

BROOK STICKLEBACK - EUCALIA INCONSTANS (KIRTLAND)

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The sticklebacks are all small, aggressive fishes, which have long been popular with aquarists. Several of the dozen species in the stickleback family are found as frequently in fresh water as readily as in brackish or salt water. They inhabit the coastal waters and streams bordering both the Atlantic and the Pacific Oceans. The Brook stickleback, however, proves to be the exception since it dwells throughout its entire life strictly in freshwater. Consequently, although most species favor the addition of approximately one tablespoon per gallon of salt to their aquarium water such practice is of no value to the well being of the Brook species.

The range of the Brook stickleback is limited to southern Canada and the middle western states.

The stickleback family got its name from the series of free spines (2-15) in front of the soft dorsal fin. Most of the species are equipped with a series of bony plates along the sides of the body; the number of these plates varies depending upon the species as well as the temperature and salinity of the water. The number of spines, plates on the sides and the very narrow caudal peduncle are all useful characteristics aiding in identification. The Brook stickleback has from four to six spines, usually five, in front of the dorsal fin. Several other species are popularly known according to the number of these dorsal spines. For example, *Gasterostes aculeatus* has three and is therefore the Threespined stickleback, *Apeltes quadracus* with four is the Fourspined stickleback, *Pungitius pungitius* is the Ninespined stickleback, *Pygosteus pungitius* is the Tenspined and *Spinachia spinachia* the Fifteenspined.

The Brook stickleback grows to approximately two and one-half inches in length. Its coloring is brown to black above shading to a mottled green on the sides then to a lighter, almost silver, on the belly which is speckled with finer sized dots. All species are without scales.

They are also considered cold water fishes, since they do best in lower temperatures around 60 to 70 degrees; even colder during mid-winter.

Sticklebacks are extremely pugnacious and should not be kept with any other fishes, even many which are larger.

Spawning occurs in the early spring when the males develop bright red coloring in the area of the ventral fins. Each male takes possession of a specific territory, which he defends from all intruders. He constructs an elaborate nest of bits of grasses and other debris which is cemented together with a secretion from his kidney. The nest is about the size of a golf ball and has a single opening. After the nest is completed he goes in pursuit of a mate, and perhaps several, one at a time. The male stickleback is a very determined suitor. First trying to entice his mate to the nest, he swims around her zig-zagging about and displays his red underside and flashes his fins. If the female remains away from the nest after all his enticing courtship, then he turns to the more direct tactic and begins chasing and herding with fin nipping and bumps until the frightened female seeks refuge from his armoured attack ...inside the nest. Having disposed of the preliminary steps he squeezes into the nest beside his mate. In this position they begin to quiver and shake nearly to the point of collapsing the nest, finally expelling the eggs and sperm. After spawning the female escapes by bursting through the back of the nest, and leaving the area. The male might go in pursuit of another female, to repeat the whole process.

The male proves to be a more gentle father and is noted for his solicitous care of the eggs and young. He promotes circulation around the eggs by fanning them to maintain water currents. After the eggs have hatched, the male still watches over the young, attempting to keep them in the vicinity of the nest. He will attack other fishes many times his size which intrude into the area of their nest.

The young, just like the adults, require live food such as infusoria, daphnia and various microscopic and macroscopic aquatic animals.

After approximately a week of this tender love and care the young attain sufficient size to convince the male that they, too, are a threat to his territory and he may eat them or drive them away.

Caring for sticklebacks presents both a challenge and a reward.