

DELICATE SPIKE

Elliptio arctata

Order: Unionoida

Family: Unionidae

FNAI Ranks: G2G3Q/S2

U.S. Status: none

FL Status: none



Description: A medium-sized bivalve mollusk reaching a length of 4 inches (100 mm). Shell thin, smooth (including posterior slope, which lacks corrugations), elongate, oval to elliptical, compressed to slightly inflated, with broad umbo near anterior end and even with hinge line; dorsal margin straight to slightly convex, ventral margin straight to slightly concave. Adults typically dark brown to black; small individuals may have dark green rays. Internally, cavity of umbo wide and shallow; inner lining of valves (nacre) white to bluish white, occasionally purplish; pseudocardinal teeth small, low, triangular, 2 in left valve, 1 in right valve; lateral teeth long, thin, and straight to slightly curved (Williams et al. 2014).

Similar Species: Multiple species of *Elliptio* inhabit the Apalachicola River system, and all are similar in general appearance. *E. arctata* has a thinner, more compressed shell, smaller pseudocardinal teeth, and thinner lateral teeth than *E. pullata*; a more compressed shell than *E. purpurella*, and a bluish-white nacre in contrast to the usually purple nacre of the latter; and a thinner and more elongate and curved shell than *E. fumata* (Williams et al. 2014). Because many mussels are similar externally, and individual variation can be extensive (especially in this genus), identity should always be confirmed by an expert.

Habitat: Main channels of rivers and lower reaches of larger tributaries characterized by slow to moderate current; often occurs on sandy to rocky substrates, less commonly in root mats.

Seasonal Occurrence: Present at sites year-round.

Florida Distribution: Restricted to the Apalachicola River system, including the Chipola River.

Range-wide Distribution: As presently defined, the range of *E. arctata* extends from the Savannah River (South Carolina-Georgia border) eastward through Georgia, Alabama, and into eastern Mississippi. However, future studies may show that the present concept is a complex of species, which would narrow the range of *E. arctata* (Williams et al. 2014).

Conservation Status: Like many of Florida's native freshwater mussels, *E. arctata* has almost certainly declined throughout its range, including Florida. Though rare in the state, it remains extant at least in the Apalachicola River and its floodplain distributaries. Substantial portions of the Apalachicola and Chipola river floodplains are publicly owned, but the system still faces multiple threats from habitat degradation and pollution, excessive water withdrawal in Georgia, and the introduced Asian clam (*Corbicula fluminea*).

Protection and Management: Protect the Apalachicola-Chipola river system from pollution, siltation, impoundment, excess water withdrawal, and other disturbance. Secure legal protection of currently private lands along river and stream corridors within the Apalachicola River drainage. Monitor and attempt to control the Asian clam. Protect forests floodplain and bottomland forests and at least 150 ft (ca. 50 m) of adjoining upland from timber harvest, livestock, and development. Situate roads at least 0.25 mi. (0.4 km) from heads of all tributaries, and even more on steep slopes. Use silt fencing and vegetation to control runoff and siltation at all stream crossings, especially during construction and maintenance. Prohibit dredging and damming of streams as well as mainstems. Avoid introduction of non-native invertebrates, especially the zebra mussel. Use and maintain sewer systems rather than septic tanks and stream-dumping for management of waste water. Ban use of agricultural pesticides on porous soils near streams. Identify and maintain fish populations that serve as mussel larval hosts.

References: Brim Box and Williams 2000, Williams et al. 2014.



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