

Atlantic Pigtoe

Fusconaia masoni

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DESCRIPTION

Taxonomy and Basic Description

The shell of the Atlantic Pigtoe is subrhomboidal in shape, but individuals from headwater areas are more elongate. There is a distinct posterior ridge. The outer surface of the shell is yellow to dark brown and parchment like, while the inner surface is iridescent blue to salmon, white, or orange. Its small shell is generally less than 50 mm (2.2 in.) in length (Bogan and Alderman 2004, 2008).



by John Alderman

Status

The Atlantic Pigtoe is a state endangered species in South Carolina. NatureServe (2011) currently identifies the Atlantic Pigtoe as having a global status of imperiled (G2). It is listed as possibly extirpated (SH) in South Carolina and ranked as critically imperiled (S1) in Georgia and North Carolina and imperiled (S2) in Virginia. Recently, the Atlantic Pigtoe was included on a list of 404 species being petitioned for consideration as candidates for federal protection (USFWS 2011).

POPULATION SIZE AND DISTRIBUTION

This species originally ranged from the James River Basin in Virginia to the Ogeechee River basin in Georgia, but its range has been steadily declining. In South Carolina, it was once found in the Savannah River drainage, but has not been collected in the State for over 100 years (Bogan and Alderman 2004, 2008). It is difficult to determine the timing of the decline, since few surveys were conducted for the Atlantic Pigtoe throughout the 1900s. This species was probably historically widespread in South Carolina; it is currently found in the Pee Dee River and Goose Creek in North Carolina. There are only historical records or shell material of the species in the Savannah and Pee Dee River Basins of SC, and it is possible that this species has been extirpated from South Carolina. However, remnant populations still could exist within the State.

HABITAT AND NATURAL COMMUNITY REQUIREMENTS

The preferred habitat of the Atlantic Pigtoe is coarse sand and gravel at the downstream edge of riffles. It is less common in sand, cobble, and mixtures of sand, silt, and detritus (Bogan and Alderman 2004, 2008). The Atlantic Pigtoe requires fast-flowing, well oxygenated streams and is restricted to fairly pristine habitats.

CHALLENGES

The Atlantic Pigtoe shares the same challenges as other mussels, including pollution and low oxygen conditions. It appears to be even more sensitive to sedimentation and channel modification than other species (Taxonomic Expertise Committee 2004). One of the healthiest, most viable populations of this species was recently lost in Virginia and the populations in North Carolina are not doing well (Taxonomic Expertise Committee 2004). A recent study determined that the glochidia (larvae) of the Atlantic Pigtoe are extremely sensitive to pollution. Levels of ammonia far below USEPA criteria maximum concentrations caused the death of glochidia after only 24 hours of exposure (Augspurger et al. 2003). Based upon its previous distribution, this species may still be found in South Carolina; extensive surveys should be planned to check for it.

CONSERVATION ACCOMPLISHMENTS

International Paper has agreed to conserve riparian buffers on the Upper Tar River and Swift Creek where the Atlantic Pigtoe occurs in North Carolina. The Atlantic Pigtoe has also been listed as state endangered in South Carolina.

CONSERVATION RECOMMENDATIONS

- If South Carolina populations are rediscovered, protect land near these populations and upstream from where they are found should be protected through land acquisition and conservation easements.
- Consider reintroduction of the Atlantic Pigtoe in relatively pristine, high quality habitat in South Carolina. Partner with North Carolina or Georgia in these efforts.
- Protect critical habitats for the Atlantic Pigtoe 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 Atlantic Pigtoe.
- Encourage responsible land use planning.
- Consider this species' needs when participating in the environmental permit review process, and conduct surveys to determine if it is present prior to major projects.
- Educate off-road motor vehicle operators of the negative effects of crossing streams at multiple locations and using stream bottoms as trails.

MEASURES OF SUCCESS

If reintroduction efforts are pursued, survival and reproduction of reintroduced populations will indicate success.

LITERATURE CITED

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