

STICKLEBACK CARE

SOP# OSTE13

PURPOSE: To describe methods of care for sticklebacks.

POLICY: To provide optimum care for all animals.

RESPONSIBILITY: Collector and user of the animals. If these are not the same person, the user takes over responsibility of the animals as soon as the animals have arrived on station.

PROCEDURE: At present there is one stickleback species found around BMSC.

Species:

Threespine stickleback

Gasterosteus aculeatus

Identification: Refer to Lamb and Edgell's book, "Coastal fishes of the Pacific Northwest" for in depth descriptions of individual specimens.

Gasterosteus aculeatus: This fish has two large and one small serrated dorsal spines. The finless gap between the tail fin and other fins has a keel on each side. It usually has a series of bony plates along each side of the body. It can reach 10cm in length and is silvery in color.

Sites: Can be found in freshwater, saltwater and brackish water. Commonly found in eelgrass beds and around pilings and piers. It rarely swims below depths of a few meters.

Collection Methods: Sticklebacks can be caught in small beach seines in eelgrass sites **or** caught with dip nets. Minnow traps may be used in lakes or off of docks but should be checked daily.

Transport: Please follow transport and handling of fish SOP.

Holding: Held in continually flowing seawater in large tanks. Lids are necessary. Ensure high levels of dissolved oxygen. These fish should be held in groups of no less than 5.

Feeding: Can be fed very small pieces of fresh or frozen fish. Will readily eat commercial tropical fish flakes, and zooplankton. They will eat small caprellids off of clumps of hydroid placed in their tank.

Tank Cleaning: Once a month, the fish should be removed from the tank and placed into a holding bucket. The tank should be drained and the sides and bottom should be scrubbed and rinsed with warm freshwater. The tanks should then be rinsed with cold seawater and allowed to refill, and the fish replaced.

Animal Return: Return fish to the site of collection. Be sure to maintain appropriate oxygen and temperature levels in bucket during transport.

Anesthetic: Anesthetizing these animals is size, species, and density dependent; approximately 0.2mg/L of MS-222. Always wear gloves when using MS-222.

Clove oil is most effective as an anesthetic at concentrations of 40-60 mg/L, and should be dissolved in ethanol (e.g., 1:9) before mixing into the water. Clove oil has a slightly faster induction time and a longer recovery time than similar concentrations of TMS. Clove oil has a wide margin of safety between effective and lethal doses, and fish do not show signs of distress when being anaesthetized.

Euthanasia: Euthanasia is size, species, and density dependent; inhalant anesthetic overdose of 0.4 - 2.0 g/L of MS-222.

DAILY ACTIVITIES:

1. Ensure water is flowing into the tank at a reasonable rate.
2. Ensure the standpipe is in place and not blocked.
3. Check for and remove any dead animals.
4. Check for and remove any uneaten prey organisms.
5. Check for and remove any foreign organisms.

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