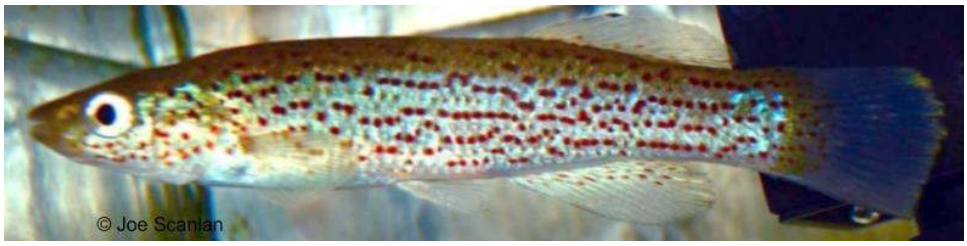

Common Name: STIPPLED STUDFISH

Scientific Name: *Fundulus bifax* Cashner and Rogers

Other Commonly Used Names: none

Previously Used Scientific Names: none

Family: Fundulidae

Rarity Ranks: G2G3/S1

State Legal Status: Endangered

Federal Legal Status: none

Description: The stippled studfish is a light-gold topminnow with silver-blue sides marked by short interrupted rows of dark red to reddish-orange spots. The paired fins are blue-gray, and the caudal and dorsal fins lack marginal black bands. During the breeding season the flanks of this species turn sky blue, fading to dark blue-brown dorsally and to white below. Adults can reach 120 mm (4.7 in) total length. A reproductive male is shown above; both reproductive and non-reproductive males are shown at the bottom of the account.

Similar Species: The stippled studfish is very similar to the southern studfish (*Fundulus stellifer*) but these two species are not known to co-occur. The spots on the southern studfish are more randomly scattered and are not arranged into the short, horizontal rows as they are in the stippled studfish. In addition, nuptial male southern studfish may have black margins on the caudal and dorsal fins but stippled studfish do not.

Habitat: The stippled studfish typically inhabits clear, medium-sized streams. Preferred habitats are pools, stream margins and backwaters over sand or rocky substrate. Although it uses low-velocity habitats, the stippled studfish is restricted to free-flowing streams.

Diet: Presumably food items similar to those of the southern studfish and the northern studfish, ranging from aquatic and terrestrial insects to small snails, clams and crayfish.

Life History: No studies have been conducted on the life history of the stippled studfish. Major life history characteristics should be similar to those for the northern and southern studfish. This suggests the use of margin habitat in flowing streams, use of clean gravel

for spawning, and an adaptation to utilizing freshwater snails for a significant portion of the diet. Spawning probably occurs in late spring and summer.

Survey Recommendations: Topminnows can be easily missed during surveys, especially if shoreline habitats and backwaters are not targeted during sampling.

Range: The stippled studfish is endemic to the Coosa and Tallapoosa river systems. It occurs in the Tallapoosa River system above or near the Fall Line in Georgia and Alabama, as well as in Sofkahatchee Creek, a single tributary to the lower Coosa River. In Georgia, the stippled studfish is known from only 2 locations in the Little Tallapoosa River system: one mainstem site and one nearby tributary site. The species is rare throughout its range. Check the Fishes of Georgia Webpage for a watershed-level distribution map.

Threats: Stippled studfish have a restricted distribution and are extremely rare. The native range of the stippled studfish is fragmented by four large reservoirs on the Tallapoosa and Little Tallapoosa rivers. Construction of additional impoundments on the Tallapoosa River upstream from Harris Dam would further fragment populations in the main channel of the upper Tallapoosa River and would isolate populations in newly cut off tributaries. Degradation of stream margin habitat because of poor riparian management and excessive sedimentation are additional threats.

Georgia Conservation Status: The stippled studfish has not been collected in Georgia since 1990 and may be extirpated from the state. Comprehensive fish surveys were carried out at over 100 sites in the Tallapoosa River system of Georgia and Alabama in the early 2000s. In addition, a targeted survey was carried out at one of the historic sites in Georgia in 2005. Field notes during this survey indicated extensive habitat modification. This species still persists at several locations within Alabama.

Conservation and Management Recommendations: Conserving species unique to the Tallapoosa River system, such as the stippled studfish, depends on maintaining and improving flowing-water habitats and water quality in the river and its tributaries. It is essential to eliminate sediment runoff from land-disturbing activities (such as roadway and housing construction) and inputs of contaminants (such as fertilizers and pesticides). Forested buffers should be maintained and restored along the banks of the river and the smaller tributary streams that feed the river. Maintaining natural streamflow patterns by preventing excessive water withdrawal or unnaturally flashy runoff (such as from urban stormwater runoff) is also an essential element of protecting riverine habitat quality in the free-flowing and unregulated portions of the Tallapoosa River system.

Selected References:

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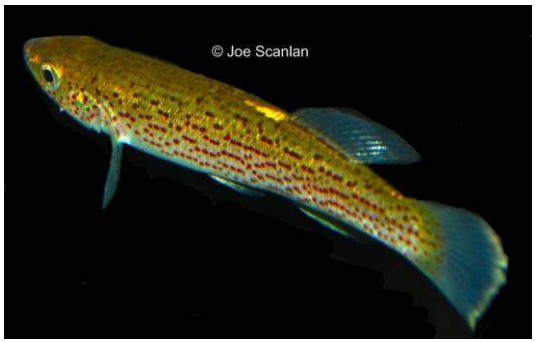
Author of Account: Byron J. Freeman

Date Compiled or Updated:
B. Freeman, 1999: original account.
K. Owers, Jan 2009: updated status and ranks, added fish atlas link, converted to new format, minor edits to text.
B. Albanese, August 2009: added photos, similar species, and conservation status.
Z. Abouhamdan, April 2016: updated link



Male stippled studfish with breeding coloration.

Stippled studfish with non-breeding coloration.