



Red-spotted Newt

Notophthalmus viridescens viridescens

General characteristics. The red-spotted newt is actually the adult stage of an amphibian that progresses through three different stages of life: the aquatic larval stage, which immediately follows hatching from the egg; the terrestrial sub-adult stage known as the red eft; and finally, the mature adult, the aquatic red-spotted newt. Each stage has its own coloration and patterns and consumes somewhat different prey, although each retains the usual salamander preference for a carnivorous diet.

The adults remain moderately active all year long. Even during the winter months, red-spotted newts can be seen prowling the stream bottom even though ice may cover the surface.

The newts have a built-in protective device, effective in keeping predators at a distance. Even fish avoid the newt, which secretes a toxic substance from glands in its skin. This poisonous matter can at least irritate mucous membranes and is sufficient to discourage would-be predators from making a meal of the newt.

On the average, the red eft is slightly smaller than the newt. The red eft can be $1\frac{3}{8}$ inches to $3\frac{3}{8}$ inches long, compared to the adult newt's length of $2\frac{7}{8}$ up to four inches.

Identification. This amphibian is greenish yellow in its larval stage. It has two grayish lines, located just off center on either side of the back; the lines run the length of the body. At hatching, the larva has gills and just a hint of forelegs.

Two to three months into the larval stage, the forelegs and hindlegs have been developed, the gills are lost and the skin becomes granular and textured to the touch. At this point metamorphosis takes place, the land-dwelling red eft stage is entered and the body becomes a brilliant red to orange-red. A row of black-bordered, round red spots appears on either side of the back; the belly is yellow during this sub-adult stage. Not yet an adult but no longer a larva, the red eft remains terrestrial for one to three years before transforming to become a red-spotted newt.

At the end of the eft stage and within a week of entering the water to live out its life as an adult, the skin of the newly transformed red-spotted newt becomes smooth, and the tail fin develops, becoming compressed vertically to look rudder-like. Its color now is drab olive to yellowish brown or dark brown. The belly remains yellow and is sprinkled with numerous small black spots. A row of red spots, bordered with black, also covers the newt's





back on each side. In neither the eft nor newt stages are the costal grooves distinguishable.

Range. Its range extends from central Georgia and Alabama, northward to southern Canada, and as far west as the Great Lakes. Each one of the state's 67 counties probably has some population of red-spotted newts.

Habitat. Considering its broad distribution, the newt is able to select from a variety of water in or near which to make its home. It prefers water that is more or less still—ponds, shallow lakes, marshland and quiet stretches of streams. Clean water is required and if it is covered with a dense stand of submerged vegetation, that's a plus. The newt alternately can be seen scrambling among the stems of aquatic plants in search of food and crawling methodically across the bottom where sometimes it pauses to rest before swimming away to some other rendezvous.

The newt lives in water, but the land-based eft takes up residence in neighboring damp woods. Preferring forested areas, the red eft likes to avoid exposure to direct sunlight. Even so, it may casually, and with an almost fearless air, stroll across the open floor of its forest home, seemingly oblivious to anything else around it. The red eft is especially active on a rainy day.

Like the adult newt, the sub-adult terrestrial eft may remain mobile all year and only occasionally seek relief from the rigors of winter. When it does decide to hibernate, it does so underground where a more moderate and stable temperature is available.

Reproduction. The red-spotted newt is a spring breeder when the hind legs of the male become enlarged, and black, horny structures appear on the inner portion of the thighs and on the tips of the toes. At the right time, an elaborate courtship ritual ensues as the male seizes the female and both become involved in a frenzy of swimming, clasping and tail fanning. The female deposits from 200 to 400 eggs, which adhere individually to the stems of submerged plants. The eggs, spherical in shape, are brown and yellowish in color. The incubation period lasts for one to two months after which the three-eighths-inch larvae break free of their eggs to hide among the vegetation. The larval period lasts two to three months before the juvenile leaves the water to live in a nearby woods as the terrestrial eft. One to three years pass before the red eft migrates back to the water in which it was born, where as an adult red-spotted newt, the cycle begins again.

Food. The aquatic larva feeds on small invertebrates it is able to find among the stalks of underwater growth or along the streambed or bottom of the pond. Moving ashore as the terrestrial red eft, small insects and snails become its main prey as it searches among the leaves and earth beneath the tall trees. After returning to the water as the adult newt, foraging in the shallows produces numerous opportunities for a meal. It consumes worms, small crustaceans and mollusks, young amphibians and the eggs and larvae of amphibians. The newt is a voracious feeder and relishes fish eggs when it can find them.

