



Eastern Tiger Salamander

North Carolina Wildlife Profiles



Brian Ball

Eastern Tiger Salamander (*Ambystoma tigrinum*)

This salamander was named for its yellowish blotches running down its dorsum that can make it appear tiger-striped. Eastern tiger salamanders are a type of mole salamander that spend most of their lives underground and above-ground activity usually occurs at night. It is rarely seen outside of its breeding season.

Description

The Eastern tiger salamander is the largest salamander in the *Ambystomatidae*, or mole salamander family. Body color varies from a dark gray or gray-brown with yellowish blotches on the back, sides and belly. Males and females look much the same, except the female's tail is shorter and does not flatten like the male's during the breeding season. Tiger salamanders, like other mole salamanders, have five toes on each hind foot and four on each front foot.

History and Status

Before the late 1800s, Eastern tiger salamanders thrived in the sandhills and pine forests of the Southeast. N.C. Museum of Natural Sciences' records show that this native species once was much more common and ranged from the eastern edge of the Piedmont through the upper Coastal Plain in a band from Virginia to South Carolina. Clay-based Carolina bays and longleaf pine forests, especially, made prime habitats for tiger salamanders. The bays provided rich breeding grounds with fertile vegetation; the forests brought protection, places to burrow and food. By clearing forested land and draining ponds for farmland, beginning in the 1800s, humans altered living space for the tiger salamander. Without suitable habitat, tiger salamander populations declined rapidly. North Carolina declared the tiger salamander a threatened species in 1990.

Habitats & Habits

Tiger salamanders need two types of habitat to survive—ponds for breeding and moist earth for burrowing. In North Carolina, they favor upland areas with sandy soils and sandhills or flatwoods vegetation. Breeding ponds are generally found within longleaf pine forests. Once a year, tiger salamanders migrate from their terrestrial homes to a breeding site as little as a few yards or as far as a half mile away. They generally choose clear, fish-free ponds that dry up from time to time. These temporary, or ephemeral, ponds produce the lush vegetation tiger salamanders need for cover and egg-laying surfaces. Small farm ponds or large bays of up to 100 acres are frequently used as well, as long as these wetlands are relatively fish free.

The Eastern tiger salamander is named for the yellowish blotches running down its back.



Eastern tiger salamander (Photo: Jeff Hall)

Range and Distribution

Tiger salamanders can be found over much of the central and eastern United States and into Mexico. With most of the populations east of the Appalachian Mountains in decline, tiger salamanders are more commonly found in the Midwest, such as in Wisconsin and Colorado. Once widely scattered in the inner Coastal Plain, lower Piedmont, and in the Sandhills of North Carolina, the tiger salamander's range is limited to Hoke, Scotland, Robeson, Moore and Wake counties. Only one breeding site remains in Wake County, and one in Moore County was discovered in 1993, the first time the tiger salamander had been seen there since 1893.

Range Map



Eastern Tiger Salamander

Wildlife Profiles - North Carolina Wildlife Resources Commission

Habitats & Habits (continued)

In North Carolina, male tiger salamanders start moving to the breeding ponds in December when adequate rains occur. Females follow soon after. In prime weather conditions, females may arrive the same night as the males but frequently they come two weeks to a month later. The cold weather conditions and recently filled ponds reduce predation on the salamanders and their eggs by aquatic predators. Early breeding helps to ensure complete metamorphosis by the larvae before the ponds normally dry out in late spring or early summer.

Once transformed, tiger salamanders spend the rest of their lives on land except for annual trips to breeding ponds. Tiger salamanders favor natural upland wetlands for their breeding habitats. Longleaf pine communities, especially, provide the terrestrial habitats with food, cover, and moist soils the tigers need to survive. They dig or find burrows such as a mole hole or a rotten root. Usually they locate one or two in a general area and return to the same burrows after each breeding season. Most tiger salamander burrows are 2 to 6 inches below the surface and about as wide as a quarter. Tiger salamanders do not burrow in groups, but a number of burrows may be found in one area if the soil is soft and moist. Tiger salamanders feed mostly at night, catching prey in and around their burrows rather than foraging for food.

Human Interactions

This large, strikingly colored salamander is becoming increasingly rare in North Carolina. Although the tiger salamander has been popular in the pet trade, the biggest cause of its declining population is due to habitat loss. Like many salamander species, tiger salamanders require protection of the wetlands they breed in and the upland habitat surrounding these wetlands where they spend much of their adult life. With suitable forests and upland wetlands, people and tiger salamanders can coexist. However, clearing land for farms in the late 1800s through the 1950s reduced much of the tiger salamander's living room. The conversion of pine savannas to timber plantations and wetland draining has limited habitat further.

For More Information/References

Martof, Bernard S., William M. Palmer, et. al. *Amphibians and Reptiles of the Carolinas and Virginia* (Chapel Hill, N.C.: University of North Carolina Press, 1980).

Cochran, Doris M. *Living Amphibians of the World* (Garden City, N.Y.: Doubleday & Company Inc., 1972).

Conant, Roger. *A Field Guide to Reptiles and Amphibians of Eastern and Central North America*, (Boston, Mass.: Houghton Mifflin Company, 1975).

Petranka, James W. *Salamanders of the United States and Canada* (Washington and London: Smithsonian Institution Press, 1998).

Wild Facts

Classification

Class: Amphibia

Order: Caudata

Family: Ambystomatidae

Average Size

Length: 7 to 11 inches

Food

Earthworms, spiders, pill bugs, and other invertebrates.

Breeding/Young

Mate in winter in ephemeral ponds. One male can fertilize eggs of several females. Females can lay 200-400 eggs each season in packets of two to four egg masses, attached to underwater plants, sticks or other debris.

Life Expectancy

Eggs hatch about two weeks after being deposited. Larvae are completely aquatic with a dark green or brown body that is a similar shape to an adult but possesses large, feathery gills and a fin-like tail. Larvae grow rapidly, transforming in about five months at which point they migrate out of the pond and onto land.



Tiger salamander egg mass (Photo: Jeff Beane)

Credits

Originally written by Sarah Friday; updated by Kim Burge, Kendrick Weeks, Jeff Hall. NCWRC 2018