



## EASTERN NEWT (*NOTOPHTHALMUS VIRIDESCENS*) OBSERVATION GUIDES FOR HERPSCAPERS

by John Byrd

### INTRODUCTION:

At least one or more of the four subspecies of the Eastern Newt can be found in every southeastern state. This common salamander typically inhabits ponds, slow drying wetlands, and dawdling streams. There is often an interesting twist to the typical aquatic salamander life cycle (egg>aquatic larva> aquatic adult). Newts in many areas of the southeast undergo what is known as the red eft terrestrial stage (egg>aquatic larva>**red eft**>aquatic adult). Red efts spend several years on land before transforming to the adult form and returning to water to breed and live out their lives. Eastern Newts are still common, but like many amphibians, they suffer from deforestation and loss of aquatic habitats. Constructing a small backyard wetland (See the PARC habitat guide on constructing a wetland) is an excellent herpscaping conservation strategy. Backyard wetlands attract a diversity of amphibians and reptiles, but keep predatory fish out of the wetland for best results.

### IDENTIFICATION:

The small (1 to 3 inches) bright red-orange efts may be seen walking in open wooded areas, especially after rain events. The skin is rough and they resemble little “lizards,” but unlike lizards, they have no body scales or claws on their feet, and do not scamper away when approached. When efts return to water they undergo an amazing transformation. Their length increases up to five inches and their color goes from bright red-orange to varying shades of brown and olive green (above photo). From fall to summer the tail of breeding males becomes paddle shaped for efficient swimming and courtship. They also develop dark calluses on their hind legs. The high tail fin and calluses are not noticeable by late summer and males and females are difficult to distinguish. Both the efts and adults have red spots or broken lines bordered by black on the sides of the back.



The underside of a male showing a swollen vent and the black calluses on the back legs used to grasp the female during courtship



## BEHAVIOR:

Newt skin contains a neurotoxin which is nearly identical to the poison found in pufferfish. Bright warning colors, sometimes combined with an unusual display known as the “unken reflex” (see photo), inform predators of Newt toxicity – especially potent in the red eft stage. An unken reflex is distinguished by a U-shaped posture with the tail and chin lifted high into the air. This behavior may be triggered by tapping a Newt on the back. With a little patience, the underwater adult courtship can be observed. The dock of a recreational lake or pond is a good place to lie down and do some Newt watching. The male moves over the top of the female and uses his callused back legs to clasp her behind the head. Pairs can often be seen in shallow water with the female walking around while piggy-backing a courting male. You may also witness the male rubbing his chin along the side and top of the female’s head. During these chin-rubbing episodes pheromones (chemicals used by males to stimulate mating) are spread over the head of the female. It is perfectly okay to hold newts. The toxin does not harm skin, but avoid touching your eyes or mouth before washing your hands.



A red eft displaying the unken reflex. The efts are about 10 times more toxic than the adults.

## LEARNING MORE:

The books and websites listed below will help answer many of your questions, but hopefully not all of them.

### Books:

- 1) Stokes Nature Guides – A guide To Amphibians and Reptiles, (1990) by Thomas F. Tynning. All the Stokes Nature Guides are excellent resource books and I encourage you to add them to your natural history library.
- 2) A Natural History of Amphibians, (1995) by Robert C. Stebbins and Nathan W. Cohen. For those that desire a detailed understanding of how amphibians interact with the living and nonliving elements in their world.
- 3) Salamanders of the Southeast, (2009) by Joe Mitchell and Whit Gibbons. These two extraordinary researchers and educators provide interesting and quality information for all ages. The reader will be rewarded with a deep appreciation for salamander diversity in the Southeast.

### Websites:

- 1) [www.mlbs.virginia.edu/organism/notophthalmusviridescens](http://www.mlbs.virginia.edu/organism/notophthalmusviridescens) - This site provides an informative overview article on the Eastern Newt written by Hazel Galloway.
- 2) The New York State Parks has a nice YouTube video on Newts and there are numerous other articles and videos on Eastern Newts – just type in Eastern Newts and start exploring.

