



THE Tweed
FOUNDATION

A Tweed Foundation Paper

3 THE FISHES OF THE TWEED AND THE EYE

A.4: Three-spined Stickleback *Gasterosteus aculeatus*

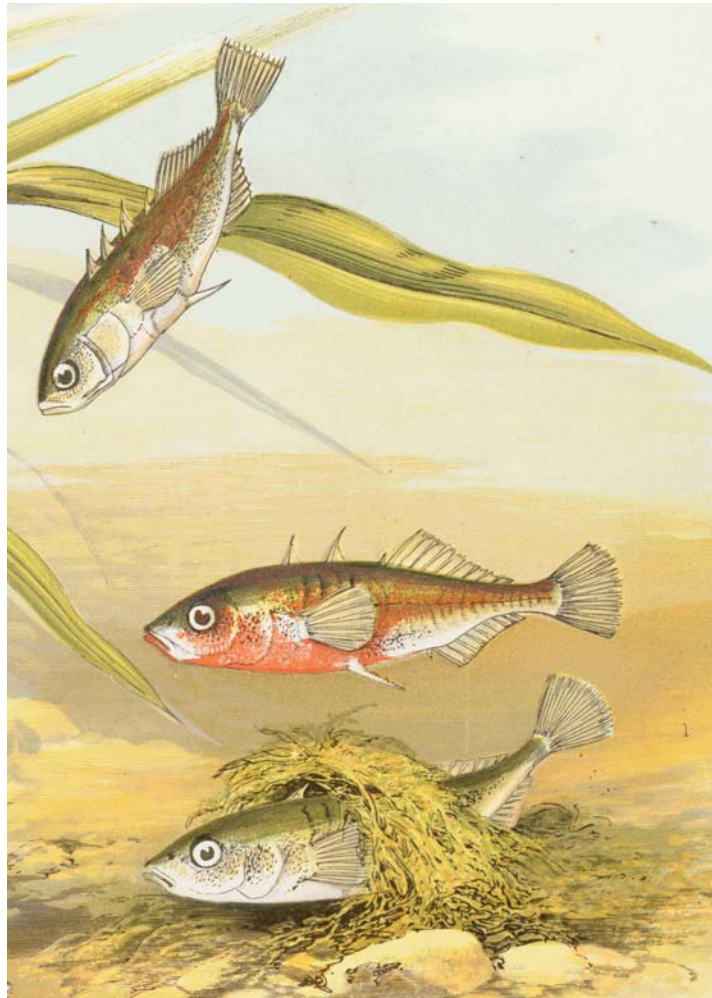


Photo A.4.1: Taken from British Freshwater Fishes by the Rev. W. Houghton, illustrated by A.F. Lydon, 1879

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A charitable trust established by the River Tweed Commission to promote the development of fish stocks in the Tweed River System

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There are only seven species of Stickleback, spread throughout Europe, Asia and North America. All but one species, which is wholly marine, can live in both fresh and salt water. None are of economic value, other than indirectly as food for fish that are harvested. The Three-spined Stickleback is possibly the most widely distributed fish in the British Isles, living as it does in habitats ranging from ditches and ponds to the quiet margins of large rivers and lochs. The body form is narrow, seldom more than 5cm in length without true scales though there are a variable number (1 to 25) of bony plates or “scutes” along the flanks. The spines that give the family their name are modified fin rays: Two large and one small on the back, in front of the dorsal fin, one strong spine in front of each pectoral (side) fin and a single one in front of the anal fin (below the belly). In the spawning season, March to July, the males’ bellies become bright red and the rim around their eyes turquoise in colour and they build nests in the territories they have established. The nest is a short tunnel in a pile of debris collected together on the bottom, including fragments of weed glued together with sticky threads secreted from the kidneys and applied by the male rubbing his belly across the nest area. The male then attracts a ripe female with a sort of “dance” leading her to enter the nest and deposit her eggs (50 to 100 usually), which he then fertilises. The female then

leaves, taking no further part in the breeding process, though she may spawn several times in a season with different males. Once eggs are in a nest, the male ventilates them as they develop by fanning water over them with his fins. The eggs hatch after one or two weeks, depending on temperature, and the male continues to guard the young larvae, collecting any that stray from the nest in his mouth and spitting them back into it. Once the larvae have reabsorbed their egg sacs, they leave the nest and form a shoal, also guarded by the male for a short period. Males may breed more than once in a season, but as they do not appear to feed when doing so, their capacity for this is limited. In the British Isles, Sticklebacks live for only one or two years, and probably spawn only once. Whilst generally solitary, in larger more open habitats, they can form shoals: Their diet is made up of small crustaceans and invertebrates (insect larvae, worms and molluscs). They are fairly tolerant of pollution and are often the last fish species to survive in degraded waters (Maitland & Campbell, 1992).

They are ubiquitous in the Tweed and Eye catchments, living in ditches, burns, streams and the quieter parts of larger channels: They are probably present in all the ponds, lochs and reservoirs within the area, and are definitely present in Gameshope Loch above the Talla Reservoir at an altitude of 570m.

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