

Eastern Creekshell

Villosa delumbis

Contributor (2005): Jennifer Price (SCDNR)

Reviewed and Edited (2012): William Poly (SCDNR)

DESCRIPTION

Taxonomy and Basic Description

The shell of the Eastern Creekshell is ovate with a rounded posterior margin. The female's shell is very enlarged on the posterior end, while the male's shell is oval in shape. The outer surface of the Eastern Creekshell is yellow with numerous green rays interrupted by the prominent growth lines; the inner surface is bluish and highly iridescent (Bogan and Alderman 2004, 2008).



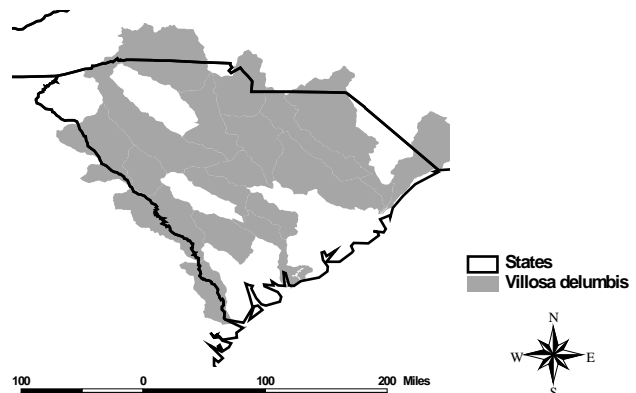
Status

NatureServe (2011) currently identifies the Eastern Creekshell with a global ranking of apparently secure (G4). This mussel has a ranking of vulnerable (S3) in North Carolina and apparently secure (S4) in Georgia and South Carolina and is a species of special concern in the latter as well. Although broadly distributed in South Carolina, the species is now absent from many large rivers and is doing well only in a few places; therefore, its status may need to be re-evaluated (John Alderman pers. comm.).

POPULATION SIZE AND DISTRIBUTION

The Eastern Creekshell can be found in the Congaree, Lynches, Waccamaw, Black, Pee Dee, Broad, Edisto, and Sandy Rivers as well as Waxhaw Creek and Four Hole Swamp (Taxonomic Expertise Committee 2004). It ranges from the Cape Fear Basin in North Carolina to the Ocmulgee River drainage in Georgia (Johnson 1970).

Although it is common in the Ogeechee River in Georgia, it is never very abundant when found in South Carolina (Taxonomic Expertise Committee 2004).



HABITAT AND NATURAL COMMUNITY REQUIREMENTS

The Eastern Creekshell can be found resting on deep muddy flock, but can also be found in sand and boulder fields. It tends to stay close to the bank of streams and rivers, often among tree roots (Taxonomic Expertise Committee 2004). Recent research has found glochidia metamorphosed on Largemouth Bass (Johnson, et al. 2012).

CHALLENGES

Observations suggest that this species is sensitive to channel modification, pollution, sedimentation, and low oxygen conditions, but we do not know how the relative sensitivity of this species to these threats compares to other species. Its habitat preference for tree roots among stream banks suggests that it may be particularly susceptible to bank erosion and the loss of a forested riparian zone.

CONSERVATION ACCOMPLISHMENTS

There are no significant conservation accomplishments specifically for the Eastern Creekshell at this time.

CONSERVATION RECOMMENDATIONS

- Conduct surveys to determine population status and distribution of the Eastern Creekshell. Closely monitor known populations and any additional populations discovered in the surveys.
- Protect critical habitats for the Eastern Creekshell from future development and further habitat degradation by following Best Management Practices and protecting and purchasing riparian areas.
- Promote land stewardship practices through educational programs both within critical habitats with healthy populations and in other areas that contain available habitat for the Eastern Creekshell.
- Encourage responsible land use planning.
- Consider this species' needs when participating in the environmental permit review process.
- Educate off-road motor vehicle operators of the negative effects of crossing streams at multiple locations and using stream bottoms as trails.
- Conduct further research to determine the degree of sensitivity of the Eastern Creekshell to various point and non-point sources of pollution and land use impacts.

MEASURES OF SUCCESS

Persistence of known populations and an increase in the size of those populations will indicate the success of management activities.

LITERATURE CITED

- Johnson, J. A., J. M. Wisniewski, A. K. Fritts, and R. B. Bringolf. 2012. Host identification and glochidia morphology of freshwater mussels from the Altamaha River Basin. *Southeastern Naturalist* 11(4): 733-746.
- NatureServe. 2011. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>.
- Bogan, A.E. and J.M. Alderman. 2004. Workbook and key to the freshwater bivalves of South Carolina. i-ii + 1-64 pp. + 5 pls.
- Bogan, A.E. and J.M. Alderman. 2008. Workbook and key to the freshwater bivalves of South Carolina (Revised Second Edition). i-ii + 1-66 pp. + 5 pls.