



U.S. Fish & Wildlife Service

Scaleshell Mussel

Oklahoma Ecological Service Field Office

Scaleshell mussel

Leptodea leptodon

Description

The scaleshell mussel occurred historically across much of the eastern U.S., but recently is known only from scattered populations in Arkansas, Missouri, Oklahoma, Nebraska, and South Dakota. In Oklahoma, the species survives in the Kiamichi River in southeastern Oklahoma, and historical records exist from the Little and Mountain Fork rivers, also in southeastern Oklahoma. Its thin, elongated shell reaches a maximum length of about 4.75 inches. Males and females have differently shaped shells, most apparent in a broad, ruffled extension of the females' posterior end. The outer shell layer is yellowish-brown with fine green rays. It is distinguished from other freshwater mussel species by additional distinctive details of its shell.

Distribution

The scaleshell mussel lives in medium-sized to large rivers with stable channels and good water quality. The species inhabits sand and gravel stream bottoms where individuals bury themselves, with only the edge of their partially-opened shells exposed.

Life History

Adults feed by filtering algae, other protocists, microscopic animals, bacteria, and detritus from their surroundings. As with most freshwater mussels, the life cycle includes sexual reproduction and a required parasitic stage. During spawning, males release sperm into the water column, some of which are taken into females of the species, which carry eggs in their gills. The resulting larvae (known as glochidia) are released from the females into the water column and must attach to a suitable fish host to continue development. Once metamorphosis is complete, juvenile mussels drop off the fish host and continue life in the stream bottom. Known fish hosts for this species include the freshwater drum (*Aplodinotus grunniens*).



Scaleshell mussel. © Dr. M.C. Barnhart

Conservation

The scaleshell mussel was federally listed as an endangered species on October 9, 2001. This species has experienced severe losses in range and abundance due to human degradation of its habitat. Specific factors involved in this degradation include construction and operation of large impoundments, and water quality degradation from point sources and nonpoint sources of pollution. Many of these factors are expected to continue and may increase, posing future threats to the scaleshell. Additional potential threats include impacts from invasive aquatic species such as the introduced zebra mussel (*Dreissena polymorpha*), and extreme conditions associated with human-caused climate change.

What You Can Do To Help

If you have property within a watershed inhabited by the scaleshell mussel, maintain an ample buffer of natural vegetation alongside any stream channels. Treat eroding roads, slopes, and other sources contributing sediments to streams. Reduce or eliminate use of lawn-care/agricultural chemicals, and install fencing to prevent livestock from entering streams. Take other steps

to protect water quality, restore and protect natural watershed conditions, conserve instream flows, and prevent the spread of aquatic invasive species. Learn more about the scaleshell mussel, the threats to its existence, and its identified conservation needs by consulting the species' recovery plan.

References

- U.S. Fish and Wildlife Service. 2010. *Scaleshell Mussel Recovery Plan*. Fort Snelling, Minnesota.
- U.S. Fish and Wildlife Service. 2011. *Scaleshell Mussel (Leptodea leptodon) 5-year Review: Summary and Evaluation*. Columbia, Missouri.

For Further Information

U.S. Fish and Wildlife Service
Oklahoma
Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129
918/581-7458

August 2011