

Salamanders OF MONTANA

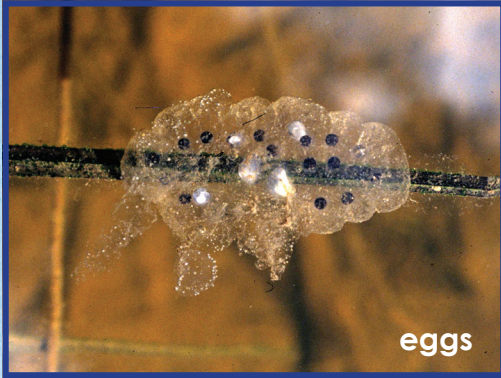


Photo by James D. Reichel

eggs



Photo by David Herasimtschuk

larva



Photo by Stephen Corn, U.S. Geological Survey

adult

LONG-TOED SALAMANDER (*Ambystoma macrodactylum*)



Photo by Kris Kendall

eggs



Photo by Kristi DuBois

larva



Photo by Eric Dallalo

adult

WESTERN TIGER SALAMANDER (*Ambystoma mavortium*)



Photo by Kristi DuBois

larva



Photo by Eric Dallalo & Bryce Maxwell

adult

IDAHO GIANT SALAMANDER (*Dicamptodon aterrimus*)



Photo by Jim Lynch

eggs



Photo by John Cossel

adult

COEUR D'ALENE SALAMANDER (*Plethodon idahoensis*)

Montana Nongame
Wildlife Checkoff

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Long-toed Salamander

(*Ambystoma macrodactylum*)

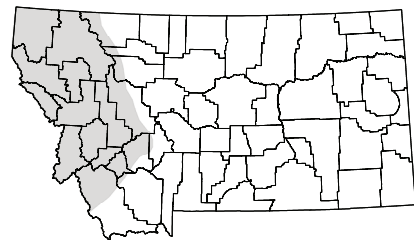
The long-toed salamander occurs in Montana west of the Rocky Mountain Front and the Missouri, Jefferson and Beaverhead Rivers. It can be found in a wide range of habitats from sagebrush to alpine, and at elevations up to 9100 ft (2774 m). Adults are usually found under logs or debris near water.

Adults are nocturnal, active in the day only during the breeding season, directly after snowmelt, when they travel up to several hundred meters to congregate at breeding ponds. Breeding usually occurs in ponds or lakes without fish. Adults often return to the same pond or lake from which they hatched (site fidelity). Pairs display an elaborate courtship or “dance” and fertilization is internal. Several hundred eggs are laid in clusters of 2-60 attached to aquatic vegetation. The center of the egg is black or brown above, white to gray below and surrounded by two clear jelly layers. The total egg diameter is 9/16 to 11/16 inch (12-17 mm). Larvae hatch in three to six weeks.

Larvae are usually a light translucent brown in color, small and slender, with three feathery external gill stalks on each side of the head. Metamorphosis takes place in mid to late summer at lower elevations or at the end of their second or third summer at high elevations (2-26 months) when the larvae are two to four inches (48-98 mm) long.

Adult total body length is usually 3 1/4 to 4 3/4 inches (80-120 mm). Body color is dark brown to black above with white specks and a yellow, orange or reddish dorsal stripe running down the middle of the back, from snout to tip of tail. The stripe may be broken into spots or blotches. The eyelids are the same color as the dorsal stripe. The belly is white to pink in color. The body is slender, with 12 to 13 costal grooves along the sides. There are tubercles on each foot and the four fingers and five toes are relatively long with the longest toe on the hind foot being longer than the length of the sole.

After breeding, adults return to their burrows beneath rotting logs, branches, and rocks, where they spend most of their lives. Larvae may overwinter in ponds. Sexual maturity in the larval stage has not been reported with this species. Adults forage in water and on land, eating worms, slugs, spiders, and other invertebrates as well as tadpoles. Larvae primarily eat aquatic invertebrates. Long-toed salamander larvae are particularly vulnerable to predation by fish.



Western Tiger Salamander

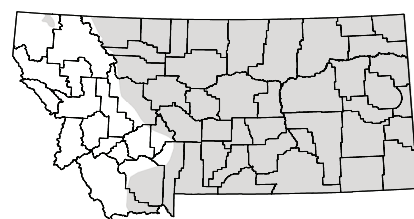
(*Ambystoma mavortium*)

The Barred Tiger Salamander is mostly found east of the Continental Divide in Montana, and it is the only salamander native to eastern Montana. However, there is also an isolated population in the Tobacco Valley of Lincoln County. The species is usually found in prairie or agricultural habitats near lakes and ponds, commonly hiding beneath logs or debris or in mammal burrows. They are more tolerant of dry conditions than most salamanders and can survive at elevations up to 9100 ft (2774 m). They are nocturnal and active from spring through fall, especially during or following rain.

Breeding is usually prompted by rain, during early spring. Adults travel up to several hundred meters from burrows and other hiding places to congregate in large numbers at permanent or semi-permanent waters to breed. Larvae are eaten readily by fish. Therefore, Barred Tiger Salamanders will not normally breed in ponds where fish are found. The water may still be below 50 degrees F (10 degrees C) when eggs are laid singly or in small linear clusters attached to vegetation. The center of the egg is black or brown above, light gray below and surrounded by three clear jelly layers. The total egg diameter is 5/16 to 3/8 inch (7-10 mm).

Larvae hatch in two to three weeks and metamorphose in two months to two years, depending on elevation and water temperature and permanence. Larvae are typically pale green or brown in color, relatively large, have three pairs of feathery external gills at the base of the head, and reach a total length of 2-7 inches (50-180 mm) at metamorphosis. Some Barred Tiger Salamanders become sexually mature in the larval stage and reach longer total lengths than terrestrial adults.

Terrestrial adults are large, heavy bodied in appearance, and usually have an alternating pattern of black and olive to yellow spots or reticulations on the entire body and head. Adult total body length is generally 6 to 12 inches (152-305 mm). There are 11 to 14 costal grooves along the sides. The head is broad with small eyes. Tubercles are found on the feet. This salamander is a predator of insects, worms, fish, tadpoles, frogs, and young mice.



Idaho Giant Salamander

(*Dicamptodon aterrimus*)

The presence of the Idaho Giant Salamander in Montana has long been suspected, but was not confirmed until 2008 when a U.S. Forest Service employee photographed larvae in a plunge pool below a culvert on a stream south of Saltese near the Idaho border in Mineral County. Subsequent surveys have detected the species in more than a dozen tributaries of 3 major watersheds south of Interstate 90 between Saltese and DeBorgia at elevations up to around 5,700 ft. (1,737 m).

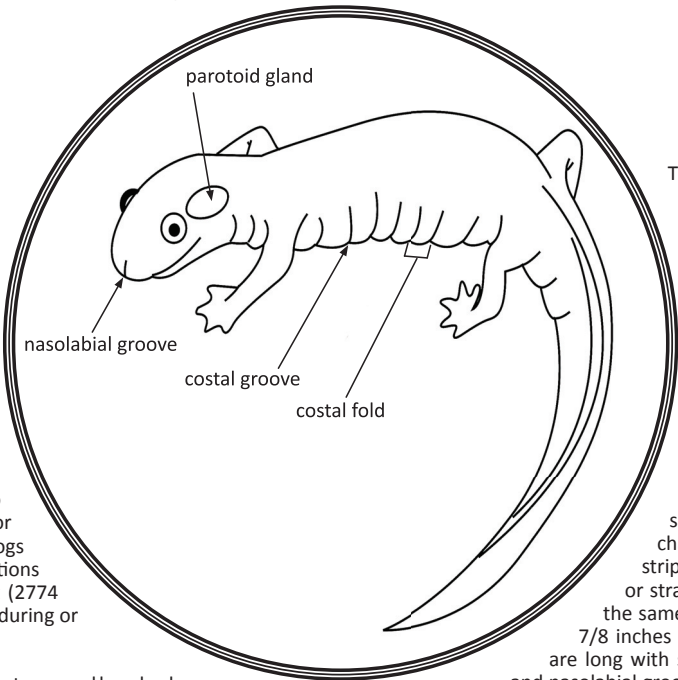
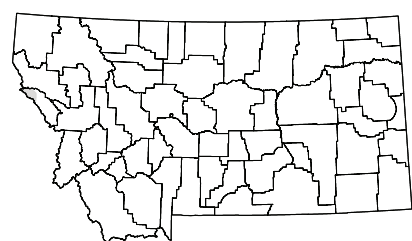
Adults are found in or near streams or in adjacent moist conifer forests hidden beneath rocks, logs, or bark. They have been known to climb up to eight feet (2.4 m) on vegetation and are sometimes found in damp woods in daylight. However, they are most active terrestrially on warm, rainy nights.

Adults go through a complicated courtship dance in cold mountain streams. Some Idaho Giant Salamanders can become sexually mature while their body is still in the larval stage. Eggs are deposited singly, but grouped together in masses of up to 200 eggs, and are then guarded by the female in hidden, water-filled chambers under rocks, logs, or in rock crevices. The center of the oblong egg is white and surrounded by six clear jelly layers; egg diameter is approximately 1/4 inch (6 mm).

Larvae reach lengths of 5 5/8 to 7 5/8 inches (140-190 mm) and are found under stones or buried under plant debris, particularly on the downstream side of rocky pools in headwater streams. Larvae have short, bushy external gills at the base of the head. Their body color is variable, matching the local substrate, but generally darker along the back with lighter stripes behind the eyes. The tail fin is wide and mottled. Metamorphosis occurs during or following the second year.

Adult body length is 7 3/16 to 10 3/8 inches (180-260 mm). The Idaho Giant Salamander has a large head, muscular legs, heavy body, and smooth skin with light tan/bronze marbled markings over a dark brown or black background. There are 12 to 13 indistinct costal grooves and there are no foot tubercles.

Adults eat terrestrial invertebrates and small mammals, reptiles, and amphibians, including other salamanders. Larval Idaho Giant Salamanders feed on a variety of small invertebrates, tadpoles and smaller salamander larvae. The Idaho Giant Salamander has been known to emit a low-pitched yelp when captured. Handle with care, their bite can penetrate the skin.



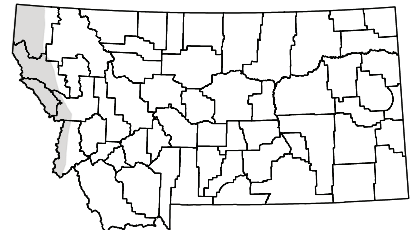
Coeur d'Alene Salamander

(*Plethodon idahoensis*)

The Coeur d'Alene salamander has a spotty distribution in western Montana and is documented in about 60 locations. Nearly all populations in the state are isolated from one another. They are found in or near springs, seeps, waterfall spray zones, fractured rock formations and talus slopes with subsurface water, and under forest litter near streams where they can find protection from drying and freezing. Found at elevations up to 8,000 ft. (2,438 m).

Breeding involves an elaborate dance and fertilization is internal. Egg clusters contain up to 13 small cream-colored eggs that are laid in moist subterranean fractured rock sites. Two jelly layers surround each egg and the total egg diameter is 1/4 inch (5 mm).

There is no larval stage; hatchlings emerge as miniature versions of adults, displaying similar coloration. Juveniles and adults prey upon small aquatic and semi-aquatic invertebrates. Adults are dark gray or charcoal on their sides and belly with an orange, yellow, or red dorsal stripe from snout to tip of tail. The stripe can have irregular (scalloped) or straight edges, and a yellow throat patch is usually present. Eyelids are the same color as the dorsal stripe. The adult total body length is 3 1/4 to 4 7/8 inches (85-124 mm) with 14 to 15 costal grooves along the sides. The legs are long with short, slightly webbed, toes. The head has distinct parotoid glands and nasolabial grooves that extend from the nostril to the upper lip. Lacking lungs, they breathe through their skin.



Rough-skinned Newt

(*Taricha granulosa*)
Potentially Introduced

The Rough-skinned Newt is primarily distributed west of the Cascade Mountains from central California to southeast Alaska. However a single voucher specimen was collected near Thompson Falls in Mineral County in 1950 and an unverified observation was reported in the same area in 1979. Thus, although there is no evidence to-date that self-sustaining populations have been established in Montana, the climatic and habitat similarities between northwest Montana and regions west of the Cascade Mountains indicate that it is possible for populations to become established. Rough-skinned Newts may occasionally be introduced in containers or root-balls of plants shipped from Pacific Northwest nurseries.

Adults lack costal grooves, have eyes that are yellow above and below the iris, are brown on the back and sides, have a yellow-orange to orange belly, and total body lengths range from 4 7/8 to 7 1/8 inches (122-180 mm). Larvae are translucent tan in base color covered with small black flecks and larger light spots run the length of the body on either side of the tail fin. Eggs are tan above, cream below, and surrounded by a gelatinous capsule with a total diameter of approximately 3/16 of an inch (3-4 mm). Natural habitats include ponds, lakes and slow moving streams with submerged vegetation, adjacent grasslands or humid forests.

Observations of this species should be documented with photographs and should be reported to the Montana Natural Heritage Program.

