

Moderate Conservation Priority – Pee Dee Fringe Species

Satinfin Shiner *Cyprinella analostana*

Whitemouth Shiner *Notropis alborus*

Redlip Shiner *Notropis chiliticus*

Comely Shiner *Notropis amoenus*

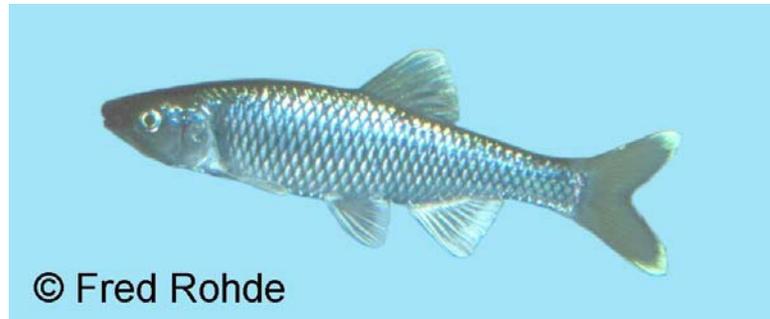
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DESCRIPTION

Taxonomy and Basic Description

The satinfin shiner, the whitemouth shiner, the redlip shiner and the comely shiner are all members of the family Cyprinidae. Cyprinidae is the family of true minnows and, with about 2,000 species, is the largest family of fishes in the world (Jenkins and Burkhead 1993).

The satinfin shiner is in the genus *Cyprinella*, the second largest cyprinid genus in the Americas (Jenkins and Burkhead 1993). Fishes of the genus *Cyprinella* are characterized by large vertical diamond shaped scales and a dark blotch on the dorsal fin. The dorsal fin of the satinfin shiner



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exhibits black speckles on all membranes with a distinct black blotch on its rear half (Rohde et al. 1994). The anal fin of the species typically has nine rays. Breeding males appear gray-blue with yellow fins (Rohde et al. 1994). Adults range in size from 47 to 110 mm (1.9 to 4.3 inches) (Rohde et al 1994).

The whitemouth shiner, the redlip shiner and the comely shiner are all members of the genus *Notropis*. Containing about 71 species, *Notropis* is considered the genus of true shiners (Rohde et al 1994). The true shiners are generally small and nearly all lack a barbel. Silver color is dominant; breeding males of many species have bright colors (chiefly red) and some are boldly black-patterned. A great deal of variation occurs across the genus in morphology, color, and biology.



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The whitemouth shiner exhibits a body profile that is moderate to somewhat elongate (Jenkins and Burkhead 1993). The species has a jagged-edged midlateral stripe that continues around the snout or upper lip (Rohde et al. 1994). The mid-lateral stripe is confluent with the caudal spot (Jenkins and

Burkhead 1993). These fish have eight dorsal rays and seven anal rays (Jenkins and Burkhead 1993). Adults range in size from 40 to 50 mm (1.6 to 1.9 inches) in length (Jenkins and Burkhead 1993).

The redlip shiner is characterized by bright red lips with red coloration in the dorsal, anal and caudal fins and with black blotches on the sides (Rohde et al. 1994) and the lateral line is complete (Jenkins and Burkhead 1993). These fish have eight or nine anal rays (Jenkins and Burkhead 1993). Breeding males exhibit scarlet-red coloration in body and eye with yellow fins (Rohde *et al* 1994). Adults range in length from 40 to 55 mm (1.6 to 2.2 inches) (Jenkins and Burkhead 1993).



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The comely shiner is a slender fish with a somewhat pointed snout. The dorsal fin is quite posteriorly placed. The anal fin margin is strongly concave. These fish have eight dorsal rays and ten to twelve anal rays. Breeding males have small tubercles on head. Adults range in length from 55 to 75 mm (2.2 to 2.9 inches) (Jenkins and Burkhead 1993).

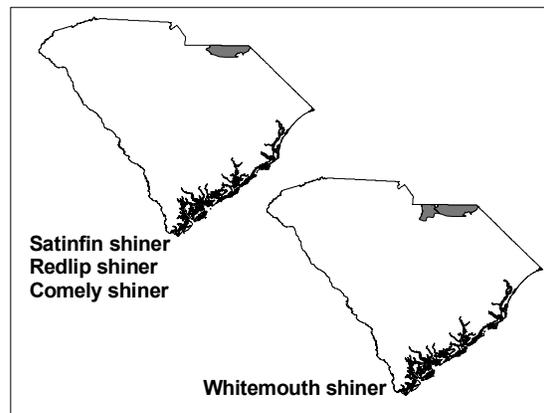
Status

The satinfin shiner is under review in South Carolina for classification of its status. Across much of its range, it is considered to be secure (NatureServe 2004). The whitemouth shiner is considered to be apparently secure nationally (NatureServe 2004). Its status, however, does vary from apparently secure to critically imperiled as one moves across its range. In South Carolina, the status of the whitemouth shiner is uncertain. The redlip shiner is listed as a species of special concern in South Carolina and considered to be critically imperiled (S1) (NatureServe 2004). Its status across much of its range is apparently secure (NatureServe 2004). Status of the comely shiner in South Carolina is uncertain and needs further review. It is generally considered stable across the southern portion of its range (NatureServe 2004).

POPULATION DISTRIBUTION AND SIZE

Distribution

The satinfin shiner is found on the Atlantic slope from the Pee Dee River drainage in North and South Carolina, north to lower Hudson River drainage and southern Lake Ontario drainage in New York (Page and Burr 1991). In South Carolina, the satinfin shiner is restricted to tributary streams of the upper Pee Dee River drainage in the slate belt and sandhills ecoregions (SCDNR, unpublished data).



The whitemouth shiner is known from the Roanoke, Cape Fear, Pee Dee and Santee River drainages in North Carolina and South Carolina, and the Chowan and Roanoke River drainages in Virginia. However, it has apparently extirpated from the Chowan drainage. It is found largely on the outer half of the Piedmont Province, where it is fairly common. The whitemouth shiner is apparently absent from intervening Tar and Neuse drainages (NatureServe 2004). In South Carolina, its distribution is apparently restricted to the slate belt in the upper Lynches and Pee Dee River systems.

The redlip shiner is native to the Pee Dee drainage and the Dan River system of the Roanoke River drainage in North Carolina and Virginia. This species has recently been introduced and is apparently established in New River drainage and Cape Fear drainage in North Carolina and Virginia. It is abundant in mountain streams and common in the piedmont (Page and Burr 1991). In South Carolina, the redlip shiner is restricted to the sandhills and slate belt ecoregions in the upper Pee Dee River drainage.

The most viable populations of satinfish shiner, redlip shiner and whitemouth shiner likely occur in Thompson Creek, Chesterfield County, South Carolina.

The comely shiner occurs in Atlantic slope drainages (upper coastal plain and piedmont) from the Hudson and Susquehanna drainages in New York south through the Cape Fear drainage in North Carolina. There is a recent record from Rocky Creek, part of the Yadkin River system in Montgomery County, North Carolina. Globally, the comely shiner is considered common (NatureServe 2004). Records from the Pee Dee drainage may be result of an introduction (Jenkins and Burkhead 1993). In South Carolina, there have been only two records of the comely shiner; both were from the upper Pee Dee River.

Population Size and Trend

The satinfish shiner is common across its range, with a limited distribution in South Carolina. The whitemouth shiner is considered fairly common across its range, with a limited distribution in South Carolina. The redlip shiner is considered abundant in mountain streams within its range, less abundant in the Piedmont, with a very limited distribution in South Carolina. The comely shiner is considered common to uncommon in the southern portion of its range, with a very limited distribution in South Carolina.

South Carolina the southern-most extreme portion of the range for all four species and may not be part of the natural range of the comely shiner or redlip shiner. Conservation actions in South Carolina may have little impact on the overall status of these fishes. However, due to the limited habitat available for these species in South Carolina, if they are to be maintained as part of South Carolina's fauna then it is essential that the habitat requirements for these fishes be better understood and actions taken to protect and preserve appropriate sites for the survival of these species.

HABITAT AND NATURAL COMMUNITY REQUIREMENTS

The satinfish shiner occupies pools and runs of creeks and small to medium weed-free rivers with substrate ranging from sand to gravel and rubble. Occasionally, this species is found in

headwaters and tidal portions of some large rivers. Eggs are attached to branches, stumps and logs and may be deposited in cracks in rocks, in crevices under loose submerged bark, between exposed tree roots and/or under flat rocks (NatureServe 2004).

The whitemouth shiner occurs in small to medium-sized warm water streams like headwaters, creeks and small rivers. These streams typically have colorless to slightly stained, clear to turbid water, no vascular plants, a sand-rubble-bedrock substrate and a swift current with alternating pools and riffles (NatureServe 2004).

The redlip shiner occupies flowing pools of clear headwaters, creeks and small rivers of the piedmont and mountains; it prefers areas with sand-gravel to rubble bottom. The redlip shiner spawns on nests of bluehead chub (*Nocomis leptocephalus*) (Johnson 1991; NatureServe. 2004).

The comely shiner uses a variety of habitats; it is usually found in runs and flowing pools of creeks and medium to large rivers, especially in channels, over sand, gravel or rubble (NatureServe 2004).

CHALLENGES

All four of these species are vulnerable in South Carolina due to their very limited distribution, but are currently stable throughout much of their range. Challenges to these species are similar to those of other aquatic fauna and include point and nonpoint source pollution, deforestation and loss of riparian corridors, impoundment development, channelization and siltation from poor land use practices and unplanned or poorly planned urban and suburban development. Because of their limited distribution, they are also vulnerable to habitat losses due to anthropogenic influences such as water withdrawals or environmental disturbances such as drought.

CONSERVATION ACCOMPLISHMENTS

There are currently no conservation accomplishments known at this time for these species.

CONSERVATION RECOMMENDATIONS

- Determine statewide distribution and population status of the whitemouth shiner, the satinfin shiner, the redlip shiner and the comely shiner with statewide stream surveys.
- Describe life history and habitat requirements of the whitemouth shiner, the satinfin shiner, the redlip shiner and the comely shiner.
- Survey Thomson Creek in Chesterfield County to determine the status of the whitemouth shiner, the satinfin shiner, and the redlip shiner as this stream likely houses the strongest populations of these species and may have been severely impacted by the drought of 2002. Protect these areas, once identified.
- Determine the existence and viability of the comely shiner in the Pee Dee drainage.
- Protect critical habitats 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 other areas that contain available habitat.

- Encourage responsible landuse planning.
- Consider species needs when participating in the environmental permit review process.
- Develop a Non-Game Fishes of South Carolina poster and other educational materials in order to raise public awareness of nongame species and their ecological importance to the natural history of South Carolina's aquatic habitats.
- Educate motor vehicle operators of the negative affects of crossing streams at multiple locations and using stream bottoms as trails.

MEASURES OF SUCCESS

Determining the distribution, life history, habitat needs and southeastern population structure and trends would represent a measure of success for these species. Methods that protect water quality are also likely to protect most of these species. In the event that more protective BMPs are implemented, population studies of these fish could assist in determining the effectiveness of those measures.