5 cm longer). It has grainy, mottled skin that can vary from gray, to brown, to olive, or even red on its back. Except for some dark mottling on its throat and chest, its abdomen is white, with shades of yellow toward the rear and on the underside of the back legs. In northern California, its rough skin, fully webbed hind feet, lack of a black eye mask, and horizontal pupils distinguish it from other local frogs.

Habitat and Distribution

Once found from Oregon south into Baja, Mexico, its range has been contracting. It currently occupies low to moderate elevation drainages (<2000 m) in the coast ranges and Sierra Nevada foothills, from SW Oregon down to central California.

Unlike many pond or reservoir-dwelling frogs, it lives in streams. It prefers small, partially shaded, perennial streams with riffles and cobbled bottoms, but also occurs in open stretches of streams and rivers.

Behavior and Feeding

Foothill yellow-legged frogs are diurnal—primarily active during the day. They spend most of their time in and around water, diving in to escape threats.

Tadpoles scrape algae and diatoms from rocks in the stream with 12–13 parallel labial tooth rows, which are actually keratinized ridges, not true teeth. Adults eat a variety of invertebrates snatched up by their sticky tongues, including snails, moths, flies, grasshoppers, hornets, and ants.

Like all amphibians, foothill yellow-legged frogs are ectothermic, or cold-blooded. They move to warm or cool spots and adjust their behavior to maintain an optimal body temperature.

Reproduction and Life History

Also true to their amphibian nature, these frogs undergo a metamorphosis from an aquatic larva to a terrestrial adult.

In the spring, when streamflows have tapered to a level that won't scour away eggs, males gather near gravel bars to attract females with their advertisement calls. One explanation for why this species often calls underwater is that stream environments are noisier than stillwater ponds, where an above water call could carry further. The male clamps onto the back of the female (amplexus) and fertilizes the eggs as she releases them in the water. The resulting mass of 900 or so grape-like eggs is attached to cobble or vegetation near the stream bottom. Depending on stream temperature, the eggs hatch in 5 to 30 days. Tadpoles emerge legless, with

external gills and a tail. All that changes in 3 to 4 months with metamorphosis into a 4-legged, tailless creature with lungs.

Predators and Diseases

Foothill yellow-legged frogs fall prey to garter snakes; bullfrogs; birds, like the American dipper; nonnative fishes, and raccoons. Tadpoles are snapped up by aquatic insects, like dragonfly larvae and predacious diving beetles. Eggs may be eaten by leeches, caddisfly larvae, and crayfish. Parasites, like the copepod, *Lernaea cyprinacea*, cause potentially fatal malformations in tadpoles and young frogs.

Fun Facts

A group of frogs is called an army.

Conservation

Though locally abundant, as in the streams of Whiskeytown NRA in northern California, foothill yellow-legged frogs are declining. They are a Sensitive Species in California and Oregon. Dams that produce unnaturally high or low flows during the breeding season can wash away eggs or leave eggs high and dry. Nonnative predatory frogs and fish take a heavy toll. Air and water pollution from aerial drift of pesticides and mining or other toxic residues also threaten these frogs.

Where to See

Look for these frogs in Whiskeytown NRA and Redwood NSP.

More Information

Listen to their calls:

<http://www.californiaherps.com/frogs/pages/r.boylei.sounds.html>

<https://yubanet.com/california/california-protects-rare-foothill-yellow-legged-frog/>

<http://www.californiaherps.com/frogs/pages/r.boylei.html>