

CMFRI Vizag unit breeds 'pulli paarai' in captivity

The golden trevally, a popular marine fish in Tamil Nadu's coastline, has been successfully bred in captivity by scientists at ICAR-CMFRI's Visakhapatnam station. After five years of research, the team led by Ritesh Ranjan, senior scientist, has achieved a breakthrough and developed seed production technology for the 'pulli paarai meen', whose scientific name is the *Gnathanodon speciosus*.

The team has successfully developed broodstock, bred it in captivity, and did larval rearing after five years of research, and started research efforts on seed production of this fish in 2019. Juveniles of 40-50g collected from the wild were reared in their cage farm facility off the Visakhapatnam coast.

These fish were raised in cages for 3-4 years until they reached maturity (3.5-4.5kg). After separating males and females, the mature fish were transferred to a land-based tank system with a 40 cubic meter capacity. Natural spawning occurred on February 9, 2024. After 51 days of rearing post-hatch, the early fry reached an average size of 3 cm and attained a weight of 450 mg with a very good survival rate.

Golden trevally, also known as golden kingfish, is a promising marine aquaculture species due to its rapid growth rates, high meat quality, and high market demand for consumption and even ornamental purposes. In the domestic market, the fish is sold at ₹400-₹500 per kg, said Joe K. Kizhakudan, Principal Scientist and Head of Regional Centre of ICAR, CMFRI Visakhapatnam.

This species of reef-associated fish, known for its yellowish belly, scattered black patches, yellow fins, and black tail, is a popular choice for aquariums due to its attractive appearance. Juveniles coloured silver-grey and golden are attractive to aquarium owners. In the aquarium business, one piece is priced between ₹150-₹250.

The golden trevally is primarily found in reef area fishing grounds in Tamil Nadu, Puducherry, Kerala, Karnataka, and Gujarat, with total fish landings estimated at 1,106, 1,626, 933, 327, and 375 tonnes respectively in the last five years. This has been mainly from Ramanathapuram, Nagapattinam, Chennai, Pudukottai, Thiruvananthapuram, Ernakulam, Tirunelveli, Thanjavur, Thoothukudi, Udupi, and Gir Somnath districts.

Nanjil P. Ravi, a fisherman, who welcomed the captive breeding, said that due to pollution in the sea the catch had come down. "In places where the water is cleaner and clearer, we are getting some catch. It is easy to cook and has a good taste. It is not exported but is sold commercially in markets," he said adding that CMFRI should not only provide the technology to corporates but also to traditional fishermen. "Traditional fishermen could be encouraged to grow this fish as it would help increase our income at a time when catches are down."

A. Gopalakrishnan, Director, ICAR-CMFRI, said that given the declining trend of its landings, the success in captive breeding of this fish has greater significance as it offers opportunities for sustainable fish farming through mariculture practices including sea cage farming. He further added that the technology will also contribute to wild stock restoration efforts through the sea-ranching initiative.