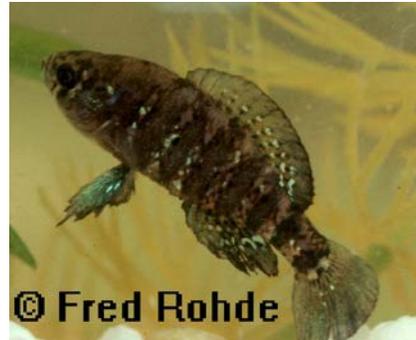


## Bluebarred Pygmy Sunfish

*Elassoma okatie*

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### DESCRIPTION

#### Taxonomy and Basic Description

The Bluebarred Pygmy Sunfish is a member of the small, secretive family of Elassomatidae. Bluebarred Pygmy Sunfish range in length from 24 to 35 mm (0.9 to 1.4 in.). As with other members of the genus *Elassoma*, the Bluebarred Pygmy Sunfish lacks a lateral line, has a relatively large eye, an upturned mouth and a rounded caudal fin. This colorful little fish is very similar to the Carolina Pygmy Sunfish, with alternating bright blue and black bars, but the black bars of the Bluebarred Pygmy Sunfish are about three times wider than the blue bars (Rohde et al. 1994).

#### Status

The Bluebarred Pygmy Sunfish is a federal species of concern and is listed as a species of concern in both South Carolina and Georgia, the only two states where it occurs. While this small sunfish is considered vulnerable to imperilment throughout its range (Warren et al. 2000), it is considered critically imperiled in Georgia (S2) and is currently not ranked (SNR) in South Carolina (NatureServe 2013). In a recent assessment of North American freshwater fishes, the Bluebarred Pygmy Sunfish was considered vulnerable to imperilment (Jelks et al. 2008).

#### POPULATION SIZE AND DISTRIBUTION

Bluebarred Pygmy Sunfish are restricted to the lower Savannah River drainage in Georgia and South Carolina and the lower Combahee and Edisto Rivers in South Carolina. The populations within South Carolina are restricted to the Coastal Plain, occurring most frequently in the Carolina flatwoods ecotype. Bahama Swamp in Jasper County, South Carolina represents some of the best available habitat left for Bluebarred Pygmy Sunfish in the State.

Bluebarred Pygmy Sunfish populations are localized, often abundant and uncommon in South Carolina (Page and Burr 1991). In spite of this, these populations are currently considered stable. The Bluebarred Pygmy Sunfish was not collected at any randomly selected wadeable stream sites in the South Carolina Stream Assessment (2006-2011).

#### HABITAT OR NATURAL COMMUNITY REQUIREMENTS

The Bluebarred Pygmy Sunfish inhabits drainage ditches, stagnant ditches, and the backwaters of creeks and rivers. It is found in shallow water with abundant submerged and/or emergent vegetation that is rooted in soft, detritus-rich substrate (Rohde and Arndt 1987). This species

often inhabits disturbed areas such as roadside ditches and backwaters near boat ramps (Rohde and Arndt 1987).

## CHALLENGES

Bluebarred Pygmy Sunfish are fairly tolerant of human disturbances; in fact, most populations occur in heavily disturbed areas. However, this species is vulnerable to habitat alterations and pollution as well as drought because it is mostly found in roadside ditches (Rohde and Arndt 1987).

## CONSERVATION ACCOMPLISHMENTS

Riverbanks Zoo currently has a propagation and maintenance program of representative populations of Bluebarred Pygmy Sunfish.

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

- Identify critical habitats and areas with healthy populations for the Bluebarred Pygmy Sunfish.
- Describe life history and habitat requirements for the Bluebarred Pygmy Sunfish.
- Conduct genetic assessments to determine appropriate taxonomy for the Bluebarred Pygmy Sunfish.
- Protect critical habitats for the Bluebarred Pygmy Sunfish from future development and further habitat degradation by following Best Management Practices as well as 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 Bluebarred Pygmy Sunfish.
- 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 on 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 and others. In the event that more protective BMPs are implemented, population studies of these fish could assist in determining the effectiveness of those measures.

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