

Ditch Dwellers

By Frederick Boyce

Sirens and amphiumas

Roadside ditches are often overlooked, but are important aquatic habitats for many diverse creatures—and also provide routes of transit between other bodies of water. Ditches can be home to many species of fish, especially mosquito fish (*Gambusia* spp.) as well as shiners, chubs, darters, killifish, minnows and sunfish. They are also populated by a great abundance of aquatic invertebrates such as aquatic insect larvae, worms, leeches, crayfish and, depending on the salinity in coastal areas, crabs.

All of this activity naturally attracts a lot of attention from predators, and ditches are favorite haunts of foraging raccoons, otters and skunks, as well as snakes, lizards, turtles and even alligators. Herons, kingfishers and hawks regularly patrol ditches in the hope of an easy meal.

Often lined with flowering plants, ditches attract a multitude of pollinators and the spiders that prey upon them, and there are even large and impressive fishing spiders, *Dolomedes*, spp., that spin horizontal webs above the water to catch small fish. Carnivorous pitcher plants of the genus *Saracenia*, especially the squat purple or northern pitcher, *S. purpurea*, are often found growing in or along ditches as well.

Almost every type of wild animal in our area regularly interacts with ditches in some way, even if it is just to have a drink or a quick leap to the other side, as deer regularly do. Among the less familiar ditch dwellers are certain large, aquatic salamanders that are secretive, mostly nocturnal and thus seldom seen. They have long, smooth, cylindrical bodies, very much like eels, and are indeed often referred to as “eel-like” salamanders. Locals have long called them “conger eels” or “ditch eels,” but true eels are, of course, fish and are easily identified by their two pectoral fins, just behind the head, and complete absence of limbs.

Eel-like salamanders come in two basic varieties—sirens and amphiumas. While they can actually be quite common in some places and might inhabit virtually any quiet and thickly vegetated body of water, most people remain completely unaware of the presence of these bizarre creatures. The most obvious difference between the two is in the number of limbs. Amphiumas, like most other salamanders, have four limbs, but they are very reduced and at first glance appear to be so small as to be utterly useless. In the buoyancy of their aquatic environment, however, amphiumas can actually maneuver themselves around quite well with these miniscule limbs. There are three species of amphiuma, and they are distinguished by the number of toes on their tiny feet—one, two or three.

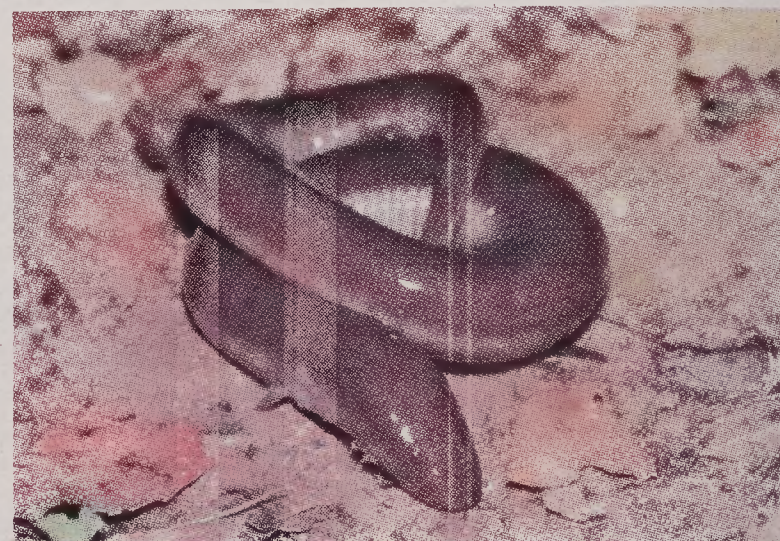
They are found only in the southeastern Coastal Plain of the United States, from southeastern Virginia down to all of Florida except for the Keys, and west along the Gulf Coast to Louisiana. The only one of the three that comes into North Carolina and Virginia is the two-toed amphiuma, *Amphiuma means*. They can grow to very impressive sizes: over 40 inches, and as girthy as a summer sausage. Their strange, almost cartoonish, appearance belies the fact that they are fearsome carnivores within their realm, eating almost anything they can capture, including all manner of invertebrates (they are particularly fond of worms and crayfish), but also small fish and various amphibians and reptiles, including baby snakes and turtles, and even smaller amphiumas. Their soft, fleshy-looking lips conceal a set of formidable teeth, and they are capable of inflicting a nasty bite if handled carelessly. I know of at least one case that required a trip to Urgent Care and stitches. Mother amphiumas usually guard their eggs, which are connected in a string covered by a thin, filmy membrane.

Sirens differ from amphiumas in having only a single pair of forelimbs, each with four toes, as well as large bushy, reddish gills that resemble the ears of an underwater Irish setter. (Adult amphiumas have gill slits but no visible gills.) There

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Top, left to right: Two-toed amphiuma, *Amphiuma means*, and Lesser siren, *Siren intermedia*—Photos by Jeffrey C. Beane, North Carolina Museum of Natural Sciences; below, Two-toed amphiuma, *Amphiuma means*—Photo by R.D. Bartlett



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