



Common Name: BLUEBARRED PYGMY SUNFISH

Scientific Name: *Elassoma okatie* Rohde and Arndt

Other Commonly Used Names: none

Previously Used Scientific Names: none

Family: Elassomatidae

Rarity Ranks: G2G3/S1S2

State Legal Status: Endangered

Federal Legal Status: none

Description: Like other pygmy sunfishes, the bluebarred pygmy sunfish is a small, laterally compressed species with a rounded caudal fin and single broad dorsal fin containing both spines and rays. It does not exceed 30 mm standard length (1¼ inches). It has a small, surface-directed mouth and the top of its head is not scaled. Its sides are typically marked with 8-14 (usually 10-12) dark vertical bars that are about 3 times wider than the lighter spaces between each bar. Breeding males are brilliantly colored with blue-green fins and blue-green flecks of pigment scattered over their dark black bodies. Females are light brown in color, but may be sparsely marked with yellow, green, or blue flecks of pigment on their bodies and fins. A male is pictured in the top photograph; the photo at the bottom of the account includes males and a female.

Similar Species: In Georgia, the range of the bluebarred pygmy sunfish overlaps with two similar-appearing species of pygmy sunfish. In contrast to the bluebarred pygmy sunfish, the banded pygmy sunfish (*Elassoma zonatum*) has a post-ocular stripe and 1-3 dark blotches on

their sides just above the pectoral fin (these blotches are usually visible in life but are much more evident in preserved specimens). The head of the everglades pygmy sunfish (*Elassoma evergladei*) has embedded scales and its body is mottled rather than barred. Young pirate perch (*Aphredoderus sayanus*) are similar in appearance, but differ from pygmy sunfishes in having a strong opercular spine and toothed scale margins (i.e. ctenoid scales).

Habitat: Bluebarred pygmy sunfishes are known from slow-moving to stagnant, heavily vegetated areas within ditches, impoundments, creeks, and rivers. They are strongly associated with aquatic plants, including alligator weed, bladderwort, duckweed, grasses, pondweed, rushes, and spatterdock. Waters are typically tea-stained and acidic.

Diet: No diet studies have been completed for the bluebarred pygmy sunfish. However, the Carolina pygmy sunfish (*Elassoma boehlkei*), a closely related species, is an opportunistic carnivore that feeds on a variety of small crustaceans (such as copepods and cladocerns) and aquatic insects (such as dipterans).

Life History: Very little is known about the biology of this species, but generalized information is available for other pygmy sunfishes. Pygmy sunfishes are spring spawners. Males guard breeding territories around submerged aquatic plants and defend them from competing males and non-receptive females using threat displays. Males also display a “wobble-wobble” dance toward receptive females that includes repeated lowering, erection and undulation of fins, swimming up and down in the water-column, and darkening of body coloration. Adhesive eggs are deposited on plant stems and a single female can spawn several times with one or several males. Males of some species guard the eggs and larvae for several days after hatching. Growth is rapid and both sexes typically reach sexual maturity within their first year. Lifespan is short and most fish do not reach age 2.

Survey Recommendations: This species is vulnerable to seining, dipnetting, and light-trapping in heavily vegetated areas. Minnow-traps may also be effective, provided that mesh sizes are not too large.

Range: The bluebarred pygmy sunfish is known from the Edisto, New, and Savannah River drainages of South Carolina and Georgia. Within Georgia, it is only known from a few streams on the Fort Gordon military installation (Savannah River drainage). All Georgia records are within the upper Coastal Plain. Additional sampling in the upper Coastal Plain of the Savannah drainage is needed to better define the range of this species in Georgia. Check the [Fishes of Georgia Webpage](#) for a watershed-level distribution map.

Threats: Small range size is the most severe threat to the continued existence of the bluebarred pygmy sunfish in Georgia. For example, a severe drought or a chemical spill could quickly wipe out one or more of the few populations in the state. Nutrient runoff associated with fertilizer application or livestock waste may lead to algal blooms that negatively impact the fine-leaved aquatic plants utilized by this species. Efforts to remove aquatic plants using herbicides or manual removal should be avoided when this species is present.

Georgia Conservation Status: This species is broadly distributed within the streams and impoundments on Fort Gordon military base.

Conservation and Management Recommendations: Fort Gordon has developed a management plan for the bluebarred pygmy sunfish and two other rare fishes that occur on base. The plan recommends the protection of existing populations by minimizing military traffic near streams and wetlands and managing for natural forest cover in occupied watersheds. Additional survey efforts are needed outside of the boundary of Fort Gordon in an effort to identify and protect additional populations in Georgia.

Selected References:

Hoover, J. J., S. G. George, and N. H. Douglas. 1998. The bluebarred pygmy sunfish (*Elassoma okatie*) in Georgia. Proceedings of the Southeastern Fishes Council 36: 7-9.

Hoover, J.J., F.C. Rohde, and K.J. Kilgore. 2004. Management plan for the Savannah darter, bluebarred pygmy sunfish, and mud sunfish at Fort Gordon, Georgia. Unpublished report. Conservation Assistance Program, Request 0702-02.

Marcy, B. C., Jr., D. E. Fletcher, F. D. Martin, M. H. Paller and M. J. M. Reichert. 2005. Fishes of the middle Savannah River Basin: with emphasis on the Savannah River Site. The University of Georgia Press. 462 pp.

Quattro, J. M., W. J. Jones, and F. C. Rhode. 2001. Evolutionarily significant units of rare pygmy sunfishes (genus *Elassoma*). Copeia 2001: 514-520.

Rohde, F.C. and R.G. Arndt. 1987. Two new species of pygmy sunfishes (Elassomatidae, *Elassoma*) from the Carolinas. Proceedings of the Academy of Natural Sciences of Philadelphia 139: 65-85.

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K. Owers-February 3rd, 2009 Added pictures



The fish in the upper left panel of the photograph is a female, the other two are males. Photograph from *Fishes of the Middle Savannah River Basin*, The University of Georgia Press, used with permission.