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## NORTHWEST WILDLIFE PRESERVATION SOCIETY

### Animal Name: tiger salamander

*Ambystoma tigrinum*



By Rowena Shi

The tiger salamander is a small species of salamander, found inhabiting wetland habitats across North America. The tiger salamander can be easily distinguished from other species of salamander by the dark-coloured markings on their skin.

An adult tiger salamander is rarely seen out in the open as they spend their lives in burrows about half a metre into the ground. Most adult tiger salamanders live in their burrows on the land, only returning to the water to mate.

The tiger salamander is one of the largest terrestrial salamanders in the North America. The biggest specimen recorded was 32 centimetres long, however the average size ranges between 17-20 cm. It is a stocky animal with sturdy limbs and a long tail.

### Characteristics

The adult tiger salamander is a thick-bodied creature generally with yellow blotches or spots against a black background. Once in a while there will be one with blotches that are tan or olive green in colour. The spots or blotches are never in any set shape, size or position. Actually you may even be able to tell its origin by the colour and pattern of the background and/or spots. A tiger salamander has a rather large head and a broad rounded snout. Their eyes are round. The belly is usually yellowish or olive with invading dark pigment. It has about 12-13 coastal grooves. Males tend to be proportionally longer, with a more compressed tail and hind leg than the females. During the breeding season the males have a swollen vent area. The larvae have a yellowish green or olive body with the dark blotches and a stripe along each side. They also have a whitish belly. As they grow, specimens tend to be greyish or greenish in colour, and within a few weeks they start to show yellow or tan spots and gradually merge into the patterns of the adult bodies.

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## Life Cycle

Most tiger salamander individuals will only get the chance to breed just once in their up to 15 years lifetime. The larvae of the tiger salamander are aquatic which means that the female tiger salamander lays her eggs in the water, generally on either a log or leaves close to the bottom of the water.

The eggs of the tiger salamander hatch into larvae which then take a varied amount of time depending on the region, to fully metamorphose into an adult tiger salamander.

## Habitat

Fully metamorphosed adults lead a terrestrial existence and, depending upon where in the country they are found, some may inhabit forests, grasslands, wetlands or other marshy areas. Tiger salamanders are less dependent on the forest than most other Ambystomids. One general requirement seems to be soil in which they are able to burrow or in which the burrow of other species of other animals might be utilized. While they are well suited for terrestrial existence in terms of their skin consistency and thickness, they do need to be able to burrow underground in order to seek the proper humidity levels. Another requirement is that they live close enough for permanent access to ponds and other small waters for their breeding. During dry periods, large numbers of tiger salamanders have been found lying in piles beneath suitable cover or underground.

The tiger salamander has the greatest range of any other North American salamander, spreading from southeastern Alaska east to the southern part of Labrador, and south throughout all of the United States down to the southern edge of the Mexican Plateau.

## Behaviour

Adult tiger salamanders live underground for most of the year and usually dig their own burrows, unlike other species that use burrows of other animals. They have been found over 60 cm below the surface. This allows them to escape the temperature extremes above ground and may explain why they have such a wide variety of habitats.

Tiger salamanders eat worms, snails, insects, and slugs in the wild. Captive salamanders feed on smaller salamanders, frogs, and newborn mice. The larvae eat small crustaceans and insect larvae and once grown, they will feed on tadpoles and smaller salamander larvae and even small fish.

## Threats

Due to the small size and ground-dwelling nature of the tiger salamander, they have many natural predators where it lives in North America. Raccoons, coatis, snakes and freshwater turtles are the most common predators of the tiger salamander, along with birds such as herons.

Amphibians have porous skin and respond quickly to changes in the environment. The health of their populations can be an indicator of the health of the overall environment.

Its status at these remaining sites is tenuous because of pesticides and other contaminants, threat of development, and other land use plans. Pond disturbance, predatory fish introduction, and expanding bullfrog populations threaten annual reproduction. Increased road construction has also divided the habitat, jeopardizing migrating adults.

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Although immune themselves, tiger salamanders transmit *Batrachochytrium dendrobatidis*, which is a major world-wide threat to most frog species by causing the disease chytridiomycosis. Tiger salamanders also carry ranaviruses, which infect reptiles, amphibians, and fish. Using tiger salamander larvae as fishing bait appears to be a major source of exposure and transport to wild populations. Severe mortality of tiger salamander larvae sometimes occurs from recurring ranavirus infections.

## What We Can Do To Help

The eastern tiger salamander is currently listed as Extirpated under the Ontario Endangered Species Act, 2007 and Extirpated under the federal Species at Risk Act. These acts offer protection to individuals and their habitat. The species has also been designated as a Specially Protected Amphibian under the Ontario Fish and Wildlife Conservation Act, which offers protection to individuals but not their habitat. The International Union for Conservation of Nature lists the global status of the eastern tiger salamander as Least Concern. The species' status was last confirmed in February 2013.

## Other Interesting Facts

Salamanders do not have fracture zones in their tails as some lizards do, but are able to regenerate entire limbs. Regenerated parts are usually distinguishable by the lack of characteristic pigmentation.

Some small species of salamanders lack lungs. If they have lungs, as the tiger salamander does, they pump air in and out by gular pumping (lowering and raising the floor of the mouth).

Typically, tiger salamander larvae feed and grow during the spring and early summer and metamorphose 2-5 months after hatching. However, some populations never metamorphose. In areas where the environments surrounding permanent ponds are dry and inhospitable, they may retain certain larval characteristics that allow them to live underwater. These salamanders mature in the water and are able to reproduce, though they maintain the body of an immature salamander - a phenomenon called neoteny. Should environmental conditions improve, they may metamorphose into a terrestrial adult.

Salamanders, like other amphibians are among the oldest terrestrial creatures and were the first animals to move about on land more than 300 million years ago.

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