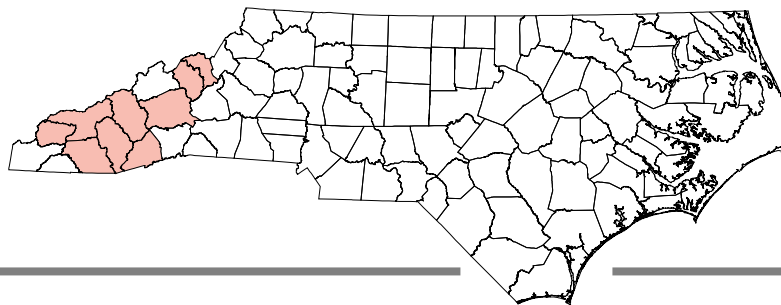


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# Appalachian elktoe

*Alasmidonta raveneliana*

Endangered (November 23, 1994)



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**Description:** The Appalachian elktoe has a thin, kidney-shaped shell, reaching up to about 4 inches in length. Juveniles generally have a yellowish-brown outer shell, while the shell of the adults is usually dark brown to greenish-black in color. Rays are prominent on some shells, particularly in the posterior portion of the shell, but some individuals have only obscure greenish rays. The inside shell surface is shiny, white to bluish-white but changing to a salmon, pinkish, or brownish color in the central and beak cavities of the shell.

**Life History:** Feeds by filtering food particles from the water column. Specific food habits are unknown but assumed to be same as other mussels: detritus, one-celled algae, and plankton. The reproductive system is similar to other mussels with glochidia parasitizing a fish host. The mottled sculpin (*Cottus bairdi*) and banded sculpin (*Cottus carolinae*) have been identified as hosts for the species. The mussel's life span and many other aspects of its life history are unknown.

**Habitat:** Has been reported from relatively shallow, medium-sized creeks and rivers with cool, well-oxygenated, moderate- to fast-flowing water. Observed in gravelly substrates often mixed with cobble and boulders, in cracks in bedrock, and sometimes in relatively silt-free, coarse, sandy substrates.

**Distribution:** Endemic to the upper Tennessee River system in western North Carolina and eastern Tennessee. It once had a fairly wide distribution but has been extirpated from the majority of its historic range including the French Broad River, Swannanoa River; and Talula Creek in the Little Tennessee River Basin. It now occurs in short stretches of the Little Tennessee River in Swain and Macon counties, Tuckasegee River in Jackson and Swain counties, Pigeon River in Haywood County, Little River in Transylvania County, Cheoah River in Graham County, Cane River in Yancey County, and the Nolichucky, North Toe, and Toe Rivers in Yancey and Mitchell counties.

**Threats:** Water quality and habitat degradation resulting from impoundments, stream channelization projects, and

point and nonpoint sources of siltation and other pollutants appear to be major factors in reducing the species' distribution and reproductive capacity. The most immediate threats to remaining populations of the species currently appear to be associated with sedimentation and other pollutants (fertilizers, pesticides, heavy metals, oil, salts, organic wastes) from nonpoint sources.

**Management Recommendations:** Protection of existing water and habitat quality of the reaches of the river systems where the species is still surviving; improve degraded portions of the species habitat; reestablish and protect additional populations of the species within portions of its historical range. This requires compliance with existing state and federal regulations by the public, local governments, and industries. Additional research is also needed on the autecology of the species, propagation, and reintroduction techniques for freshwater mussels.

Sources: USFWS 1994a, 1996a., WRC website

**Species identification key is available at [www.ncwildlife.org](http://www.ncwildlife.org).** (Click on "Wildlife Species and Conservation" and then "Species" for Mussel atlas.)