

Rough-skinned Newt (*Taricha granulosa*)

Description

The scientific name for the Rough-skinned Newt is *Taricha granulosa*. *Taricha*, the genus, means *preserved mummy*, which refers to the newt's rough-skinned appearance. *Granulosa* is the species name and derives from two Latin words: *granulus* and *osus*. *Granulus* means small grain. *Osus* means full. Together, these words refer to the rough-looking glands that cover the newt's body.

The Rough-skinned Newt is an amphibian and a member of the salamander family. Amphibians are cold-blooded vertebrates, with an aquatic gill-breathing larval stage (Figure 2) typically followed by a terrestrial lung-breathing adult stage (Figure 1). Frogs, toads and other salamanders are the Rough-skinned Newt's closest relatives.

Adult Rough-skinned Newts range from about 5 to 8.5 inches long. Their rough, grainy skin is light brown or olive colored on their backs. Their undersides are orange or yellow. Their eyes are relatively small and do not extend beyond the edges of the head. The irises are yellow, and the lower eyelids are orange. Male and female adults look alike. Males are larger than females and have longer vents. The vent is the opening for the Rough-skinned Newt's urinary, digestive, and reproductive systems.

Rough-skinned Newts produce a powerful toxin, tetrodotoxin, from the glands that cover their bodies. The toxin can be fatal to animals and humans if ingested. When threatened, Rough-skinned Newts display the unken reflex (Figure 3), in which the head is bent back and the tail curls up to expose the animal's bright-colored belly as a warning to potential predators.

Figure 2. Rough-skinned Newt Larva ([CC Taricha granulosa](#) by henk.wallays@pandora.be)



Figure 1. Adult Rough-skinned Newt (R. K. Roberson)



Figure 3. Unken Reflex ([CC Taricha granulosa](#) by henk.wallays@pandora.be)



Diet and Feeding Behavior

Adult Rough-skinned Newts eat a wide range of soft-bodied, slow-moving prey. Some things they like to eat are crustaceans (such as fairy shrimp), insects, arachnids (such as spiders), small mollusks (such as snails), worms and leeches, freshwater sponges and other amphibians. They typically eat at night, but may feed anytime.

Adults typically approach their prey slowly and then quickly suck it into their mouths. For larger prey, they grasp it in their jaws, using their small teeth and tongue to hold onto it. Their teeth are arranged in a V-shaped (vomerine) pattern to grip onto food.

Rough-skinned Newt larvae initially feed on tiny, single-celled organisms called protozoans which they scrape off plants, rocks, and other objects in their habitat. They have also been found to eat small crustaceans and even smaller rough-skinned newt larvae!

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Reproduction

Rough-skinned Newts reach sexual maturity in 4 to 5 years. During mating season, males develop smooth, spongy skin that is lighter-colored than usual and their vents swell. The tail crests become more distinct, as do the pads on the tips of their toes. The appearance of females does not change significantly, though their vents become more cone-shaped.

Rough-skinned Newts migrate overland to still or slow-moving water. Mating takes place underwater. Males migrate individually and generally arrive at breeding sites about one month before females. Females often migrate in groups. At lower elevations, like the Tualatin River National Wildlife Refuge, mating usually occurs in the spring, from January to May. At higher elevations, most breeding occurs during late summer and early fall.

Females lay their eggs soon after mating. The females lay one egg at a time and attach the egg to plants or other debris in the water. The parents do not care for the eggs or larvae. The eggs hatch in 3 to 4 weeks and the Rough-skinned Newt larvae begin their journey to adulthood.

Distribution and Habitat

The Rough-skinned Newt is found along the Pacific coast of North America from southern California to southeastern Alaska. Within this range, it is found at elevations from sea-level to nearly 9,000 feet. It is also found on many islands off the coast, including Vancouver Island.

Rough-skinned Newts inhabit both land and water. Though they generally spend most of their time on land, they must return to the water to breed. In dry, hot summer months they may temporarily live in ponds, lakes, slow-moving streams or ditches. Adults have been discovered as deep as 40 feet underwater. On land, newts can often be found under pieces of rotting wood on forested hills or mountains. Less often, they can be found in open areas such as fields.

At Tualatin River National Wildlife Refuge, during mating season you can find Rough-skinned Newts in the slow-moving water in the riparian forest. The bridge crossing the creek to the wildlife viewing area is a good place to stop, focus your eyes into the water and, if you're patient, you may see a newt sliding leisurely along the bottom. When newts are not mating, they can be found just about anywhere in the riparian forest, including the walking trails at the refuge.

During cold winter months, Rough-skinned Newts living at higher elevations move to underground retreats to hibernate. At low elevations, with milder winters, adults curl up in groups of 12 or more in cavities under stumps, logs, or stones on very cold days. They emerge from their underground retreats on warm days to forage.

Conservation

As an insect eater, the Rough-skinned Newt helps control insect populations including nuisance insect species, such as mosquitoes. The Rough-skinned Newt is an important food source for common garter snakes, which are in turn eaten by other animals.

Rough-skinned Newts are not listed as threatened or endangered, but like many amphibian species, they may face such a designation if their habitat is extensively threatened by human development and pollution.

Fun Facts

- The only animal known to eat the Rough-skinned Newt is the common garter snake. There are many of these snakes at the refuge.
- The Rough-skinned Newt and garter snake are competing against each other in an *evolutionary arms race*, in which a predator species and a prey species co-evolve, each developing greater defenses against the other. In this case, as the newts evolve greater toxicity, garter snakes evolve greater resistance to the toxicity.
- A single Rough-skinned Newt is poisonous enough to kill an estimated 25,000 mice.
- If you touch a Rough-skinned Newt, avoid touching your face and wash your hands afterward.
- How do I tell a newt from other types of salamanders? Newts have dry, bumpy skin. Other salamanders have smooth, wet skin.
- In the wild, the Rough-skinned Newt can live up to 18 years.

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Resources

Amphibiaweb: *Taricha granulosa* at http://amphibiaweb.org/cgi/amphib_query?where-genus=Taricha&where-species=granulosa

Animal Diversity Web: *Taricha granulosa*, Rough-skinned Newt at http://animaldiversity.org/accounts/Taricha_granulosa/

Backyard Zoologist: Not Even on a Dare: The Rough-skinned Newt at <https://backyardzoologist.wordpress.com/2010/11/01/not-even-on-a-dare-the-rough-skinned-newt/>

CalPhotos: <http://calphotos.berkeley.edu/>

Caudata Culture (The Information Resource for Newt and Salamander Enthusiasts): http://www.caudata.org/cc/species/Taricha/T_granulosa.shtml

Oregon Coast Aquarium: About Rough-skinned Newt at <http://aquarium.org/animals/rough-skinned-newt/>

Wikipedia: Rough-skinned Newt at https://en.wikipedia.org/wiki/Rough-skinned_newt

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