

OREGON SPOTTED FROG

RANA PRETIOSA (BAIRD AND GIRARD, 1853)

NATURAL HISTORY SUMMARY BY TORY RIVERA

Classification

Kingdom: Animalia

Phylum: Chordata

Class: Amphibia

Order: Anura

Family: Ranidae

Genus: *Rana*

Species: *R. pretiosa*

Description

At full adult size, the Oregon Spotted Frog (*Rana pretiosa*) females are approximately 75mm in length from snout to vent, while males are relatively smaller at about 57mm. They have short hind legs and eyes that are turned upward (McAllister et al. 1997). Younger Oregon Spotted Frogs are usually olive green to brown in color on their dorsal surfaces, while adults range from red, brick red, to brown (McAllister et al. 1997). The skin on the dorsal surface has tubercles and bumps spread along the back. Folds behind the eyes on the top of the head are colored tan or orange. On the ventral side and on the legs, the younger frogs are cream with reddish spots, and the adults have a deeper orange and reddish pigmentation (McAllister et al. 1997). Black spots with darker outlines and lighter reflections in the middle, are also present on the frog's dorsal surfaces at both the juvenile and adult stages (McAllister et al.,1997). Additionally, the older the frog becomes, the larger the spots will grow (McAllister et al. 1997).

Distribution

As of 2004, the Oregon Spotted Frog distribution was reported to include southwestern British Columbia, Canada, and south throughout the Washington Puget Sound, the Columbia River gorge, the bodies of water that lead into it, and the Cascades, at least to the Klamath Valley in Oregon. (Hammerson and Pearl 2004). This species was eradicated from western Washington and Oregon; however, it appears that some of the

population has been misidentified as the Northern Red-legged Frog-*Rana aurora* (Hammerson and Pearl 2004). *Rana pretiosa*'s [range map](#) is available at Hammerson and Pearl, 2004.

Diet

The tadpoles are grazers who use their small rows of teeth to scrape and eat algae, rotting plants, and rock debris (McAllister et al. 1997). Adult Oregon Spotted Frogs feed mostly on insects, including leaf beetles, ground beetles, spiders, rove beetles, long-legged flies, ants, and water striders which can be found near the shore (McAllister et al. 1997). They typically stay and wait for prey to come into close proximity. They then jump at the prey, throw out their sticky tongue, and quickly retract it to consume the food (McAllister et al. 1997).

Habitat and ecology

In general, Oregon Spotted Frogs are aquatic, and are not found in still water. During the spring, they reside mostly on the grassy edges of streams, lakes, ponds, springs, and marshes. During the summer, or dry season, they migrate to the more pool-like areas of the water (Watson et al. 2002). In the fall and winter, they return to the margins where they breed. In the cold weather, the frogs will hide at the base of the vegetation along the water, and even under the ice (Watson et al. 2002). In general, Oregon Spotted Frogs prefer a very wet environment, avoiding dry areas throughout their life.

Oregon Spotted Frogs have a few natural predators, including garter snakes (*Thamnophis* spp.) and Bullfrogs (*Rana catesbeiana*), as they have been found in the guts of these animals (McAllister et al., 2002). Other forest vertebrates like minks, raccoons, and coyotes might also be predators of these frogs (McAllister et al. 2002).

Reproduction and life cycle

Oregon Spotted Frogs reproduce using external fertilization and lecithotrophic methods. Breeding usually occurs twice a year, in the spring and fall, and will last for a couple of weeks while the females lay their eggs (Watson et al. 2002). In the spring, the males will gather together around the breeding site shores and use their mating calls to attract

the females (AmphibiaWeb 2000). The females will then deposit their eggs into shallow waters along the shore where there is vegetation, and where movement is minimal.

After a few weeks, the tadpoles will emerge from, but are still attached to, the eggs. After a few days, the tadpoles will detach from the eggs and feed on algae and other materials with their aforementioned rows of teeth (AmphibiaWeb 2000). They will then grow up to 90 mm and begin to metamorphose into their adult form. They become sexually mature after around two years and will begin their breeding process as adults (AmphibiaWeb 2000).

Conservation status

The Oregon Spotted Frog population is currently on a decreasing trend. In 2004, they were listed as a “Vulnerable” species in the International Union for Conservation of Nature Red List of Threatened Species (Hammerson and Pearl 2004). Regionally, they’ve been listed as an “Endangered” species in Washington (Hallock 2013) and in Canada (COSEWIC 2011). In Canada, it is considered the most endangered amphibian in the country (Wildlife Preservation Canada n.d.). Since 2014, at a United States federal level, they are considered a “threatened” species (U.S. Fish and Wildlife Service 2014). The main threats include human introduction of foreign species (e.g., the American Bullfrog *Lithobates catesbeianus*) (Pearl et al. 2003), and breeding habitat destruction including dam construction and habitat draining (Amphibiaweb 2000). Current efforts to protect this species include their protection at several national parks, in addition to raising captive larvae and reintroducing them into their natural habitat (Hammerson and Pearl 2004).

Cultural significance

The cultural significance of this species is not known however, many ecologists and biologists advocate for their preservation.

Specimen Specific Detail

The Oregon Spotted Frog (*R. pretiosa*) specimen from the [Burton Ostenson Museum of Natural History](#) at Pacific Lutheran University (PLU) was collected by PLU associate named Dillingham. It was collected in Yakima County, Washington, on highway 5,

between Soup Creek and Oak Creek on March 27, 1959. Environmental conditions at that time were quite different from those that we see today; there was much less development and deconstruction of forestry. To put it in a historical context, that same year, North Carolina became the first state requiring all children to receive the polio vaccine (Koon 2016).

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