

SOUTHERN ELKTOE

Alasmidonta triangulata

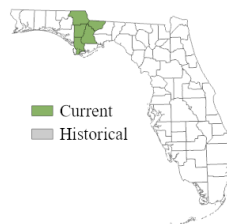
Order: Unionoida

Family: Unionidae

FNAI Ranks: G1/S1

U.S. Status: none

FL Status: none



Description: The southern elktoe is a medium-sized (to 70 mm, ca. 2.75 inches; slightly smaller in Florida), freshwater unionid mussel with a moderately thin, inflated shell, often with distinct concentric sculpturing (ridges) originating at the umbo. The umbos are positioned toward the anterior end of the subtriangular (occasionally oval) shell and extend well above the hinge line; the posterior ridge is sharp. The anterior shell margin is rounded, and the posterior bluntly pointed. The shell is typically dark olive brown to black, sometimes with faint dark rays; young are yellowish brown to olive and may bear green rays. The inner surface of the shell (nacre) is white to pinkish purple or purple. The left valve may have two compressed, poorly developed pseudocardinal teeth, and the lateral tooth is reduced or absent. The right valve has one compressed, high pseudocardinal tooth, with lateral teeth reduced or absent.

Similar Species: Shells among various species in the genus *Alasmidonta* are very similar; the species are distinguished in part by genetics and biogeography. The sharp posterior ridge, steep posterior slope with corrugations, rudimentary pseudocardinal teeth, and absence of lateral teeth distinguish *A. triangulata* from other mussels in the Apalachicola River system (Williams et al. 2014).

Habitat: This species is found in medium-sized to relatively large rivers as well as in some larger creeks and backwater channels behind islands. Preferred habitat features include substrates with a sand-gravel mix to sandy mud, sometimes near limestone outcrops, and moderate to slow current (Clench and Turner 1956, Heard 1979, Brim Box and Williams 2000, Williams et al. 2014).

Seasonal Occurrence: Adults are present in the substrate year-round and may be long-term brooders, meaning this species broods glochidia (larvae) from late summer or autumn to the next summer (Williams et al. 2014).

Florida Distribution: This mussel is endemic to the Apalachicola river system, including its principal Florida tributary, the Chipola River. Further surveys will help to refine knowledge of its extent of occurrence within these rivers. Although the species inhabits the Flint (Georgia) arm of Lake Seminole, the upstream impounded portion of the Apalachicola River that retains some moderate current, it is unlikely that it survives in the still waters of the Florida portion of the impoundment.

Range-wide Distribution: The southern elktoe is endemic to the Apalachicola-Chattahoochee-Flint river basin of Alabama, Georgia, and Florida.

Conservation Status: In Florida, the species is restricted to the Apalachicola-Chipola river system (many sites representing a single individual occurrence) and is one of the state's rarest mussels. Populations are very small at all known sites, though there may be some recovery following cessation of dredging of the Apalachicola River in 2001 (Williams 2015). The Apalachicola River system is subject to multiple threats, including many that emanate from upstream in other states, but also from sea level rise expected to accompany climate change. As of this writing, the southern elktoe does not receive listed species protection at either state or federal levels, although it is a candidate for federal listing (and critical habitat designation) under provisions of the Endangered Species Act.

Protection and Management: Protect all extant populations through acquisitions and easements of adjacent lands. Consider state and federal listing and designation of critical habitat. The major focuses in managing for viable populations of freshwater mussels are maintenance of high quality waters and benthic habitats, as well as ample stream and river flows (damming, dredging, and excessive water consumption are strongly discouraged); this may require multi-state cooperation. Valuable tools include establishment of buffers and streamside management zones for all agricultural, silvicultural, mining, and developmental activities; and elimination or reduction of invasive species (especially other bivalves) if possible. Monitoring programs should focus on water and benthic habitat quality, as well as population sizes and population statuses of both mussels and their host fishes, suckers of the family Catostomidae (Fobian et al. 2018) at all occupied sites. Additionally, it is important to promote responsible watershed land use practices by implementing aquatic habitat education programs for land use planners and resource managers, and to conduct periodic reevaluations of the effectiveness of

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habitat protection measures and watershed land use practices. For this species, all of these measures should be used throughout the Apalachicola River system (to the extent that Florida can).

References: Brim Box and Williams 2000, Clench and Turner 1956, Fobian et al. 2018, Heard 1979, U.S. Fish and Wildlife Service 2021, Williams 2015, Williams et al. 2014.



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