



Salamanders of Tennessee

Matthew L. Niemiller
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Salamander Anatomy



Costal groove

Mental gland

Cirri



Nasolabial groove

Cornified toe pads

Hellbender




Cryptobranchus alleganiensis

- Family Cryptobranchidae
 - Up to 740 mm TL
 - Lack external gills; gills covered by skin
 - Flattened heads with small eyes
 - Conspicuously wrinkled skin along sides to aid in cutaneous respiration
 - Long oar-like tails and short robust legs
 - External fertilization



Mudpuppy
Necturus maculosus

- Family Proteidae
 - Up to 40 mm TL
 - Neotenic; external gills throughout life
 - Four toes on each foot
 - Also possess lungs
 - Long oar-like tails and short robust legs
 - Primarily found in rivers in Tennessee







Family Ambystomatidae

- Large, robust salamanders with short but large, rounded heads
- Conspicuous costal grooves present
- Nasolabial grooves absent
- Possess lungs
- Larvae are robust with well-developed caudal fins and large heads
- Six species in Tennessee
- Inhabit a variety of habitats but are most common in forests in close proximity to breeding sites, such as ephemeral ponds and flooded meadows
- Throughout the majority of the year, adults reside underground in burrows but come to the surface during the breeding season





Spotted Salamander
Ambystoma maculatum

- Up to 248 mm TL
- Black to gray ground color with conspicuous yellow to orange paired spots on the dorsum
- Males with swollen vents during breeding season
- 12 costal grooves
- Breeding January - April




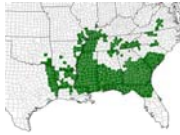
Marbled Salamander *Ambystoma opacum*

- Smaller, up to 127 mm TL
- Black ground coloration with prominent white crossbands
- Males with swollen vents during breeding season but also much brighter white
- 11–13 costal grooves
- Breeding October – November
- Eggs laid terrestrial and hatch when inundated by water





Mole Salamander *Ambystoma talpoideum*

- Small and robust; up to 120 mm TL
- Ground coloration brown, bluish, gray or black with light-colored flecks on the dorsum and sides
- Body stout with large head
- Males with swollen vents during breeding season
- 11 costal grooves
- Tail is short, laterally compressed and glandular
- Parotid glands present on the head
- Neotenic populations occur in Tennessee





Red-Spotted Newt *Notophthalmus viridescens*

- Family Salamandridae
 - Rough, glandular skin and lack costal grooves
 - Complex life cycle with three distinct life stages: larva, eft, and adult
 - Produce toxic skin secretions
 - Efts often exhibit aposomatic coloration



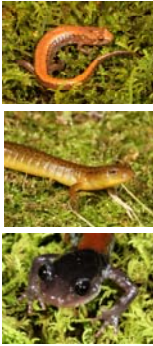
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Family Plethodontidae

- Largest family of salamanders
- Conspicuous costal grooves present
- Nasolabial grooves present
- Lack lungs
- 46 species in Tennessee
- Some species neotenic
- Other species bypass larval stage altogether (i.e., direct development)
- Occupy a variety of habitats in Tennessee but most diversity in Blue Ridge Mountains



Genus *Desmognathus*

- 15 species in Tennessee
- Some almost entirely aquatic, others fully terrestrial
- Two species w/ direct development
- Hind limbs larger than fore limbs
- Line running from eye to posterior margin of jaw
- Some species can only be distinguished based on geography and genetics
- Larvae very difficult to identify



Spotted Dusky Salamander
Desmognathus conanti

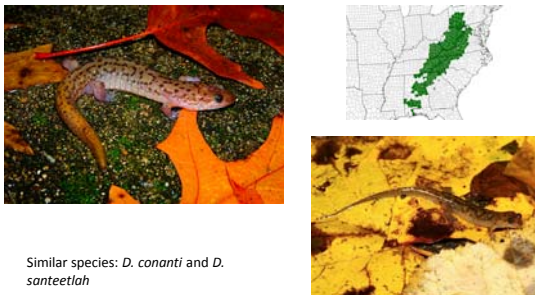


Santeetlah Dusky Salamander
Desmognathus santeetlah



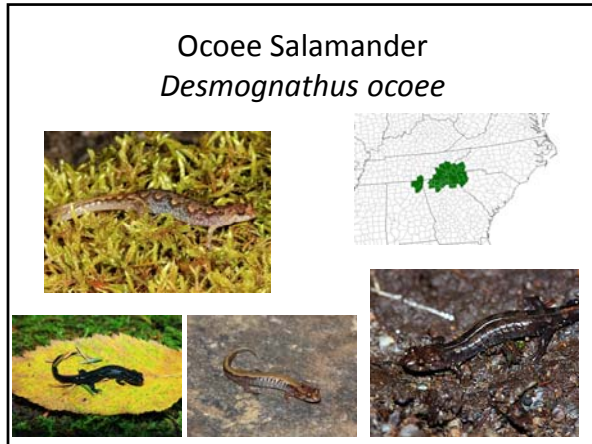
Similar species: *D. conanti* and *D. monticola*

Seal Salamander
Desmognathus monticola



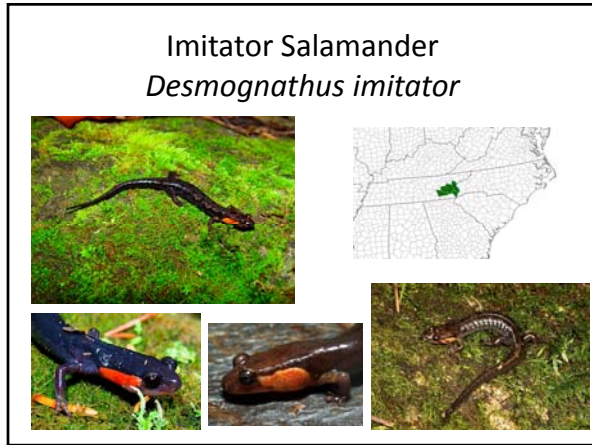
Similar species: *D. conanti* and *D. santeetlah*

Ocoee Salamander
Desmognathus ocoee



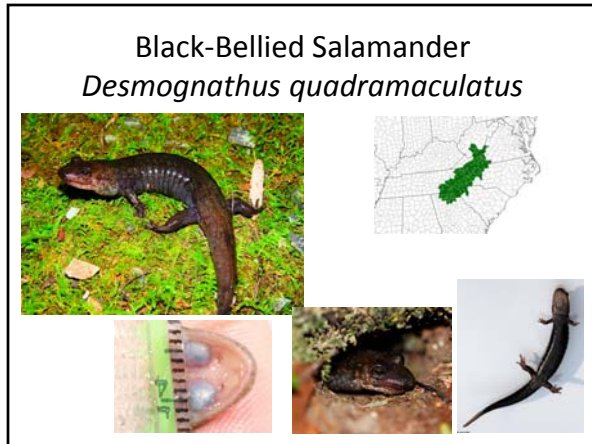
This composite image for the Ocoee Salamander includes a large photo of the salamander on moss in the top left, a distribution map of North Carolina in the top right, and three smaller photos in the bottom row showing the salamander on a yellow leaf, on a rock, and on a stream bed.

Imitator Salamander
Desmognathus imitator




This composite image for the Imitator Salamander includes a large photo of the salamander on moss in the top left, a distribution map of North Carolina in the top right, and three smaller photos in the bottom row showing the salamander on a rock, on a stream bed, and on grass.

Black-Bellied Salamander
Desmognathus quadramaculatus




This composite image for the Black-Bellied Salamander includes a large photo of the salamander on moss in the top left, a distribution map of North Carolina in the top right, and three smaller photos in the bottom row showing the salamander's mouthparts, on a stream bed, and on a light surface.

Shovel-Nosed Salamander
Desmognathus marmoratus

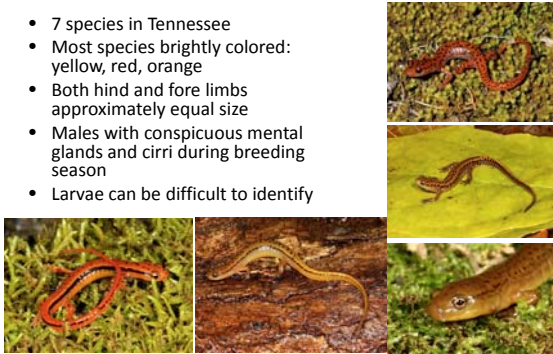


Pygmy Salamander
Desmognathus wrighti



Genus *Eurcyea*

- 7 species in Tennessee
- Most species brightly colored: yellow, red, orange
- Both hind and fore limbs approximately equal size
- Males with conspicuous mental glands and cirri during breeding season
- Larvae can be difficult to identify



Blue Ridge Two-Lined Salamander
Eurycea wilderae



Long-Tailed Salamander
Eurycea longicauda longicauda



Genus *Plethodon*

- 17 species in Tennessee
- All fully terrestrial
- All w/ direct development
- Hind and fore limbs about equal in size
- Tail round in cross section
- Males with conspicuous mental glands during breeding season
- Some species can only be distinguished based on geography and genetics



Southern Red-Backed Salamander
Plethodon serratus



Green Salamander
Aneides aeneus



Spring Salamander
Gyrinophilus porphyriticus



Four-Toed Salamander
Hemidactylium scutatum



Red Salamander
Pseudotriton ruber