



transplanting of the STICKLEBACK

by Emily Winward T. C. A. S.

At one time the unarmored 3-spined stickleback inhabited several waters of the Los Angeles Basin, but because of development, and perhaps pollution, it has all but disappeared. It is listed among the 19 other endangered species of California fish.

Just recently, the California Department of Fish and Game reported that this fish is making its way back. This is because the department has made transplanting efforts. The Fish and Game Department transplanted 363 sticklebacks to pools in San Felipe Creek and in Anza-Borrego Desert State Park, near San Diego. (Report from Calif. Dept. of Fish and Game, Sacramento, Calif.)

The 3-spined stickleback is of the genus and species *GASTEROSTEUS ACULEATUS*, of the family *GASTEROSTEIDAE*. It is found in the fresh waters of Canada and The United States, except for fast flowing mountain streams. In size, they range from 2½" to 7½", but 2 to 3 inches is the average. Their color is usually greenish to black on the back, and silver on the belly. They have two dorsal fins; the anal fin is much like the second dorsal and lies opposite it. Each pelvic fin isome long spike, with large pectoral fins. Most sticklebacks have a series of bony plates along each flank, the number being different with the species.

The male is an extremely beautiful fish as breeding time nears, as he takes on brighter colors. The front of his underside becomes red, so that this time he is called red throat. He stakes out a territory and fights off any intruders. The nest is rather unusual, as it is built of small pieces of plants that are glued together with a sticky substance from his kidneys. Also, the nest is constructed so there is a tunnel through the entire nest. The female stays back and takes no part of the nest building.

When the nest is ready, the male lures one or more females into it, to lay her eggs. The male may force the female to enter the nest several times until it is filled with eggs. After laying her eggs, the female departs. The male then enters the nest and fertilizes the eggs with his milt. It is at this time the female should be removed, as the male may attack and kill her.

The eggs are just under 1/12 an inch in diameter. According to the temperature, the eggs hatch in 5 to 12 days. The male aerates them during this time by fanning the water through the nest. When the fry are born, they are 1/6 of an inch long, and they are guarded and tended by the male until they are ready to leave the nest. It is a beautiful sight to see the male stickleback tending his offspring. The male may be allowed to remain with the fry until they begin to scatter, then he should be removed.

According to a late report, sometime after one of the transplants, some fry were observed. Also observed was a nest being guarded by two males. This sounds like good news for conservationists and the sticklebacks. If the transplants are successful, perhaps the sticklebacks will once again populate our waters in great numbers.

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