

**“Thinlip” Chub***Cyprinella* sp. c.f. *zanema*

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**DESCRIPTION****Taxonomy and Basic Description**

The “Thinlip” Chub is a new and currently undescribed species that is similar to the Santee chub, *Cyprinella zanema*. When described, the “Thinlip” Chub will probably remain in the genus *Cyprinella*. Containing 29 species, *Cyprinella* is the second largest genus of American cyprinids, after *Notropis* (Jenkins and Burkhead 1994). Members of the genus *Cyprinella* are distinguished from other cyprinids by their large, vertical, diamond-shaped scales and a black blotch in the dorsal fin (Rohde et al. 1994). The “Thinlip” Chub is a slender fish with a long snout and a barbel in the corner of its inferior mouth. A light yellow-green stripe is present above the dark lateral stripe. “Thinlip” Chubs attain sizes similar to Santee Chubs (*C. zanema*), about 75 mm (3 in.).

**Status**

Although the “Thinlip” Chub is an undescribed species, it has been listed globally as imperiled (G2Q) and critically imperiled (S1) in South Carolina (NatureServe 2013). It is also considered a species of special concern in North Carolina.

**POPULATION SIZE AND DISTRIBUTION**

The “Thinlip” Chub occurs only in the Carolinas and is believed to exist only in the upper coastal plain portions of the Lynches, Pee Dee and Little Pee Dee Rivers as well as portions of the Cape Fear River in North Carolina.

“Thinlip” Chub population size and trend data is not well known. Its population is restricted to a very small geographic area. The “Thinlip” Chub is not commonly encountered within its known range (F. Rohde, pers. comm.). The “Thinlip” Chub was not collected at any randomly selected wadeable stream sites in the South Carolina Stream Assessment (2006-2011).

**HABITAT OR NATURAL COMMUNITY REQUIREMENTS**

The “Thinlip” Chub habitat requirements are not well known but are likely similar to those of the Santee chub. The Santee Chub inhabits small- to medium-sized streams with sand and rocky runs or current-swept pools (Rohde et al. 1994).

## CHALLENGES

The “Thinlip” Chub is threatened by the same anthropogenic disturbances that challenge all aquatic fauna. However, due to its limited distribution, it is especially vulnerable to development as the Sandhills Ecoregion of South Carolina is under constant development pressure. Habitat modifications in this region that impact the “Thinlip” Chub include agriculture, residential development, and tourism. Damming headwater streams to create ponds for golf courses eliminates important lotic habitats; the new lentic environments favor competing—and often predatory species—such as Bluegill and Largemouth Bass. Poor agricultural, silvicultural, and road construction practices often lead to stream siltation and non-point source water pollution (Walters 1995). Unregulated use of motor vehicles in stream bottoms also results in stream siltation and destruction of fish habitat.

## CONSERVATION ACCOMPLISHMENTS

South Carolina Stream Assessment data have facilitated the calculation of standardized abundance (density) estimates for this species at multiple spatial strata including statewide, river basin, level-IV ecoregion, and “ecobasin” (ecoregion x river basin). These estimates, for the first time, provide an objective measure of current population status that will serve as a baseline for following future population trends and gauging the effectiveness of conservation actions.

Educational materials have been developed in order to raise public awareness of nongame species and their ecological importance to the natural history of South Carolina’s aquatic habitats, including:

- The Reel Art program creates a topic for secondary school students and judges the artists’ submissions (e.g. a list of the Piedmont Fishes of SC to select from as subjects for drawing or painting).
- We compiled information and photographs for the development of nongame fish description web pages which are currently in development.
- We developed the Blackwater River Guide and interactive Powerpoint.
  - <http://www.dnr.sc.gov/education/pdf/BlackwaterInteractivePoster.pdf>
  - <http://www.dnr.sc.gov/education/pdf/BlackwaterRivEdGuide.pdf>
- We developed and printed the Fish Species of Concern Coloring Book (2009).
  - <http://www.dnr.sc.gov/aquaticed/pdf/SCFishesofConcernColoringBook.pdf>

## CONSERVATION RECOMMENDATIONS

- Use South Carolina Stream Assessment decision-support GIS modeling tools to identify levels and spatial distributions of critical habitat factors to sustain the species in geographic areas of interest.
- Use South Carolina Stream Assessment decision-support GIS modeling tools to identify priority regions and watersheds at greatest risk of decline in stream integrity.
- Describe life history and habitat requirements for “Thinlip” Chub.
- Conduct genetic assessments to determine appropriate taxonomy for “Thinlip” Chub.
- Formally determine specific or subspecific status of the “Thinlip” Chub.

- Protect critical habitats for “Thinlip” Chub 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 for “Thinlip” Chub.
- Encourage responsible land use planning.
- Consider this species’ needs when participating in the environmental permit review process.
- Continue to develop educational materials in order to raise public awareness of nongame fish species and their ecological importance to the natural history of South Carolina’s aquatic habitats.
- 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

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

## LITERATURE CITED

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