



**Common Name:** ONE-TOED AMPHIUMA

**Scientific Name:** *Amphiuma pholeter* Neill

**Other Commonly Used Names:** Ditch eel, congo eel

**Previously Used Scientific Names:** None

**Family:** Amphiumidae

**Rarity Ranks:** G3/S1

**State Legal Status:** Rare

**Federal Legal Status:** None

**Description:** The one-toed amphiuma is an elongated, eel-like salamander that reaches a maximum length of 30.5 cm (12 in). This species, like other amphiuma species, has two pairs of very minute and seemingly useless limbs. The presence of only a single toe on each limb is unique to this species. The head is rather conical in shape. The one-toed amphiuma has a slightly laterally flattened tail. Its unmarked, dark brown body is similar in color to the organic muck in which it lives. A small gill slit is present on each side, just behind the eye. Larvae are unknown.

**Similar Species:** One-toed amphiumas can be distinguished from other amphiumas by the presence of only a single toe on each foot and from sirens by the lack of external gills. The American eel has a rayed fin around the tail.

**Habitat:** Deep, organic and liquid muck beds are the habitat for this species. These muck beds form from the accumulation and decay of hardwood debris within the floodplains of small, permanent, or nearly permanent streams. One-toed amphiumas may also be found in smaller muck beds within seepage areas.

**Diet:** These salamanders eat tiny clams, snails, aquatic earthworms, and a variety of arthropods.

**Life History:** Very little information is available for this unusual species. Eggs are probably laid in June and July and hatch in late summer and early fall. It is unknown whether a larval stage exists for this species. Despite the presence of gill slits, one-toed amphiumas breathe air by periodically protruding their snouts above the muck. Potential predators include mud snakes, common snapping turtles, two-toed amphiumas, raccoons, and feral hogs.

**Survey Recommendations:** The primary technique for finding this species involves raking your hands through the muck beds they inhabit. Occasional individuals are found under logs or other debris within mucky habitats. Cold winter periods should be avoided for surveys.

**Range:** The one-toed amphiuma is restricted to the lower Gulf Coastal Plain of southwestern Georgia, northern Florida, southern Alabama and southern Mississippi. In Georgia, it is currently known from only a few sites, all in tributaries of the Ochlockonee River. The lower Flint and Chattahoochee river drainages may also harbor this species.

**Threats:** The one-toed amphiuma lives in areas of high agricultural activity and faces threats from associated herbicides, pesticides, and fertilizers. Alteration of stream hydrology by both drainage and impoundment significantly reduces the amount of suitable habitat available for this species. Siltation from various types of development reduces the quality of muck habitats. The attraction of feral hogs to these muck habitats may increase amphiuma mortality by both predation and incidental injury.

**Georgia Conservation Status:** No sites in Georgia are on conservation lands.

**Conservation and Management Recommendations:** The maintenance of natural floodplain vegetation and hydrology is critical to the perpetuation of muck habitats and, ultimately, the one-toed amphiuma. Feral hog populations within the range of the one-toed amphiuma should be controlled, where possible. More research is needed to better understand the specific requirements of this interesting amphibian.

#### **Selected References:**

Means, D. B. 1992. One-toed Amphiuma: *Amphiuma pholeter* Neill. Pp. 34-38 in Moler, P. E. (ed.). Rare and Endangered Biota of Florida, Volume 3, University Press of Florida, Gainesville, Florida.

Means, D. B. 1996. *Amphiuma pholeter* Neill. Catalogue of American Amphibians and Reptiles 622:1-2.

Means, D. B. 2005. *Amphiuma pholeter*. Pp. 645-646 in Lannoo, M. J. (ed.). *Declining Amphibians: the Conservation Status of United States Species*. University of California Press, Berkeley, California.

Neill, W. T. 1964. A new species of salamander, genus *Amphiuma*, from Florida. *Herpetologica* 20:62-66.

Stevenson, D. J. 2003. The distribution and status of the one-toed amphiuma (*Amphiuma pholeter*) in Georgia. Unpublished report to Georgia Department of Natural Resources. 12 pp.

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**Date Compiled or Updated:**

J. Jensen: original account

K. Owers, Sept. 2009: updated status and ranks, converted to new format, added pictures





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