

The Ochlockonee Moccasinshell

By Libby Hopkins



The Ochlockonee moccasinshell or the *Medionidus Simpsonianus* as it's known by its scientific name, is a species of freshwater mussel, an aquatic bivalve mollusk in the family Unionidae or a river mussels.

The Ochlockonee moccasinshell is a small freshwater mussel that can reach a length of 2.2 inches. This species is oval-shaped with an outer shell color that is light brown with dark green rays carved into the shell, and a bluish-white inner shell. Its valves are thin with two teeth in the left valve and one in the right.

The Ochlockonee moccasinshell is a filter feeder (filters food out of water) that primarily eats plankton and dead organic matter. Due to its extreme rarity, the life history of the Ochlockonee moccasinshell is not known. It is believed that males release sperm in the water and the females receive the sperm through a siphon. Eggs are fertilized in the female's shell and the glochidia (larvae) release into the water. The larvae attach to the gills or fins of a host fish to develop. When the larvae metamorphose into juvenile mussels they release from the fish and settle in their primary habitat.

The Ochlockonee moccasinshell inhabits large creeks and mid-sized rivers of moderate current that contain a sandy, gravel floor. Distribution is very limited as it is only found in the Ochlockonee River system in Georgia and Florida.

Freshwater mussels face a host of threats due to an increased human population and development. The main threat to freshwater mussels is the impoundment of waterways. Waterways are impounded for fresh water supply, flood control and hydropower.

Impounding waterways causes the water current's velocity to decrease, causing sediment to build up in the river and covers the mussels located in the substrate. Impoundments also cause habitat fragmentation, separating mussel populations and also individual mussels from algae and host fish. River dredging also threatens to destroy freshwater mussel populations on the river floors. The Asian clam, an invasive species, can out-compete the Ochlockonee moccasinshell for resources in its habitat. Pesticide and chemical pollution poses a significant threat to mussels since they are filter feeders and may ingest chemicals directly from their habitat.

The Ochlockonee moccasinshell is protected as an endangered species by the Federal Endangered Species Act and as a Federally-designated endangered species by Florida's Endangered and Threatened Species Rule. It is one of the target species in a seven-species Federal Recovery Plan.

Specific actions needed to recover the species include secure extant subpopulations and currently occupied habitats and ensure subpopulation viability. Searches for additional subpopulations of the species and suitable habitat, that is determined through research and propagation technology the feasibility of augmenting extant subpopulations and reintroducing or reestablishing the species into historical habitat. Develop and implement a program to evaluate efforts and monitor subpopulation levels and habitat conditions of existing subpopulations, as well as newly discovered, reintroduced, or expanding subpopulations. Develop and utilize a public outreach and environmental education program. Assess the overall success of the recovery program and recommend actions.

