

Blue-spotted Salamander (*Ambystoma laterale*)

Family Ambystomatidae

Subspecies: None currently recognized

***Updated 2025**



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Description/Identification: The Blue-spotted Salamander is a small to medium sized, moderately built ambystomid salamander, and the smallest of the ambystomid salamanders in Wisconsin. Mature adult males average between about 2.75 and 5.1 inches snout-to-tail length (or about 1.57 to 2.75 inches snout-to-vent length), and mature adult females averaging about 3.14 to 5.5 inches snout-to-tail length, or about 1.96 to 2.75 inches snout-to-vent length). Blue-spotted Salamanders have approximately 12 to 14 costal grooves along their bodies, four toes on the fore-feet, and five on the hind feet. Both males and females are similar in appearance, except being somewhat dimorphic in size, and males developing swollen cloacal regions during their breeding season. Larval Blue-spotted Salamanders are about 10 to 12 mm in size, and have bushy external gills on a ground color of dark olive, olive-green, to brown or olive-brown with dark mottling throughout. Inside the mouth, Blue-spotted Salamanders have 3 different rows or groups of very tiny, vomero-palatine teeth, much more like sandpaper, which are perhaps best observed and seen under an electron microscope. Blue-spotted Salamanders have elongated, adhesive tongues which are quickly contracted by muscles and the hyoid bone inside their mouths during feeding.



Larval Form. © NatureNorth.

Adult Blue-spotted Salamanders have a dark black, bluish-black, or grayish-black dorsal color, and a lighter black or grayish ventral surface. The limbs, sides, and tail are marked with variable amounts of gray-blue to turquoise blue spots, streaks, or flecks, which may also be present on the dorsal and ventral areas. Some specimens can have very few or absent spots. Newly metamorphosized Blue-spotted Salamanders may also have more yellowish spots or flecks, sometimes causing them to be confused with other ambystomid salamanders. No subspecies are currently recognized.

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Range and Distribution: Blue-spotted Salamanders occur in southern Canada, from Manitoba, southern Ontario, and Quebec to Nova Scotia, throughout the New England, or Northeastern United States, Upper Midwest, and through northern Pennsylvania, Ohio, Indiana, and Illinois. In Wisconsin, Blue-spotted Salamanders can be found throughout most of the state where is suitable breeding habitat, except perhaps the non-forested southwestern and south-central extremities of the state where they seem to be absent or rare.

Habitat: In Wisconsin, Blue-spotted Salamanders are most common north of the terminal glacial moraines of eastern/southeastern Wisconsin. These salamanders can be found in a variety of northern and southern forest associations, and are primarily a forest or woodland species. Northern or southern mesic forests, riverbottom forests, mixed forests, and boreal forests are the most preferred habitats. Woodland kettle ponds, potholes, or other ephemeral ponds and wetlands which are semi-permanent and retain water until mid-August are also essential habitat components. Blue-spotted Salamanders are also more tolerant of drier, or more sandy conditions than most other Wisconsin salamanders as well.

Feeding and Diet: Both larval and adult Blue-spotted Salamanders are primarily carnivorous, feeding on a wide variety of small, terrestrial and/or aquatic prey. They may consume small insects and insect larvae, arachnids, worms, tiny crustaceans or mollusks, and other microinvertebrates either living on the bottoms of their ephemeral wetlands or in or amongst the forest floor debris.

Natural History: Blue-spotted Salamanders are one of the first and earliest of the ambystomid salamanders to emerge, becoming active from April through October. These salamanders overwinter deep within rotting logs, underneath rocks, or underground, often in close proximity to their breeding ponds. During courtship, males will clasp the females with their forelimbs, and will rub their snouts over the head and anterior portions of the female. This state is known as amplexus. Afterwards, one to three spermatophores are deposited at the bottom of their breeding pond, which are picked up and carried by the female. The eggs are then fertilized internally, and males may court up to several females.

The eggs are then laid in small clusters of one to thirty-five attached to submerged twigs, leaves, or other vegetation at or near the bottom of the pond. The eggs incubate depending on the temperature, and hatch within 3 to 4 weeks, at which time they hatch as larval stage salamanders. They will then fully transform into adult salamanders by mid to late August in late summer, although drying up of the pond or other local conditions can result in shorter periods. After breeding, Blue-spotted Salamanders

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generally move away from their breeding ponds, but unlike other Wisconsin ambystomids, are less fossorial, and can be found above-ground throughout the summer, where they are generally nocturnal or crepuscular, although they may be seen moving above ground during dark and rainy weather.

When sufficiently threatened or agitated, Blue-spotted Salamanders will arch their bodies, while raising their tails and slowly undulating them as a defense. They will also simultaneously secrete a foul-tasting skin substance from glands at the base of their tails, which further make them distasteful to predators. Some unisexual populations also consist of a triploid variant comprising entirely of females known as the Tremblay's Salamander (*Ambystoma tremblayi*), which are further described under the "Unisexual Mole Salamander Complex". Blue-spotted Salamanders often share breeding habitats with spring peepers, chorus frogs, wood frogs, and other salamander species such as Eastern Newts, Spotted Salamanders, and/or Eastern Tiger Salamanders.



Ventral/Belly View. © PA Herp Identification.

Larval and aquatic stages of Blue-spotted Salamanders may be eaten and consumed by large aquatic invertebrates such as large crayfish or water bugs, fish, or other amphibians and/or predatory amphibian larvae. Many different species of birds, turtles, snakes, and carnivorous small mammals, such as shrews, weasels, and other mammals (such as skunks, opossums, raccoons, and foxes) may also eat Blue-spotted Salamanders.

Conservation Status: In Wisconsin, Blue-spotted Salamanders are listed as "Common", and can be common in the state in suitable habitat. They are perhaps the most common, or at least the most widespread terrestrial salamander in Wisconsin. They are still regulated and protected along with all other of Wisconsin's herptiles under N.R. 16. In the unglaciated, Driftless Area of southwestern and western Wisconsin, they tend to be more uncommon and localized, however, and in the non-forested regions of southwestern Wisconsin, they may be rare or absent. Blue-spotted Salamanders are currently not protected or regulated federally. Blue-spotted Salamanders are currently IUCN Red-List Least Concern (LC).