

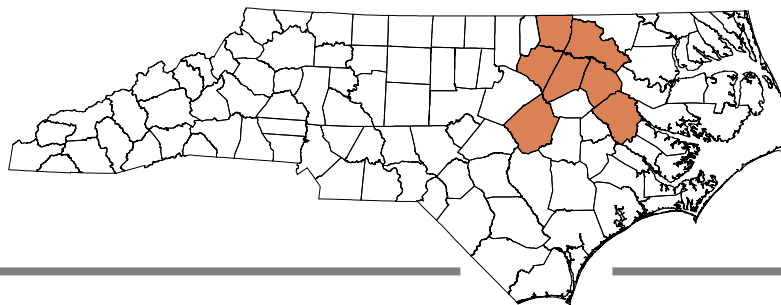
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# Tar spiny mussel

*Elliptio steinstansana*

(Tar River spiny mussel)

Endangered (June 27, 1985)



**Description:** The Tar spiny mussel is one of only four freshwater mussels with spines in the world. The brownish shell is rhomboid-shaped, up to 2.4 inches (6 cm) long, with 0-6 spines on each valve. The shell is rather smooth and shiny, with concentric rings, and ends in a blunt point. Younger individuals are orange-brown with greenish rays streaking outward from the hinge area. Adults are darker with less distinct rays. One to three small thin ridges run on the interior surface of the shell from the beak cavity to the lower ventral area of the shell. The anterior half of the shell's inner surface is salmon-colored, the posterior half is iridescent blue. Juveniles may have up to 12 spines, however, adults tend to lose their spines as they mature.

**Life History:** Little is known about the life history except that like most freshwater mussels, they are filter feeders and require a fish host to complete their reproductive cycle.

**Habitat:** Stable, coarse sand or gravel substrates where the gravel is uncompacted and silt free and in areas of relatively fast-flowing, well-oxygenated water. They are often found in association with other mussels but are usually in the minority.

**Distribution:** Known only from the Tar River system (Tar River, Shocco Creek, Fishing Creek, Little Fishing Creek, and Swift Creek) in Edgecombe, Franklin, Halifax, Nash, Pitt\*, and Warren counties, and one site in the Neuse River system in Johnston County. The species has been reduced from "relatively easily found" in the main stem of the Tar River in Edgecombe County to "only two good populations . . . in the two Tar River tribs . . . found with great difficulty in two other trib and in the main stem of the Tar River. . . ." (USFWS 1994f).

**Threats:** Degradation of habitat and water quality by impoundment and pollution. Part of the Tar River has been dammed. Clearing of land for agriculture and other uses in the Tar River basin has caused erosion and siltation into the river. The sand and silt smother the mussels and affect the stability of the river bottom. Pollution from 21 wastewater plants and discharges from agricultural, industrial, and other domestic sources have drastically altered the river reaches

and tribs. Mussels that evolved in clean, flowing water are unable to survive and reproduce in this degraded habitat.

**Management Recommendations:** Buffering riparian areas along waterways with natural vegetation strips to help filter silty runoff from disturbed lands. Prevention of livestock and waste from entering rivers and tribs. Improved erosion prevention and more stringent enforcement of pollution laws for industrial and municipal wastewater facilities.

\* No record has been reported in this county in the past 20 years.

Sources: Biggins and Fridell pers. com.; Lowe et al.1990; Murdock pers. com.; USFWS 1992c, 1994f.

**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.)