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Conservation steps through confined breeding, sea ranching and evaluations of growth in natural habitats of chosen sea horses and sacred conches along the South Eastern Indian coast

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Sea horse, *Hippocampus trimaculatus* obtained as by-catch from the shallow coastal habitats in the Gulf of Mannar and Palk Bay coast of India and maintained in laboratory were observed for courtship and egg transfer. Spherical eggs measured 2.12±0.019 mm in length and 1.97±0.045 mm in width weighing 2.94±0.3 mg. After egg transfer, male's pouch became water-tight and pregnancy lasted for 12 to 14 days. The mean brood size of *H. trimaculatus* was 389±56.11. Newborn seahorses were 7.0±0.05 mm in length and 0.97±0.08 mg in weight. Feeding regimens were standardized. Juvenile sea horses captive-bred and were collar tagged, released in the natural habitat and wide publicity was given to return the tagged seahorses. Data revealed an average growth of 4.15 mm/month in the natural habitat. Sacred conch, *Turbinella (=Xancus) pyrum* collected from sea bed up to 20 meters depth in the Gulf of Mannar, India and maintained in rectangular tanks containing sand substratum with adequate sea water flow through were used for breeding trials. Brooders were fed *ad libitum* with live clams *Donax cuneatus* and *Donax faba*. The release of egg capsules and the number of baby conches were recorded. Baby conches started growing from an initial 9.09 mm length to 62.23 mm in length with an increase in shell diameter of 31.47 mm from 4.07 mm in 360 days. After tagging, the baby conches were sea-ranched in Gulf of Mannar with wide publicity for returning the recaptured tagged conches. The recovery was14.6% and the average breadth-wise growth was 8.0 mm/year in nature.

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Effect of water-accommodated fraction on the early life stage of *Favites colemani* (Veron, 2000)

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Oil is one of the major pollutants in the marine ecosystem which has short and long-term effects upon its contact with marine organisms especially corals. Coral organisms are sensitive to environmental changes which can affect their breeding and growth, thus, making them bioindicators. For instance, the effect of this pollutant is manifested by the dramatic deterioration of coral reefs in the coastal municipality of Bolinao in Northwestern Philippines. This study aimed to provide benchmark information on the juvenile stage of Favites colemani,one of the coral species in Bolinao. In this study, a controlled amount of two-day old Favites colemani larvae were subjected to different concentrations of water accommodated-fraction (WAF) of diesel fuel oil condensate for 48-hours while surviving larvae were exposed to Crustose Coralline Algae (CCA) for 24 hours to test their competency. Results showed that there is a significant difference between the survival of the two-day old Favites colemani larvae within 24 and 48 hours of exposure in diesel fuel oil condensate WAF; while there is no significant difference on the settlement rate of larvae exposed to CCA. These results showed that time serves as an important determinant of the survivability of corals since the possible response of the early life stage of corals is dependent on how long these are exposed to oil contamination. Therefore, looking into the response of said corals gives an insight on what to expect when oil spill occurs and what possible courses of actions are needed to prevent further degradation of coral organisms.

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