



Pompano brooder



Fertilized eggs of pompano



Larva on 2 dph, Larva on 3 dph

BROODSTOCK DEVELOPMENT AND SEED PRODUCTION OF SILVER POMPANO *Trachinotus blochii*

density of 6-8 nos. per ml. Co-feeding of rotifers with enriched Artemia nauplii was carried out during 12th -14th days after hatching. The Artemia nauplii is provided at a density of 3-5 nos./ml up to 19th day. Weaning to larval inert feed was started from 15th day and co-feeding with Artemia is continued till 19th day. From 20th day, the feeding is entirely on larval inert feeds. The metamorphosis of the silver pompano larvae starts from 18th day and all the larvae metamorphose into juveniles by 25th day. Though cannibalism was not very high as in the case of cobia, grading was done during 20th -25th days to separate shooters. The water exchange was practically nil till 7th day and it can be gradually increased from 10-100 % from 8th to 25th day after hatching.

Nursery rearing of silver pompano was carried out from 25th to 30th day. At this stage, the fingerlings will be of 1-1.2 inch size and provided with artificial feed of 800 μ size. Thereafter, the silver pompano fingerlings were fed with

progressively higher size range of floating extruded larval feeds. Daily water exchange of 100% was advisable. Water quality parameters like salinity, temperature, pH, oxygen level and ammonia were closely monitored during the entire larviculture period. At around 55th day after hatching, silver pompano fingerlings with size range from 2 to 2.5 inch size can be supplied to farmers for stocking in the happas / tanks for further nursery rearing and grow-out farming thereafter. The pompano fingerlings can be reared at salinities as low as 5 ppt.

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CMFRI Pamphlet No: 19/2014



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Hormonal induction of pompano brooder



Cannulation of pompano brooder



Pompano brooders maintained under photo period control



Embryonic development

The coastal aquaculture scenario continues to be dominated by shrimp farming. The intensification of farming with single species has led to outbreak of major diseases leading to severe economic losses. This has necessitated diversifying the farming activities with additional species for ensuring sustainability. In this context marine finfish farming is a lucrative option. In recent years, marine finfish aquaculture has been expanding rapidly on a global level. One of the vital prerequisites for initiation and expansion of marine finfish farming is the availability of seed production techniques for selected high value marine finfishes. The development of indigenous technology for seed production and farming of silver pompano *Trachinotus blochii* by the Mandapam Regional Centre of CMFRI, Tamil Nadu is a major step forward to venture into diversification of farming practices needed for long term sustainability.

The silver pompano *Trachinotus blochii* is one of the most suitable candidate species for aquaculture due to its fast growth, good meat quality and high market demand. Further, silver pompano grows excellently in low salinity (as low as 5 ppt) and has good adaptability to different farming systems namely tanks, ponds, pens and cages. This species is omnivorous and readily accepts artificial feeds. It has a rapid and uniform growth rate compared to other farmed fishes. Besides, only few countries are successful in breeding this fish and the entire world production is around 1.0 lakh tonnes.

The Mandapam Regional Centre of CMFRI initiated research on seed production of silver pompano *Trachinotus blochii* during the year 2008. The Centre has succeeded in developing protocols for captive breeding, larval production and pond farming of silver pompano. Juvenile and sub-adult silver pompanos were collected from wild and were stocked in sea cages for

development as broodstock. They were fed with oil sardines and lesser sardines in the sea cages. The fishes were cannulated and sexed. Fishes weighing 1.5 kg and above, were transferred and stocked in 10 tonne capacity FRP tanks in on-shore hatchery facility at the male: female ratio of 2:1. Then, these fishes were provided with special maturation diets viz., squids, cuttlefish, crab, shrimps and chopped oil sardines once in a day.

Cannular biopsies of silver pompano brooders were periodically taken to assess ovarian maturation. Usage of different hormones namely Luteinizing hormone-releasing hormone (LHRHa) and Human Chorionic Gonadotropin (HCG) were studied at different dosage levels to standardize the optimum dosage. Once the ova reach a size of 500 μm diameter, hormonal induction for spawning was carried out. The dosage of HCG was 350 IU/kg body weight for both male and female. The

spawning occurs within 36 hours after injection. The fertilized eggs floating at the surface were collected and incubated. The unfertilized eggs which settle at the bottom were removed by siphoning. The fertilized eggs were incubated in 2 tonne capacity rectangular / circular tanks. The hatching had taken place between 18 to 22 hours. Before stocking of the newly hatched larvae into larviculture tanks, at least 10 to 20 larvae were checked under microscope for deformation / abnormalities, pigmentation and appearance of internal organs. The newly hatched larvae were stocked in 2 tonne capacity tanks containing filtered seawater at a stocking density of 5 nos / litre. The tanks were provided with mild aeration and microalgae at a density of $1 \times 10^7/\text{ml}$. The mouth of the larvae opened on 3rd day and the mouth size is around 230 μm .

The silver pompano larvae were fed with enriched rotifers from 3rd to 14th day at a