



## Flat-Spired Three-Toothed Land Snail (*Triodopsis platysayoides*)

### Common Name

Flat-Spired Three-Toothed Land Snail

### Scientific Name

*Triodopsis platysayoides*

### Status

The U.S. Fish and Wildlife Service list this species as **Threatened**.

### West Virginia Status

This snail is known from a very restricted area of the Cheat River Gorge in Monongalia and Preston counties. There are 73 known localities for the species. Many of these sites are located in an area only 3.4 km X 5.4 km (2.4 mi X 3.8 mi) in size. Little information is available on the population trends of this animal, but populations appear to be stable at this time.

### Description

The shells of adult flat-spired three-toothed land snails range from 19.4 mm to 25.1 mm (a little less than 1 inch) in diameter. The spire, or the dorsal surface of the shell, is quite flat and not conical (cone-shaped) as in most snails. The shell is brown in color, and the body of the animal is dark gray. The "three-toothed" portion of this animal's name is rather misleading; this snail has only one "tooth" located inside the aperture (opening) of the shell (other closely related species do have three "teeth"). This tooth is actually a thickening in the wall of the shell that is thought to help the snail defend itself against predators, such as snail-eating beetles, that try to enter the snail's shell to attack the animal. When these snails mature, a white lip is formed around the edge of the aperture, and the snail's shell stops growing.

### Habitat

This snail is usually associated with outcroppings of sandstone known as the Upper Connoquenessing Sandstone. Areas where this snail occurs are usually wooded and dominated by sandstone cliffs or areas of large sandstone boulders. The snails are often found in cracks and crevices in the rocks or in small

cave-like structures. At one site, the snail is associated with a cave in the limestone layer beneath the sandstone.

### Threats and Prospects

Because this snail has a very restricted range, local catastrophes, such as forest fires, could impact a large segment of the population. At the site with the highest density of these snails, recreational activities have caused some problems; in addition to the direct crushing of some snails, the foot traffic can destroy the leaf litter in which the snails live. Fences have been constructed at one site as a means to reroute foot traffic away from the areas where the snail occurs. Another potential threat is the possible development of the rim of Cheat River Gorge for housing developments and recreational facilities. Any activities, such as forest fires or timbering, that alter the environmental conditions (temperature, humidity, moisture content of the soil, etc.), could be detrimental to populations of this rare snail.



(Photo by Craig Stihler)

### Range

This snail is known only from West Virginia. See "West Virginia Status."

### Life History

Little is known of the life history of this animal, but some information has been obtained from a captive colony. Small clusters of eggs are laid in the spring and summer. The eggs are usually buried in the soil or leaf litter. The young snails grow quite rapidly, and those that hatch early in the season can mature (produce a lip around the aperture of the shell) during their first summer; the other snails mature the following year.

**Diet**

The diet of this snail is not known, but it probably feeds on various types of vegetative matter.

**Additional Comments**

This snail was first described in 1933 based on a specimen collected at Coopers Rock.