

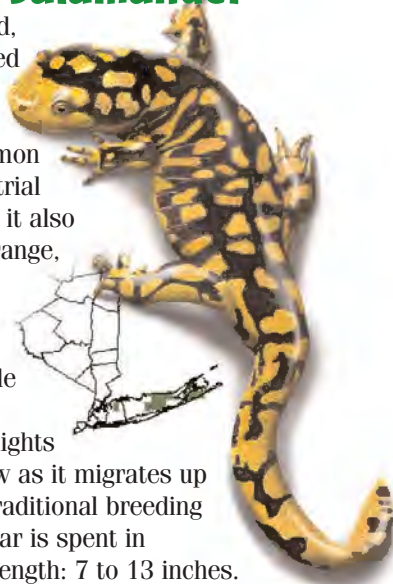
Woodland & Vernal pool Salamanders of New York State



ften associated with aquatic environments such as streams and lakes, ten of New York State's 18 species of salamanders are more at home in woodlands and temporary vernal (spring) ponds, spending much of the year great distances from water, and even hibernating in upland forest soils. However, they do depend upon cool, moist places to help keep their smooth skin moistened, which aids them in breathing. Because of their upland nature, these salamander species are more likely to come in contact with human activities that can negatively impact their numbers. For example, large numbers of these slow-moving animals are killed each year while crossing roads moving to and from breeding ponds. To address this issue, the first underpass in New York specifically to help these salamanders was constructed in Albany County in 1999.

Eastern Tiger Salamander—

Endangered Short, bold, yellowish blotches coupled with a reputation as a voracious predator give this salamander its common name. The largest terrestrial salamander in New York, it also has the most restricted range, found only in the Pitch Pine/Scrub Oak sand plains of eastern Long Island. As with other mole salamanders, it is generally seen on rainy nights after the first spring thaw as it migrates up to a quarter mile to its traditional breeding ponds. The rest of the year is spent in subterranean burrows. Length: 7 to 13 inches.



black, creating an unmistakable appearance. Marbled salamanders lay eggs in early autumn on land at the edge of ponds. Females guard the small clutch of eggs until they hatch, after late autumn rains flood the nest. The aquatic larvae develop during the winter months in often ice-covered ponds. Like most salamanders, marbled salamander adults are protected from predators by foul-tasting skin secretions. Length 3 1/2 to 5 inches.

Red-backed Salamander—

New York's most abundant salamander, the red-backed salamander is also perhaps the state's most numerous forest vertebrate. Its great abundance makes it ecologically important to healthy forests. A thin salamander with small legs, it commonly has a brick-red stripe along the back. However, in many areas, individuals with a slate gray back are almost equally frequent. All red-backs have a light belly with dark peppering. Red-backs are often found with a tail that is regenerating due to a predator-induced tail break. Length: 2 to 4 inches.



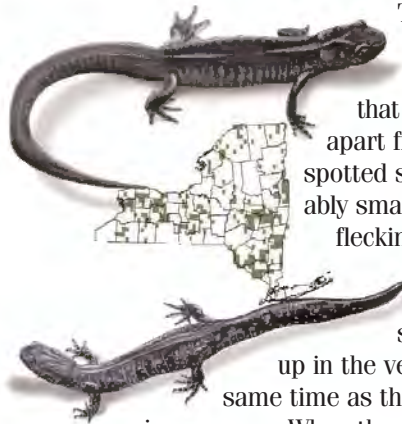
Spotted Salamander—

Spotted salamanders can be a startling discovery when found beneath a forest-floor log. The bright, round, yellow spots are a bold contrast to the black body. Although rarely seen because of their secretive habits, spotted salamanders are actually quite abundant. They spend most of the year in tunnels beneath the forest floor, feeding on earthworms, insects and snails. Length: 6 to 9 3/4 inches.



Blue-spotted & Jefferson's—*Special Concern*

These two salamander species interbreed, forming fertile hybrids that are very difficult to tell apart from the parents. Blue-spotted salamanders are considerably smaller with more distinct blue flecking than the brown-gray Jefferson's salamanders. Both species are early spring breeders, showing up in the vernal pools around the same time as the first wood frogs and spring peepers. When threatened, adults of these species undulate their tails (which produces a sticky and bad-tasting secretion) to draw the predator's attention there. Length: Blue-spotted 3 to 5 inches; Jefferson 4 to 8 inches.



Marbled Salamander—*Special Concern*

Marbled salamanders are unique among the mole salamanders in both color and behavior. They have white or silver bands that alternate with



Northern Slimy Salamander—



A black salamander, the northern slimy salamander is sprinkled with white, silver or yellow spots on its back and sides. Similar in appearance to its cousin the Wehrle's salamander, the slimy has a dark throat and chin. When disturbed,

it produces a foul-tasting, glue-like secretion.

This salamander is a great climber. Usually found under rocks and in crevices in mixed hardwood forests, at night it will climb up boulders, small trees and shrubs where it awaits prey.

Length: 4 ½ to 8 inches.

Wehrle's Salamander—



Most frequently found under rocks or logs, the Wehrle's salamander is dark gray to brownish with a band of whitish, bluish or yellowish flecks along each side of its body, and generally little or no flecking on its back. The throat is usually white. Sometimes confused with

Jefferson and blue-spotted salamanders, the

Wehrle's has a groove that runs from the nostril to the lip (like other woodland salamanders), which is lacking in the other two species. Length: 4 to 6 inches.

Four-toed Salamander—



The four-toed salamander is New York's smallest salamander. Often mistaken for a red-backed salamander, it can be distinguished from other salamanders by its alabaster white belly with jet black dots. In addition, while most salamanders have five toes on each hind foot, the four-toed has only four, hence,

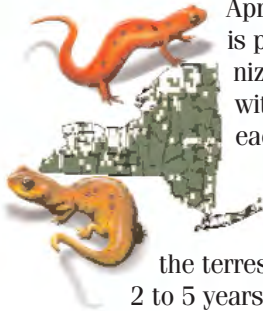
its name. There is a prominent constriction at the base of the tail which allows the tail to drop off when seized by a predator. The four-toed's preferred breeding habitat is in pools dominated by sphagnum moss. Length: 2 to 4 inches.

Note: Length of each salamander is given as total length measured from the end of the snout to the tip of the tail. However, since pieces of the tail are often lost to predators and the tail will regenerate, this measurement can vary greatly for otherwise similar sized animals.

Red Eft—

The land form of the red-spotted newt (see April 2003 *Conservationist*), the red eft is perhaps one of our most readily recognized salamanders. It is brilliant orange, with dry skin and a line of red dots on each side of its body. The bright coloration serves as a warning that this animal has toxic skin. After transforming from the aquatic larva into the terrestrial form, the eft spends

2 to 5 years wandering around woodlands before returning as a sexually mature newt to the breeding pond. Length: Eft 1 ½ to 3 ½ inches; Newt 3 ½ to 5 inches.



While woodland and vernal pool salamanders undergo similar life cycles, there is one notable difference. The woodland species (red-backed, slimy and Wehrle's) are completely terrestrial, laying their eggs on land. The eggs then hatch into tiny juveniles that look like the adults. Mole salamanders, including tiger, marbled, spotted, Jefferson and blue-spotted, breed in vernal pools which only hold water for a portion of the year, usually drying out completely by late summer. Mole salamanders undergo the typical life cycle of an amphibian, starting with eggs laid in an aquatic habitat that then hatch into gill-breathing larvae. The larvae develop in water until transforming into terrestrial juveniles within one growing season.

**Authors: Alvin Breisch and Peter K. Ducey; Maps prepared by John Ozard
Artwork by Jean Gawalt, Graphics & Layout by Frank Herec**

Maps based on New York Amphibian and Reptile Atlas data.

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