

Breakthrough in mariculture: CMFRI achieves captive breeding of high value marine fish golden trevally, a potential candidate species for sea farming with huge market demand for both consumption and ornamental purposes



In a breakthrough in mariculture development in the country, the ICAR-Central Marine Fisheries Research Institute (CMFRI) has successfully developed seed production technology for golden trevally (*Gnathanodon speciosus*), a high value marine fish. The development is expected to open up a new avenue for sustainable seafood production and boost India's mariculture activities, including sea cage farming. Scientists at CMFRI's Visakhapatnam Regional

Centre achieved successful bloodstock development, captive breeding and larval rearing of the fish after five years of research.

Golden trevally or golden king fish is an ideal candidate species for mariculture (marine aquaculture) due to its faster growth rates, good meat quality, and huge market demand for both consumption and ornamental purposes. The farm-gate value of the fish is Rs. 400-500 per kg. It is a reef-associated fish and lives in the company of larger fishes like skates, sharks, groupers etc. Interestingly, juveniles of this species act as pilots for sharks. It is a silver grey fish with yellowish colouration on the belly, with scattered black patches and all fins coloured yellow and a black tail. The juveniles are more golden in colour with the black bands giving them a very attractive look and hence a preference for aquarium keeping. As an ornamental variety, the fish is priced between Rs. 150-250 per piece. A team of scientists at the Visakhapatnam Regional Centre of CMFRI led by Dr Ritesh Ranjan, Senior Scientist started the research efforts on seed production of this fish in 2019.

Milestone in Indian mariculture sector

"This is a significant milestone in Indian mariculture", said Dr A Gopalakrishnan, Director of CMFRI. "Golden trevally is an ideal candidate for sea farming due to its desirable qualities. Given the declining trend of its landings, the success in captive breeding of this fish has greater significance as it will offer opportunities for sustainable fish farming through mariculture practices including sea cage farming. The technology will also contribute to wild stock restoration efforts through the sea-ranching initiative", he said.

In India, the fish landing observations show that the golden trevally are landed predominantly at reef area fishing grounds in Tamil Nadu, Puducherry, Kerala, Karnataka and Gujarat. The total fish landings estimate for the last five years i.e. 2019, 2020, 2021, 2022 and 2023 was 1106, 1626, 933, 327 and 375 tonnes respectively mainly from Ramanathapuram, Nagapattinam, Chennai, Pudukottai, Trivandrum, Ernakulam, Tirunelveli, Tanjavur, Tuticorin, Udupi and Gir Somnath districts.