

Allegheny Mountain Dusky Salamander
Desmognathus ochrophaeus



Identification

The Allegheny mountain dusky salamander is a small, typically less than 10 cm. long salamander. The tail of this animal does not have a keel or ridge along the top of the tail, unlike other closely related salamanders. Most specimens have relatively straight stripes bordering their backs and often have “V” or chevron shaped markings down the center of their backs from their heads to the base of the tail.

Young

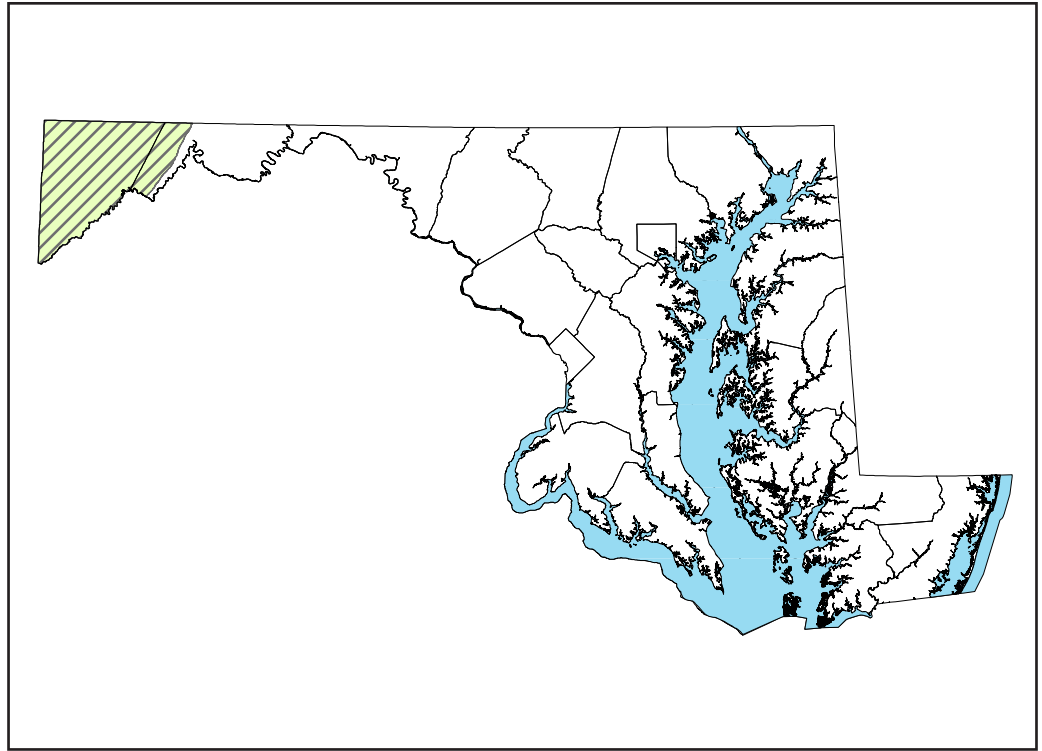
The dorsum (backs) of these larvae either have a pale mid-back stripe and no spots, OR have 2 to 7 pairs of spots on the posterior (hind) half of the body. The back of the head on older larvae often have a dark “V” or “Y” shaped pattern bordered by a pair of round, light spots on either side.



Eggs

Allegheny mountain dusky salamanders may nest underground or in seeps, muddy banks, dry stream-beds, under logs, and stumps that are embedded in mud. Eggs are deposited in small, grapelike clusters, with each egg having a short gelatinous stalk. Oviposition begins in March and continues through September (Petranka 1998).

Photos, from top:
Adult - Mark Tegges
Juvenile - Jay Kilian



Distribution and Habitat

Allegheny mountain dusky salamanders are found almost exclusively on the Allegheny Plateau (Harris 1975). They are usually discovered in and along small streams under rocks, logs or other substrates and are sometimes found a long distance from water, particularly in narrow, sandstone cliff crevices.



Photos, from left:
Adult - Lori Erb
Habitat - Matt Kline



Northern Dusky Salamander

Desmognathus fuscus



Identification

The dorsal (back) color of this salamander species varies widely and often includes conspicuous blotches or stripes. If the dorsum isn't blotched, it is often completely brown. The belly (venter) is cream-colored with some brown mottling. A keel or ridge is present on the half of the tail furthest from the body of the salamander so that the tail appears triangular in cross section. The toe tips lack friction pads and appear white or light gray. Some individuals are entirely black and range in length from 6-14 cm..



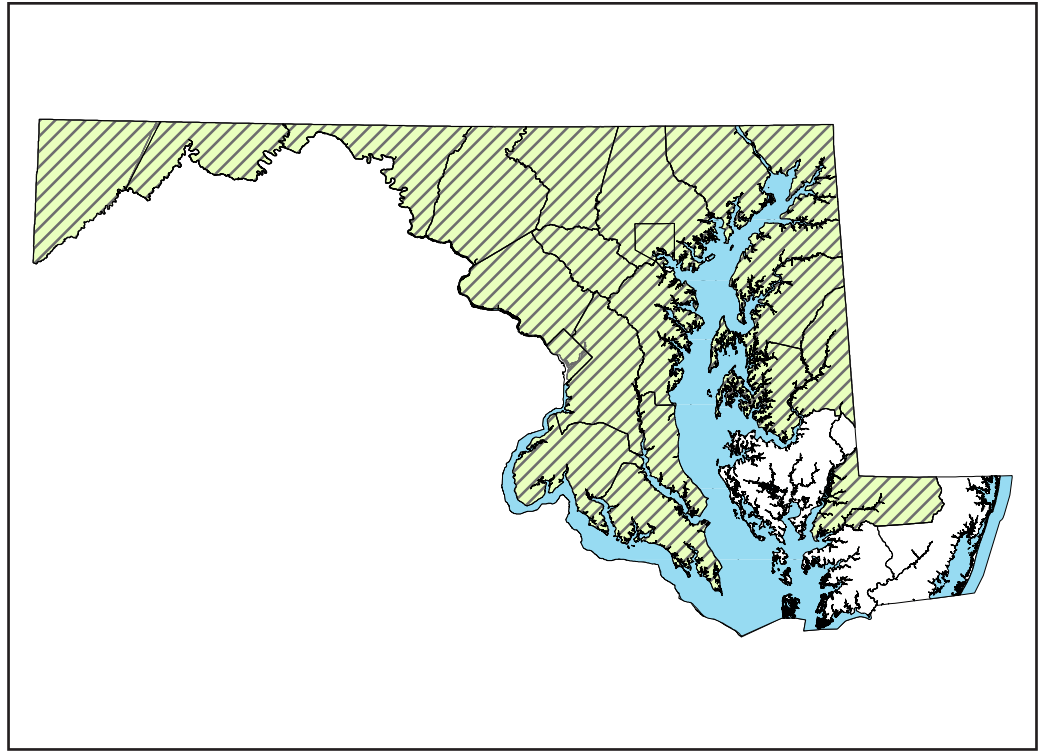
Young

The dorsum of young northern dusky salamanders have five to ten pairs of light tan-colored spots. The tail fin is well developed and extends forward to the base of the tail. There are no central dark markings bordered by pale round spots on the head (Petranka 1998).

Eggs

Eggs are laid in or near water and are attached to the undersides of rocks in streams or in cavities, in and under rotting logs, and in leaf mats or clumps of moss near streams and seeps. The eggs are deposited in a globular or grapelike structure. Ova are cream-colored to whitish and are surrounded by three envelopes. They are deposited during June through September and are typically guarded by the female (Petranka 1998).

Photos, from top:
Juvenile - John White
Eggs - Linh Phu
Adult - Ed Thompson



Distribution and Habitat

Northern dusky salamanders are found in and around streams throughout Maryland. They may be common in some areas and conspicuously absent from others. They can usually be found under rocks, logs, or other substrates along the stream edge.



Photos, from left:
Closeup - Ed Thompson
Habitat - Rebecca
Chalmers



Seal Salamander

Desmognathus monticola



Identification

Seal salamander adults are usually greater than ten cm. long, ranging from 7.5 - 15 cm. A keel is present on only the lower half of the tail. Closer to the body, the keel is absent and the tail becomes rounded. The toe tips have darkened friction pads that appear grayish-black to black. The dorsal (back) color pattern usually includes bold, dark wormy squiggle marks or spots on a lighter ground color. The belly is whitish to light gray and uniformly colored.

Young

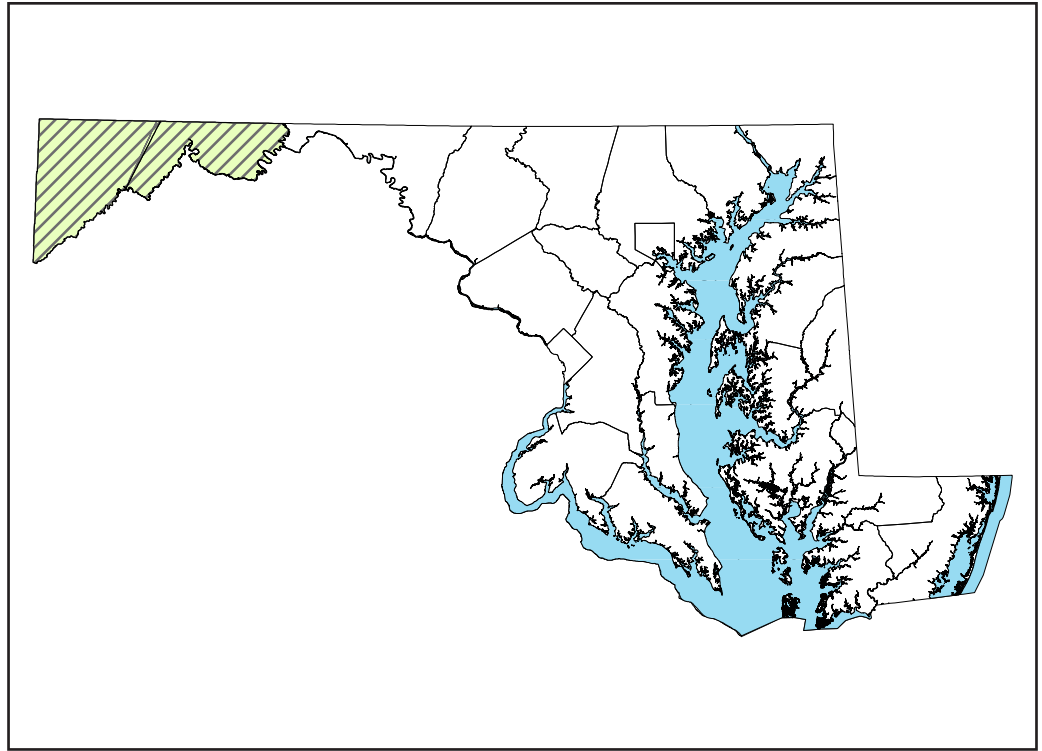
The body of young seal salamanders are slender. The dorsum (back) coloring typically has four or five pairs of light spots between the front and back legs. The underside of the tail has blotchy spots of color.

Eggs

On average, a female lays 15 to 40 eggs in or near running water and attaches them singly to the underside of a rock or other support structure to form a single layer, or in some instances a loose group that may be two to three egg layers thick. Each egg is attached by an elastic stalk so that movements of the attending female or water currents rock the eggs back and forth. Eggs can be found during June through September (Petranka 1998).



Photos, from top:
Juvenile - Jay Kilian
Adult - Jay Kilian
Adult - David Kazyak



Distribution and Habitat

Seal salamanders are found almost exclusively on the Allegheny Plateau (Harris 1975). They are usually found in and along small streams under rocks, logs, or other substrates.



Photos from left:
Adult - Lori Erb
Habitat - Matt Kline



Long-tailed Salamander

Eurycea longicauda longicauda



Identification

The dorsal (back) coloration of the long-tailed salamander is typically yellowish, although orangish and brown are also common. Fifty Maryland specimens ranged in length from 5.1 - 17.0 cm. As the name implies, the tail is greater than half the total length and is often 60 to 65 percent of the total length of adults. They have black spots on the back that are often arranged in irregular or discontinuous lines. The tail has two rows of "V" shaped or herring bone markings along the sides.

Young

The dorsum (back) of larval long-tailed salamanders lacks pairs of light spots like those found on northern two-lined salamanders. The underside of the throat often has blotchy patches of color. The larvae also develop heavy, dark mottling on either side of the body about two months after hatching.

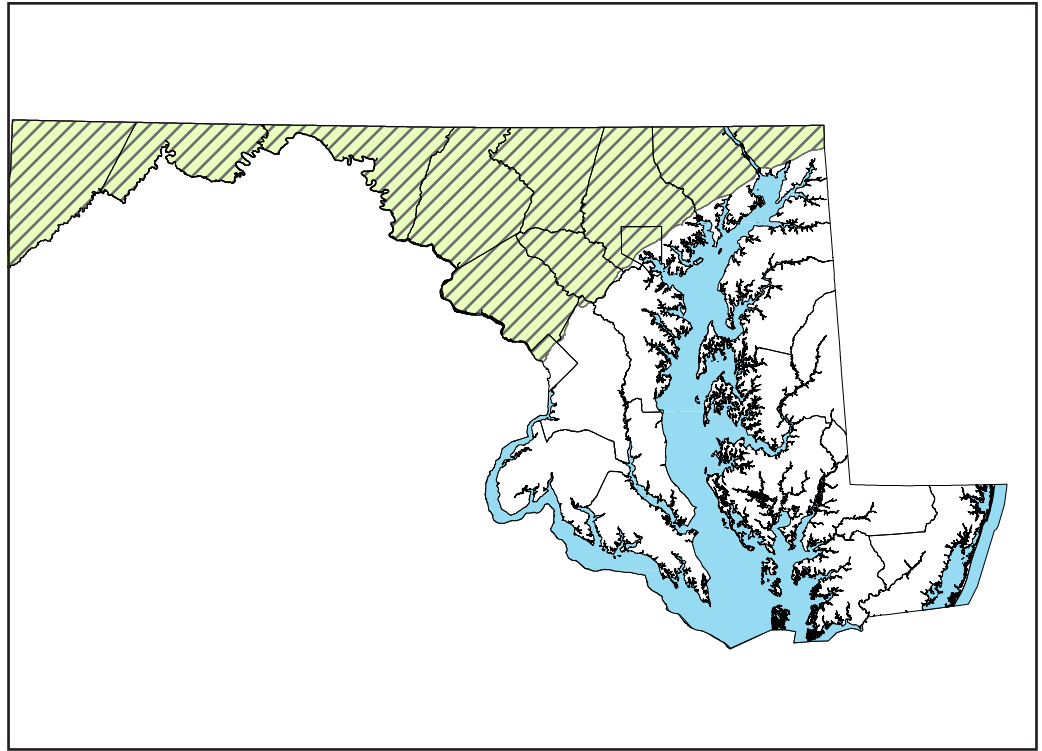
Eggs

The eggs of long-tailed salamanders are rarely seen. Most are laid underground in caves, mine shafts, or cisterns. However, Franz and Harris (1965) found larvae in a lake in Maryland. Egg laying most likely occurs between November and March. Eggs have been found attached singly to the undersurface of rocks, boards, cave walls, and other substrates. Mature ova are 2.5 to 3.0 mm (1.0 -1.2 in.) in diameter, yellowish in color, and surrounded by two jelly envelopes (Petranka 1998).

Photos, clockwise from top:

Adult - Mark Tegges
Adult - Rebecca Chalmers
Closeup - Rebecca Chalmers

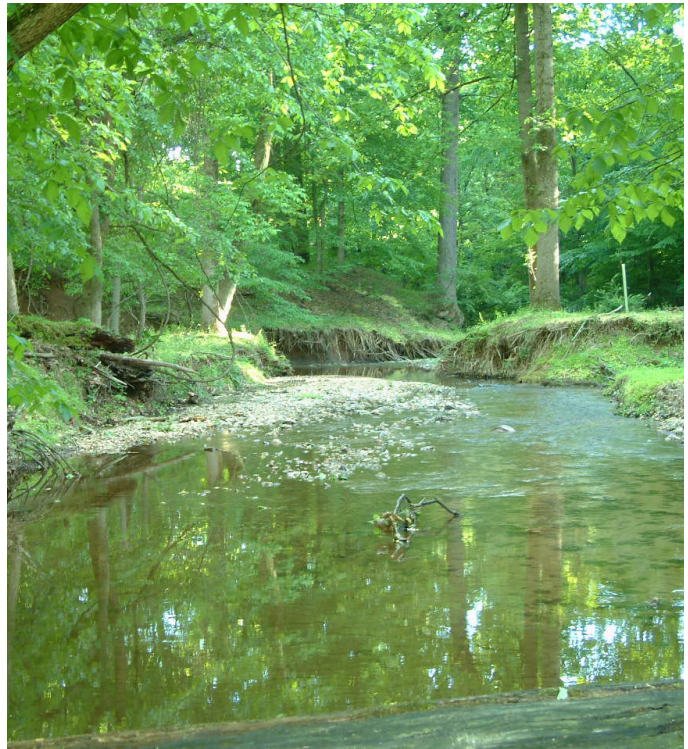




Distribution and Habitat

Long-tailed salamanders are not found on the Coastal Plain, but are found throughout the Piedmont and western Maryland (Harris 1975). Adults are usually found under rocks, logs and other cover near shaded streams, but are occasionally found far from water in forested habitats (Ireland 1979).

Photos, from left:
Adult - Rebecca
Chalmers
Habitat - Rebecca
Chalmers



Northern Two-lined Salamander

Eurycea bislineata



Identification

The northern two-lined salamander is the most common stream salamander in Maryland. It is relatively small and averages between 4.4 and 8.3 cm. long. It is a slender salamander with a yellowish-brown or tan dorsum (back) bordered by two solid, broad, parallel bands that extend from the eye well onto the tail. The belly is bright yellow.

Young

Larval northern two-lined salamanders have six to nine pairs of light spots on their dorsum. The dorsal fin ends on the tail (does not extend onto body) and the belly has a margin of dark pigmentation with abundant wavy lighter areas. The gills have well-developed stalks.

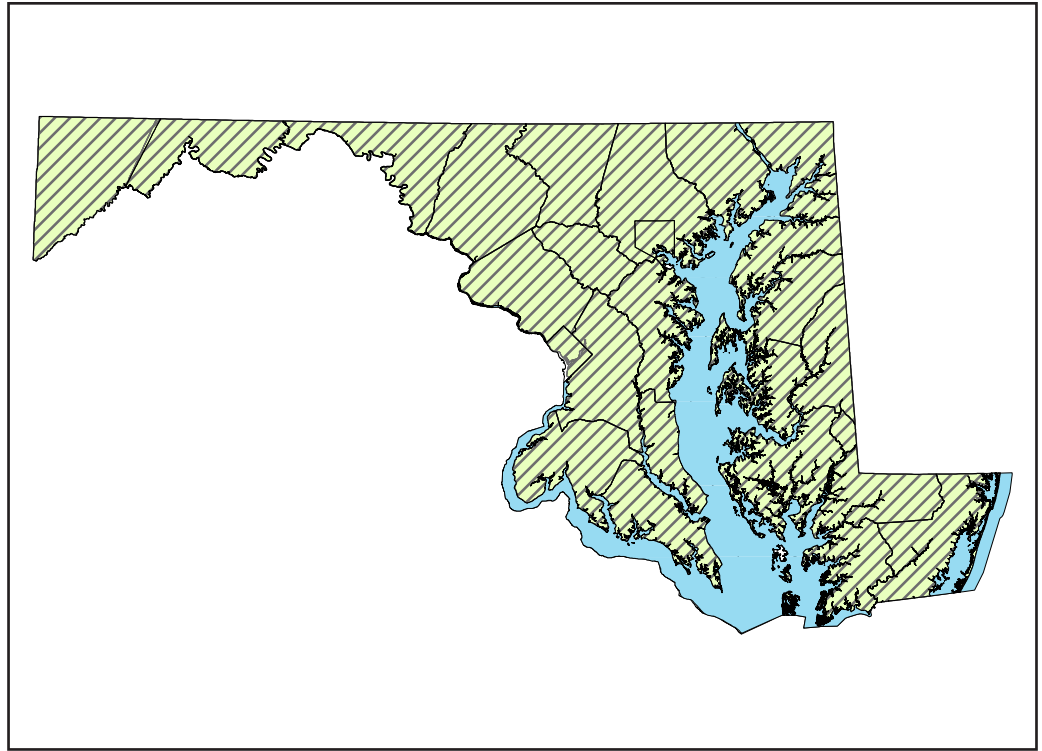
Eggs

Eggs are typically found in tight groups attached singly to the underside of submerged rocks, or other suitable substrate, with each egg suspended by a short, broad stalk from a support structure (Baumann and Huels 1982). Over time, the stalk and egg membrane become flimsy, and the eggs dangle freely in the water. Eggs are laid sometime from late January to May and hatch sometime from May to August (Petranka 1998).



Photos, from top:
Adult - Mark Tegges
Eggs - Steven Hammond
Adult - David Kazyak
Larval - John White





Distribution and Habitat

Northern two-lined salamanders are stream-dwelling species and are found throughout Maryland in every type of stream. Adults typical are found under rocks and other debris along the edge of streams and sometimes several meters from water.



Photos from left:
Adult - Linh Phu
Habitat - Matt Kline



Northern Spring Salamander
Gyrinophilus porphyriticus porphyriticus



Identification

The dorsal coloration of the northern spring salamander is red, salmon, or orangish with dark spots (may be rusty red to reddish brown in old animals). Although it may be difficult to see in some of the specimens, a light line bordered by gray or black extends from the eye to nostril.

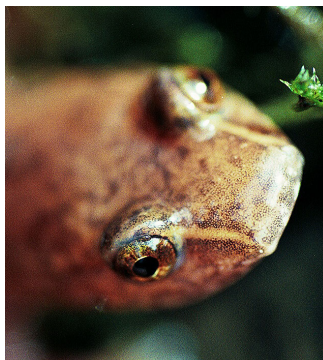
Young

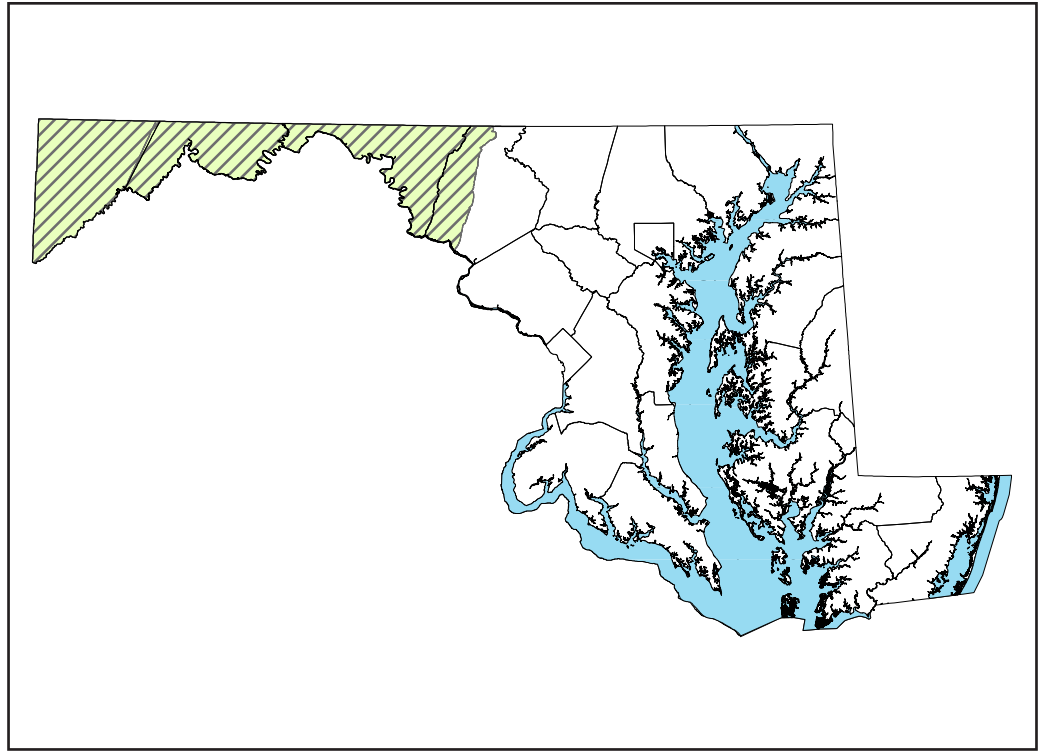
The larval northern spring salamander has a stout body with a light brown to flesh-colored back. Older larvae are often marked with dark spots. The belly is typically whitish.

Eggs

Very few northern spring salamander nests have ever been found. The eggs are probably laid in deep underground recesses in streams or seeps. Eggs are attached singly in monolayers to the undersides of rocks or other objects. Mature ova are light yellow, about 3.5 to 4.0 mm (1.4-1.6 in.) in diameter and surrounded by three jelly coats. Most females oviposit during summer, and hatching occurs in late summer or autumn (Petranka 1998).

Photos, clockwise from top:
Adult - Lori Erb
Larval - Mark Tegges
Rostrum - Lori Erb





Distribution and Habitat

Northern spring salamanders appear to prefer relatively high-elevation streams in Maryland. They are found in western Maryland and along the Blue Ridge, and usually occur in and along small streams under rocks and other substrates (Harris 1975).



Photos clockwise from left:
Closeup - David Kazyak
Adult - David Kazyak
Habitat - Matt Kline



Eastern Mud Salamander

Pseudotriton montanus montanus



Identification

The dorsal (back) coloration of the eastern mud salamander is similar to that of the northern spring salamander and tends to be red, salmon, or orangish with dark spots. They are a stout salamander and there is no line between the eye and the jaw as in the northern spring salamander. Their eyes tend to be brown or black compared to the yellow eyes of the northern red salamander. The colors on the sides and belly sharply contrast with each other, and the black spots on the back are usually widely scattered and do NOT run together.

Young

The dorsum (back) of larval eastern mud salamanders is light brown to flesh-colored. Older larvae begin to have markings similar to those of adults and are often marked with widely-scattered, distinct dark spots.

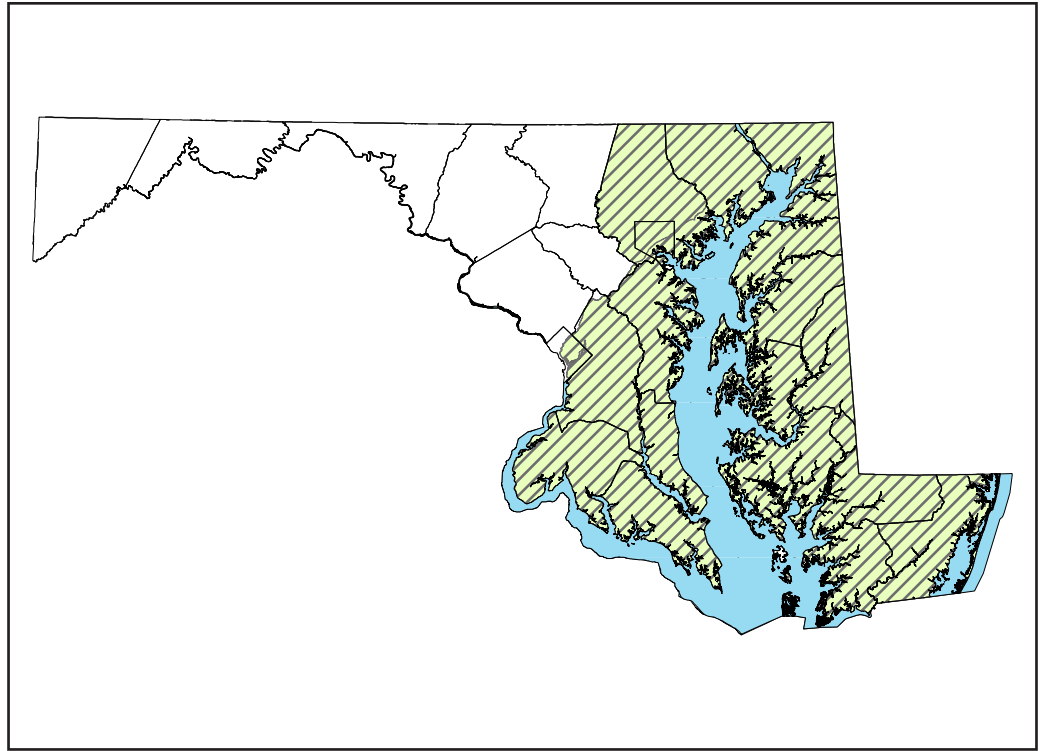
Eggs

Eastern mud salamander eggs have rarely been found. They are most likely laid in autumn or early winter and hatch during winter. Females nest in cryptic underground sites in or near aquatic habitats. Freshly laid eggs are about 3.5 mm (1.4 in.) in diameter (Bruce 1975) and have no dark pigment. Fowler (1946) observed eggs in Maryland in late December at the base of a hillside in a small cavity in a seep at the base of a hillside. The eggs were attached singly or in groups of up to six, to rootlets that formed the wet walls of the cavity. The eastern mud salamander has one of the highest numbers of eggs per female for any North American Plethodontid, at 77-192 (Bruce 1975).

Photos, clockwise from top:

Larval - John White
Adult - Rebecca Chalmers
Rostrum - Rebecca Chalmers
Adult - John White





Distribution and Habitat

Juvenile and adult eastern mud salamanders typically live in muddy habitats next to springs, streams, and swamps in bottomland forests. They are usually very close to water, but have been found up to 20 m (21.9 yards) away (Petranka 1998). In Maryland, they live almost exclusively on the Coastal Plain (Harris 1975).



Photos, from left:
Adult - Mark Tegges
Habitat - Rebecca
Chalmers



Northern Red Salamander

Pseudotriton ruber ruber



Identification

The dorsal (back) coloration of the northern red salamander is similar to that of the northern spring and eastern mud salamander. They are red, salmon, or orangish in color and usually have numerous dark spots on their backs. This species is approximately 12.3 - 13.5 cm long and stout. There is no line between the eye and the mouth as in the northern spring salamander. The eyes are typically yellow or gold compared to the brown eyes of the eastern mud salamander. The coloration on the sides and belly do not sharply contrast.

Young

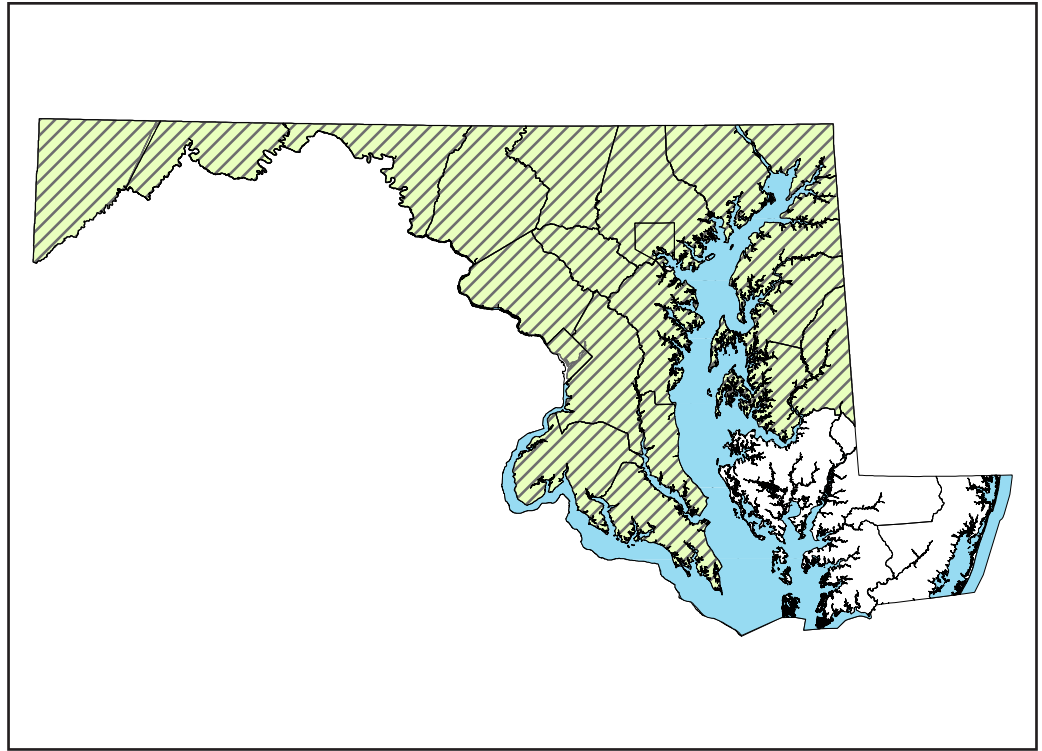
Larval northern red salamanders are extremely difficult to distinguish from larval eastern mud salamanders. However, they may be distinguished by the dorsal color pattern and the habitat where they are collected. Older red salamander larvae usually do not have distinct spots, but have black streaks or weak mottling. They are usually found in small clear rocky-bottomed streams.

Eggs

Northern red salamander eggs have rarely been found. They are laid during autumn or early winter in springs, headwater streams, seepage-fed mountain bogs, and other habitats. Eggs are attached singly by gelatinous stalks to the underside of a rock or other substrate, and are often submerged in water. Freshly laid eggs are about 4mm (1.6 in.) in diameter (Bishop 1941).

Photos, from top:
Larval - John White
Older Individual - Linh
Phu
Adult - Mark Tegges





Distribution and Habitat

Northern red salamanders are found in streams throughout much of Maryland, with the exception of the lower eastern shore (Harris 1975). They can be found in and along streams and often burrow in soft sediments alongside streams. They can also be found congregating in springs and streams during late fall (Bishop 1941).



Photos, from left:
Closeup - John White
Habitat - Rebecca
Chalmers

