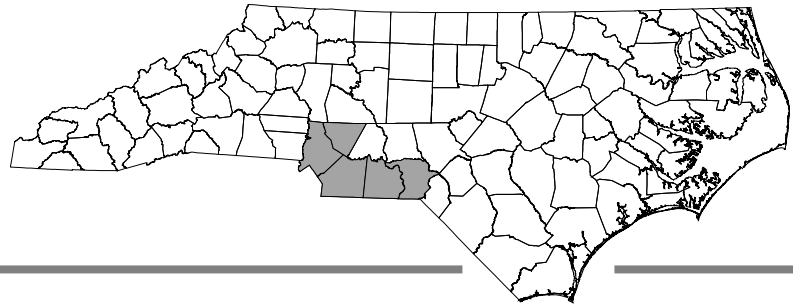

Carolina heelsplitter

Lasmigona decorata

Endangered (May 30, 1993)



Description: This bivalve may be more than 4.5 inches (11.4 cm) long as an adult. The shell has an ovate, trapezoid shape. The shell varies in color from greenish brown to dark brown. Younger individuals have fine rays (stripes radiating outward from the hinge area) on the outer shell, which are greenish brown or black. The inner shell varies from pearly white to bluish white, becoming orange toward the hinge area. Older individuals may be entirely orange on the inner surface. There is a projection between the pseudocardinal teeth and the lateral teeth in the left valve, but it may be small and fused to the pseudocardinal tooth. The entire outer sections of the gill are used by the female to carry embryos. The Carolina heelsplitter is similar in appearance to *L. subviridis*, but has a thicker shell and adults can be over twice as large.

Life History: Because of its rarity, little is known of the life span and other aspects of the life history of the Carolina heelsplitter. Like other freshwater mussels, it is a filter-feeder. It has a complex reproductive cycle in which the mussel larvae parasitize a host fish -- an as yet unknown species.

Habitat: Usually found in mud, muddy sand, or muddy gravel substrate in cool, slow-moving, small to medium-sized streams or rivers along stable, well-shaded streambanks. The stability of the stream banks appears to be a very important factor in the habitat.

Distribution: In North Carolina is known only from Goose, Duck, and Waxhaw Creeks in Union County. Portions of these three creeks in North Carolina and six creeks and one river have been proposed for designation as critical habitat for the Carolina heelsplitter. Historically known from several locations within the Catawba and Pee Dee River systems in

Anson*, Cabarrus*, Mecklenburg*, and Richmond* counties in North Carolina, and the Catawba, Pee Dee, Savannah, and possibly the Saluda River systems in South Carolina.

Threats: The range has been drastically reduced by impoundments and deterioration of habitat and water quality by siltation and other pollution resulting from stream channelization, dredging, sand mining, sewage effluents, and poorly implemented agricultural, forestry, and development practices. Loss of forested buffers and poorly controlled stormwater runoff from clearing and development activities within the creeks' watersheds, together with the effects of pollutants in wastewater discharges have significantly reduced the range of the surviving populations in North Carolina. Due to limited range, any further adverse impact of habitat or water quality in the remaining stream reaches would likely lead to extirpation of the species from North Carolina.

Management Recommendations: Preservation of habitat in existing reaches and restoration of high water quality and habitat in historical range waterways.

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

Sources: Alderman 1991, Fridell 1992, Fridell and Biggins pers. com., Keferl and Shelley 1988, USFWS 1993a.

Species identification key is available at www.ncwildlife.org. (Click on "Wildlife Species and Conservation" and then "Species" for Mussel atlas.)