ICAR-CMFRI develops seed production technology of two more high value marine fishes

In a major breakthrough in the mariculture industry of the country, ICAR- Central Marine Fisheries Research Institute (CMFRI), Kochi has successfully developed two more high value marine fishes, which have high demand in international markets.

The Institute developed the seed production of orange spotted grouper (*Epinephelus coioides*) and pink ear emperor (*Lethrinus lentjan*). The ICAR-CMFRI had already developed the seed production technology of cobia *(Rachycentron canadum*) and silver pompano (*Trachinotus blochii*)

The hatchery seed production of orange spotted grouper, which is commonly known as *Hammour*, was developed at the Visakhapatnam Regional Centre of the ICAR-CMFRI, whereas the technology of pink ear emperor was developed at the Vizhinjam Rsearch Centre of the institute.

Seed production of Grouper

The orange spotted grouper is a commercially important carnivorous fish with high market demand in many parts of the world. The Institute made this achievement after the continuous efforts of scientists and technical staff for the last two years to enhance the survival rate of the larvae. Initial success in seed production of the fish was achieved in 2014, but the survival rate of the larvae was very low. After manipulating different water quality and feeding protocols, enhanced survival rate of 10% was achieved this time.

The larvae are now in advanced fry stage with a size of 3 cm after 42 days of rearing in the hatchery and ready to be transferred to the nursery. Later the fingerlings can be used for mariculture in grow-out cages.

The success in seed production of orange spotted grouper has raised a ray of hope for the mariculture of the fish using hatchery produced seeds in the country. The development is expected to generate enormous scope for mariculture helping the farmers to carry out sea cage culture of the species, opening a good business opportunity for fish farmers and exporters in the country. Orange spotted grouper is a potential species for mariculture because it is compatible to high temperature, hardy nature and tastier with high market value.
In most of the major fish landing centres, the fish fetches Rs 400-450/kg in wholesale market, whereas the live fish sale in international market fetches 3-4 times higher prices, indicating the prospects of mariculture of the species.

The success in the seed production of the fish will help India to contribute significantly to the global production of the grouper. The technology was developed under the guidance of Dr. Shubhadeep Ghosh, Scientist-in-Charge of the Vishakapatanam Regional Centre of ICAR-CMFRI.

Orange spotted grouper is available globally but predominantly in the tropical and sub-tropical waters and it forms the mainstay in the world Live Reef Food Fish (LRFF) trade, particularly in several Asian countries such as Hong Kong, China, Taiwan, Singapore and Malaysia.

Seed production of Pink Ear Emperor

The successful development of captive brood stock and breeding technology of pink ear emperor, a high value marine fish, is the first of its kind in the world. The Vizhinjam Research Centre of ICAR- CMFRI developed the technology after two years of continuous attempt using the Recirculating Aquaculture System (RAS) set up at the institute.

The pink ear emperor (*Lethrinus lentjan*), a food fish with superior flesh qualities and hardy nature, is popular in the domestic market and has a potential demand in global seafood markets too. The fish attains a growth of up to 2 kg and fetches Rs. 400 to 600 per kg in the domestic market.

In the wake of dwindling catch of the species, the breeding technology of pink ear emperor will help the country boost the production of the species through mariculture activities such as cage fish farming. Presently the open sea cage farming in the country is restricted to three or four species of marine fish. With a better growth rate and standardised breeding technology, the pink ear emperor is going to be a candidate species among cage fish farmers. The technology has been standardised for scaling up of this species among interested farmers. The seed production technology of pink ear emperor was developed under the guidance of Dr M K Anil, Scientist in Charge of the Vizhinjam Research Centre of ICAR-CMFRI.