

Some Common

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# Salamanders of the Northeast USA

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*An introduction and guide*



Dave Huth

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By Dave Huth



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# Spotted Salamander

*Ambystoma maculatum*



Aquatic larval stage



**The spotted salamander** is a New York's largest terrestrial salamander. During the breeding season males have very conspicuously swollen vents, and females in breeding condition are typically larger than males.

"Spotties" primarily inhabit mature deciduous forests with vernal pools for breeding sites, in addition to coniferous, mixed coniferous, and bottomland forests and adjoining floodplains.

The Spotted Salamander generally breeds only in ephemeral pools that are fish-free. Occasionally they will use permanent ponds despite the reduced hatching success due to the presence of fish. Adults migrate to breeding pools in early spring, typically during rainy evenings.

They are very secretive the rest of the year, spending most of their time beneath the surface.

Adult size: 150 - 200 mm

Identifying features:

- Large thick body
- Very dark body
- Distinct bright yellow spots

Early spring:

Migrating in large numbers to shallow vernal pools

Late spring - mid fall:

In underground burrows, or buried beneath heavy cover

Notes:

Drive very carefully during early spring road crossings!  
Vanishing vernal pools threaten their ability to breed.



*A. maculatum* migrating from the forest to a shallow vernal pool for spring breeding

# Jefferson Salamander

*Ambystoma jeffersonianum*



***Ambystoma jeffersonianum*** is a long, slender salamander; with long digits and a wide snout. Bluish flecks often are scattered along the limbs and lower sides of the body, complementing the dark brown or gray the species usually exhibits. The ventral stomach is lighter in color, usually gray.

This species is primarily located on the East Coast of the United States, ranging from west New England and southern New York to Virginia and Indiana. Typical habitats consist of swamps and ponds of the deciduous

forest regions where they may often be found under debris.

During breeding season, which is early in the season and can coincide with snow still on the ground in March and April, adults migrate to ponds and vernal pools.

Genetically unusual female Jefferson Salamanders can reproduce with chromosomes from Blue Spotted Salamanders (*A. laterale*) creating ranges of hybrid complexes. Genetically pure *A. jeffersonianum* populations are relatively rare.



Egg mass

Adult size: 121 - 210 mm

Identifying features:

- Large thick body
- Dark gray to purplish color
- Notably long toes

Early spring:

Migrating in numbers to shallow vernal pools

Late spring - mid fall:

Very rarely seen. Underground or beneath heavy cover

Notes:

May be seen crossing roads on rainy nights in early spring. Genetically unusual individuals in the Bluespotted-Jefferson Salamander Complex often show irregular blue speckling.



*A. jeffersonianum* migrating for breeding during early Spring rains

# Red Back Salamander

*Plethodon cinereus*



A defensive posture called "curling"



Dorsal view showing variable reddish stripe

**The Red Back Salamander** is a wide ranging *Plethodon* species, commonly found beneath leaf litter, logs, stones, and other cover objects of the forest floor. It's also not unusual to discover them within naturalized (low pesticide) green space near residential or commercial buildings.

Red Backs are named for a wide reddish brown stripe running from head to tail on a dark, flecked body. Individuals vary in their stripe's brightness, color shade, mottling, continuity, and width. A common morph in some regions, called a

"Lead Back Phase," lacks any dorsal stripe at all.

When uncovered, Red Backs will sometimes adopt one of several defensive postures, such as curling (see the photo on this page) or even a "playing dead" act in which the salamander will lie motionless on its back or side.

Females are on average larger than males, and will typically remain with eggs laid in hidden nest cavities on the forest floor. Young emerge as terrestrial neonates in mid- to late summer.



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Adult size: 58 - 91 mm

Identifying features:

- Medium, slender body
- Reddish brown dorsal stripe
- Dark sides with white/blue speckling

Spring through fall:

On forest floor under moist cover, such as logs and leaves

Early winter:

During thaws, especially with rain, may still be found

Notes:

May "play dead" when uncovered, lying motionless. Tails readily regrow if injured, and often observed in partial regrowth.

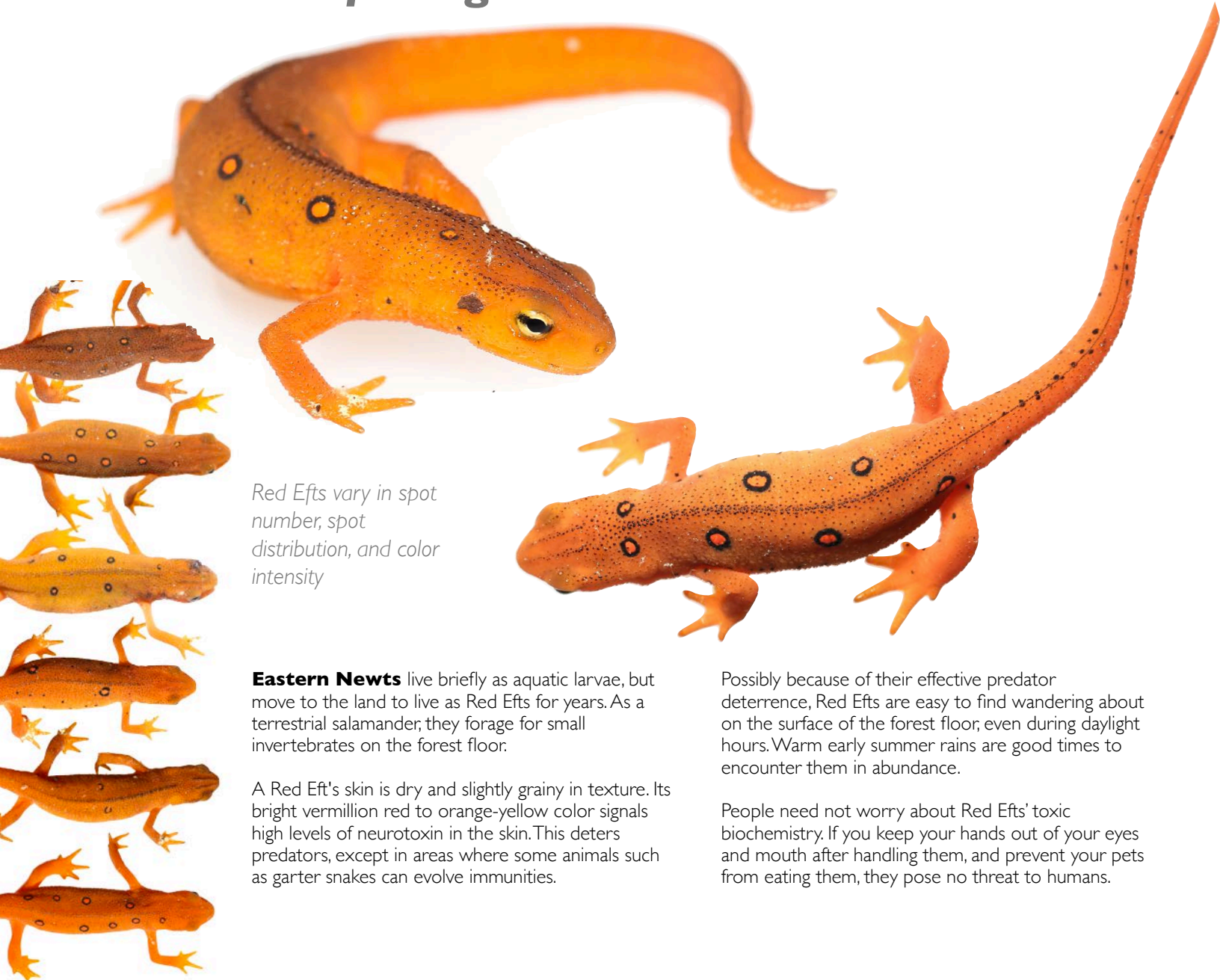


*P. cinereus* in characteristic "playing dead" defensive posture

# Salamanders of the Northeast

## Eastern Newt

*Notophthalmus viridescens* -  
**terrestrial eft stage**



Red Efts vary in spot number, spot distribution, and color intensity

**Eastern Newts** live briefly as aquatic larvae, but move to the land to live as Red Efts for years. As a terrestrial salamander, they forage for small invertebrates on the forest floor.

A Red Eft's skin is dry and slightly grainy in texture. Its bright vermilion red to orange-yellow color signals high levels of neurotoxin in the skin. This deters predators, except in areas where some animals such as garter snakes can evolve immunities.

Possibly because of their effective predator deterrence, Red Efts are easy to find wandering about on the surface of the forest floor, even during daylight hours. Warm early summer rains are good times to encounter them in abundance.

People need not worry about Red Efts' toxic biochemistry. If you keep your hands out of your eyes and mouth after handling them, and prevent your pets from eating them, they pose no threat to humans.

Adult size: 25 - 86 mm, larger near adult aquatic stage

Identifying features:

- Dry, granular skin
- Brilliant orange-red color
- May have few or many spots

Late spring through early fall: On forest floor under cover, such as logs and leaves. Can also be seen roaming on the surface, especially after warm summer rains.

Notes:

Toxins won't harm humans through skin contact, but wash hands after handling.



As Red Efts age, their coloration may become more dull before transitioning permanently to the water.

# Salamanders of the Northeast

## Eastern Newt

*Notophthalmus viridescens* -  
**adult aquatic stage**



**Eastern Newts**, after living on land for a period of years as terrestrial juveniles, eventually return to the water to live out their lives as aquatic adults.

They prefer shallow standing water with plenty of submerged vegetation in which to hide. This can include the edges of ponds, slow moving stretches of streams, watery marshes, or even deep ditches.

Adult Eastern Newts are more olive brown in color than in their Red Eft stage. They have powerful paddle like tails and are fast swimmers.

A good time to spot Eastern Newts is in the spring when dozens may congregate in shallow waters for courtship and laying eggs.



Adult size: 65 - 140 mm

Identifying features:

- Olive green to brown body
- Red spots along back
- Yellow belly with black spots

Spring through fall:

Swimming in shallow waters of ponds, ditches, stream pools.

Winter:

Sometimes visible when ice is off the water.

Notes:

Somewhat more active during spring breeding. Could be infected by a parasite that raises small bumps on their head and body.



Male *N. viridescens* have large muscular hind legs, especially during breeding.

# Allegheny Mountain Dusky Salamander

*Desmognathus ochrophaeus*



Like most sala  
prey on ground



**Allegheny Mountain Dusks** are small salamanders of streams, seepages, and moist forest areas. They can be colored and marked in a variety of ways. Generally they are gray-brown to rusty red, sometimes yellow-orange. Most of this color is typically in a long wide stripe from head to tail, edged with black or dark brown. On older individuals, there may be a dark chevron pattern down the length of this stripe.

*Desmognathus* is a very large and diverse genus of stream salamanders in Eastern North America, and species can be hard to distinguish. Younger adults of New York's other *Desmognathus* species, the Northern Dusky Salamander (*D. fuscus*) can sometimes be confused with *D. ochrophaeus*. One way Allegheny Mountain Dusks are distinguished is by their rounded tails, rather than flattened at the top edge into a keel as in Northern Dusks.

Adult size: 70 - 100 mm

Identifying features:

- Light line from eye to jaw
- Brown, rust, or yellow stripe down back
- May include dark chevrons

• Rounded tail (not keeled)

Spring through fall:

Beneath stones and debris at stream edges and seeps

Winter:

May move to seepy hillsides or shale scrambles.

Notes:

Easily confused with Northern Dusky Salamander (*D. fuscus*)



As *D. ochrophaeus* age, a dark dorsal pattern of chevron markings may begin to appear.



# Slimy Salamander

*Plethodon glutinosus*



The speckling on juveniles may include gold or brass colored flecks.

**Slimy Salamanders** have black or dark gray bodies, covered with white or cream spots and flecks. Younger individuals may have shinier golden flecks. They are a large, terrestrial species, often found burrowed deep within soft rotting logs, beneath rocks, or in shallow rodent burrows.

Their diet consists of many ants and beetles, as well as other ground invertebrates. This is a secretive species, fleeing fast through leaf litter when discovered. They can be found on warm rainy nights walking on the forest floor or crossing roads.

A defensive characteristic of Slimy Salamanders is to secrete a sticky, almost glue-like secretion from glands in the skin. This deters predation, and also provides anti-pathogenic protection.

The secretions, while possibly irritating to sensitive skin or eyes, are generally not harmful to humans. However, if dried on the skin, the sticky substance may be difficult to scrub off for 24 to 48 hours.

Adult size: 115 - 205 mm

Identifying features:

- Large body, long thick tail
- Dark gray to bluish black body
- Many white or cream spots

Spring through fall:

Buried beneath stones or within decaying wood

Winter:

Rarely seen except in unseasonal warm spells.

Notes:

Emits a white sticky skin secretion which is hard to wash off. Take special care if handling, as their sensitive skin dries out quickly.



*P. glutinosus* are not often seen on the surface, preferring to hide beneath logs or underground.

Salamanders of the Northeast

# Northern Dusky Salamander

*Desmognathus fuscus*



A female guards her eggs



**Northern Dusky** are gray to brown salamanders of moist forest areas, streams, and seeps. They tend to be slightly larger than New York's other *Desmognathus* species, the Allegheny Mountain Dusky Salamander (*D. ochrophaeus*). A distinguishing feature is the Northern Dusky's keeled tail, as opposed to the Allegheny Mountain Dusky's rounded tail.

Northern Dusky females are protective parents. They will brood over a clutch of eggs in a nursery crevice hollowed from mud or moss, physically attacking predators and guarding against pathogens.

Adult size: 64 - 140 mm

Identifying features:

- Light line from eye to jaw
- Brown to gray, with some side speckling
- Keeled tail (not rounded)

Spring through fall:

Beneath stones and debris in moist forests and streamsides

Winter:

May move to upland seeps or stony hillsides.

Notes:

Easily confused with Allegheny Mountain Dusky Salamander (*D. ochrophaeus*). The Northern Dusky is generally longer, thicker, and has a narrow top edge to its tail.



Northern Dusky Salamanders are easily camouflaged in mud

# Four-toed Salamander

*Hemidactylium scutatum*



**Four-toed Salamanders** are very secretive, small salamanders of damp forest areas nearby bogs, seeps, and other wetlands.

They're easily identified by their rich bronze dorsal colors, duller-colored sides, and bright white bellies spotted and flecked with black.

Four-toed Salamanders breed in shallow waters and lay nestled within moss mats overhanging the water. Females will remain with the eggs, watching over them until the tiny larvae emerge and wriggle into the water.

These slender salamanders have notably long tails, with a pronounced constriction at the base. They are prone to pinching off their own tails when threatened to distract predators.



*A female watches over a clutch of eggs*

Adult size: 50 - 100 mm

Identifying features:

- Small body, with very long tail
- Bronze colored back
- White belly with black spots
- Constriction at base of tail

Spring through fall:

In moss or under woody cover near shallow breeding pools

Winter:

Rarely uncovered, except in unseasonal warm spells.

Notes:

Be gentle searching moss, which is where females guard eggs in spring/summer. May adopt a "playing dead" posture. Be especially careful if handling, their skin dries easily.



# Spring Salamander

*Gyrinophilus porphyriticus*



**Spring Salamanders** are large salamanders of running creeks and forested streams. They can vary in color from rusty orange to a salmon pink color. Their stout bodies, blunt squared-off snouts, and large size make them easily identifiable beneath stones and other cover at the edges of water. A light colored line from eye to nostril is a final identifying feature.

Larvae with prominent gills are often observed in creek shallows. The Spring Salamander is a formidable predator, even eating smaller salamanders. Adults have a prominently keeled tail, making them vigorous swimmers.



Adult size: 110 - 210 mm

Identifying features:

- Large, robust body, keeled tail
- Light line from eye to nostril

- Mottled peach, purplish, or reddish brown color

Spring through fall:

Streamside under rocks or logs, often partially submerged in shallow water

Winter: Rarely seen, except during unseasonal thaws.

Notes:

Extremely strong, fast swimmers, quickly disappearing into holes and crevices



Even before fully developing into adults, Spring Salamanders are formidable predators.

# Northern Two-lined Salamander

*Eurycea bislineata*



**The Northern Two-lined Salamander** is a smaller, slender salamander of streamsides and seepages, occasionally dispersing farther into surrounding forest during periods of warm rains, but otherwise sticking close to the water.

Their attractive yellow-orange to bright yellow color is bordered by dark brown or black bilateral stripes running from the eyes to partway down the tail.

Females attach mats of eggs on the undersides of stones and logs in flowing water.

Both larvae and adults are opportunistic predators of small aquatic and terrestrial invertebrates.

Adult size: 61-97 mm

Identifying features:

- Long slender body and tail
- Yellow or dull orange color
- Dark lateral stripe from eye, broken as it nears tail

Spring through fall:

Streamside under rocks or logs, often partially submerged in shallow water

Winter: Rarely seen.

Notes:

Quick to escape on land or in water



This *E. bislineata* neonate is drab colored and won't develop its attractive yellow until later.



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