

Pebblesnail

Somatogyrus spp.

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DESCRIPTION

Taxonomy and Basic Description

This pebblesnail has a small, brown spiral-shaped shell approximately 3.6 mm (0.14 inches) in length; it was recently found in South Carolina and its identity is somewhat questionable. Two possible identifications for this species are the Savannah pebblesnail (*Somatogyrus tenax*) and the panhandle pebblesnail (*Somatogyrus virginicus*). However, neither of these species has previously been documented in South Carolina. The Savannah pebblesnail is thought to be endemic to Georgia. The panhandle pebblesnail is found in Virginia and North Carolina. Dillon (2004b) now believes that the Savannah pebblesnail is synonymous with the panhandle pebblesnail; however, the malacological community has not yet evaluated this claim.

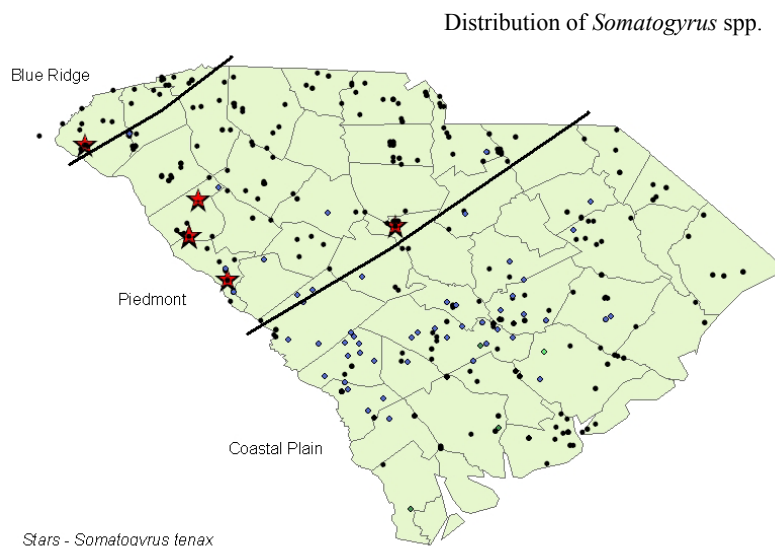


Status

Because this pebblesnail has not been definitively identified, its current status is not known. However, because all *Somatogyrus* species in the southeast are rare, we expect the status to be endangered, threatened or special concern. This snail is likely one of two species; therefore, their status is provided. The Savannah pebblesnail has a ranking of S2 and G2/G3 in Georgia (NatureServe 2004). The panhandle pebblesnail is ranked as G1/G2 and S1 in both Virginia and North Carolina (NatureServe 2004).

POPULATION DISTRIBUTION AND SIZE

In South Carolina, the unknown pebblesnail has been found at five sites in Oconee, Abbeville, McCormick and Richland Counties. The following map shows stars at the locations where this species was found during Dillon's survey (2004a); these represent the only known locations for this species in South Carolina. Dots indicate other sites that were surveyed. This range map may not be an exhaustive



description of the range of this species in the state.

HABITAT AND NATURAL COMMUNITY REQUIREMENTS

Somatogyrus spp. is found in the piedmont and lower parts of the Blue Ridge Mountains. It is restricted to streams and rivers with very clear flowing water and a rocky substrate (R. Dillon, College of Charleston, pers. comm., July 28, 2004).

CHALLENGES

Siltation of streams and rivers through agricultural runoff and erosion of unstable stream banks appears to be the main challenge to *Somatogyrus* spp.. Historically, siltation has occurred due to land clearing for farming, residential development, forestry practices, mining operations and construction of dams. Absence of sufficient riparian buffers significantly contributes to siltation (Moglen 2000). Clear-cutting a substantial part of a watershed can also contribute to siltation, even if a riparian buffer is maintained. Livestock and feral pigs degrade stream banks and bottoms as they drink and search for food. Impervious surfaces, such as roads, buildings and parking lots, increase erosion in adjacent areas and contribute to flooding (NCWRC 2002). Use of motor vehicles in streams and along banks can also disturb stream flow and increase siltation. All of these factors that contribute to siltation can also alter the topography of streams and rivers by changing the slope of the bank and eliminating heterogeneity in the channel.

CONSERVATION ACCOMPLISHMENTS

There are currently no known conservation accomplishments for *Somatogyrus* spp..

CONSERVATION RECOMMENDATIONS

- To promote awareness, encourage protective riparian buffers through landowner education programs in areas where *Somatogyrus* spp. is found. Specifically focus on Cedar Creek in northwestern Richland County where land use is rapidly being transformed from rural to suburban land uses.
- Encourage establishment of conservation easements in areas where *Somatogyrus* spp. is found. Specifically focus on Cedar Creek in northwestern Richland County.
- Work with partners to establish appropriate recommendations for riparian buffer widths and minimization of impervious surfaces in South Carolina that will help protect stream health.
- Develop a landowner education program to promote sound land stewardship practices that result in the reduction of non-point source pollution in water bodies. Specifically focus education efforts in the vicinity of known occurrences for *Somatogyrus* spp.
- Determine the taxonomy of the *Somatogyrus* spp. either through a combination of extensive morphological studies and genetic investigations.
- Once the taxonomy of *Somatogyrus* spp. is resolved, determine the appropriate status for this species.

MEASURES OF SUCCESS

One way to measure success of conservation measures is to determine the amount of riparian buffer protected or replanted as a result of landowner education programs. Another measurement of success would be to determine whether local and county municipalities work to protect or maintain riparian buffers. Ultimate identification of *Somatogyrus* spp. would also represent a measure of success.