



Natural Heritage & Endangered Species Program

Massachusetts Division of Fisheries & Wildlife

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Threespine Stickleback

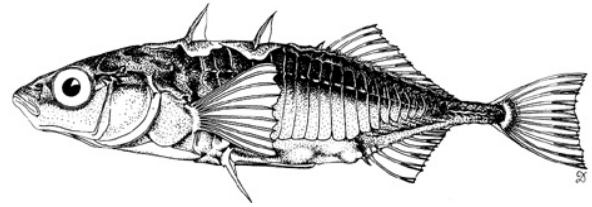
Gasterosteus aculeatus

State Status: **Threatened**

Federal Status: **None**

Description: The freshwater Threespine Stickleback is a very small, armored fish with three serrated dorsal spines. They are generally 25-38 mm in length. The marine populations are often larger, reaching up to 76 mm in length. Their pelvic fin consists of one spine and one soft ray. They are silvery yellow to light brown or green in color. During breeding season their breast and belly become bright red and their eyes turn a vivid light blue in color.

Life History: The Threespine Stickleback has an interesting courtship ritual. Their spawning season is June or July but spawning can continue throughout the summer. Males generally construct barrel-shaped nests out of vegetation and detritus in sandy, shallow areas. Males attract females by doing a “zigzag” dance, which leads the female into the nest where she deposits her eggs. Males will mate with multiple females. The males are then left to care for the eggs and young until they are able to fend for themselves. Males can often be seen “fanning” the nest to ensure that the eggs get enough oxygen. They become sexually mature in a year and may live up to 3 years.

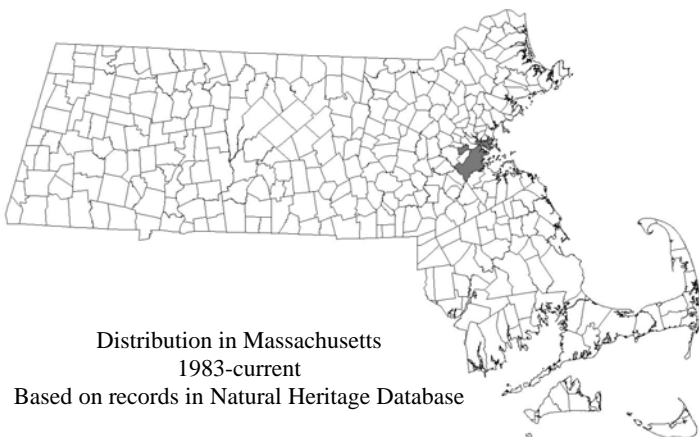


From R.J. Wootton, *A functional biology of stickleback*, 1984

Food: Threespine Sticklebacks are voracious eaters and will eat worms, aquatic insect larvae, plants, fish eggs and fry, including their own species.

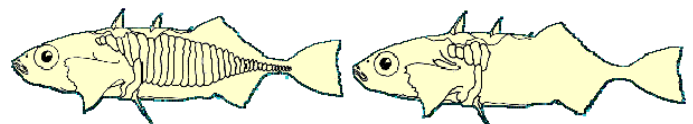
Important population in Massachusetts: Threespine Sticklebacks can be found in both marine and freshwater environments. However one population of Threespine Stickleback is Threatened in Massachusetts. This population is important because it is the southern most, completely freshwater population known and the only freshwater population in Massachusetts. In addition, this population has three distinct lateral-plate morphs, and is only the fourth record of low-plate individuals in eastern North America.

What are lateral-plate morphs? The Threespine Stickleback’s body is armored on the sides by a series of large, oblong, vertical bony plates, called lateral-plates. Morphs simply mean different forms. The three types of lateral-plates morphs (or forms) that this population of Threespine Stickleback have are 1) completely plated or plates along the entire side of the fish starting behind the gills; 2) medium plated, or plates only along the anterior half of the body, and 3) low plated, where there are only a couple of plates and the rest of the body is plate-free. Because this species has three different forms and different populations have some forms and not others, they are especially interesting to evolutionary biologists.



Distribution in Massachusetts
1983-current

Based on records in Natural Heritage Database



completely plated

low plated

Updated August 2008

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