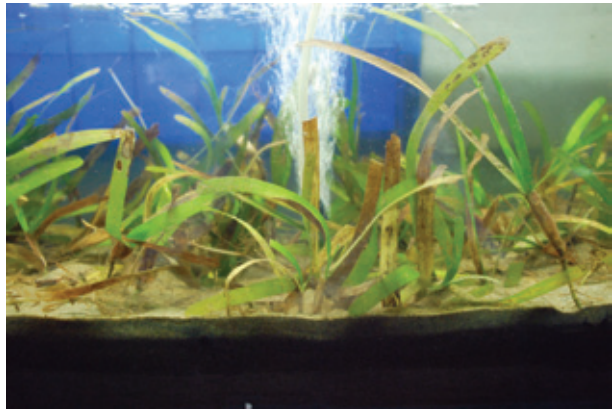
Seagrass transplantation protocol for marine aquarium

Kaladharan, P. and Gishnu Mohan

ICAR- Central Marine Fisheries Research Institute, Kochi

Maintaining a marine aquarium though a bit cost and effort intensive, offers pleasure to many people irrespective of age, gender and status. Whle ornamental plants for freshwater aquaria are common, in marine aquariums phytal components are rare. If a marine aquarium is set with seaweeds or



Marine aquarium with seagrass

seagrasses, the aesthetic value will be more and water quality inside the aquarium also will improve. A simple protocol for transplanting seagrass to set up a marine aquarium is described here. Seagrass *Cymodocea serrulata* along with rhizomes and roots collected from Tuticorin coast were acclimatized in the laboratory providing light and aeration for four days. Shoot containing rhizome and lateral roots were tied to thin wooden reapers (85 x 0.5 cm) at every 10 cm interval. Five such reapers were attached together longitudinally with 7 cm interval between and placed inside a glass aquarium tank of 90 x 36 x 38 cm. A narrow 50 cm long siphon was also attached at one of the corners. The tank was filled with 100 litres filtered seawater of 33 ppt. Beach sand collected at the lowest low tide level was slowly added to the tank to fill 10 cm height uniformly ensuring the wooden raft is well below the sand. The turbid water along with floating debris if any were siphoned out. Freshly filtered seawater of 33 ppt was slowly added to the tank without disturbing the bed so that the water level was maintained about 35 cm. Aeration was provided and the tank was illuminated for 10 hours through two fluorescent lamps set from the top of the tank with a regime of 10:14 h light /dark period. Nutrient solutions (Sol. A & B) of Walne's medium at a concentration of 0.5 ml/L each were administered fortnightly through the siphon using a hypodermic syringe so that the nutrient solutions diffused directly to the sediment.The aquarium tank settled within a week and the seawater became clear allowing fish to be introduced. During the 70 days observation period, though the old leaves were shed and fresh leaves appeared regularly, no fresh shoot emerged from the nodes of the rhizomes. The above protocol for transplanting seagrasses in marine aquarium will also be useful for acclimatization studies, nursery rearing of seagrass through vegetative propagation and for carbon sequestration studies under different levels of dissolved CO_2 and temperatures.