

A short note on two new instances of aquaculture species and system diversification in Purba Medinipur, West Bengal, India

Subrato Ghosh

122/1V, Monohar Pukur Road, P.O. Kalighat, Kolkata - 700026, West Bengal, India. Email: subratoffa@gmail.com



Young murrel *Channa striatus*.

Purba Medinipur District leads West Bengal state every year in all fisheries segments, including aquaculture and production of Indian major carps, economically important brackish-water shrimps, giant freshwater prawn, and marine capture fisheries. Quite a few elderly, progressive and innovative fish farmers in this district possess a rich wealth of indigenous technical knowledge and skill. They have developed new ideas which are unique of their kind. One such farmer is Sri Buddhadeb Maity, at Village Ghagra, Gram Panchayat Kismat-Naikundi, Mahishadal Community Development Block. He has brought aquaculture species diversification and initiated scientific farming of the economically important murrel *Channa striatus* in two freshwater ponds. Another is Sri Uttam Manna, at Village Raghusardarbarh-Jalpai, Gram Panchayat Majilapur, Contai-1 Community Development Block. He is conducting large-scale farming of high-valued freshwater aquarium fishes in brackishwater ponds 2.2 km from the sea (Bay of Bengal). *C. striatus* ('shol machh' in Bengali vernacular) is a new candidate species in freshwater aquaculture. It has shown increasing consumer preference and market price in recent times in eastern India.

Sri Maity has been involved in commercial farming of air-breathing fishes *Clarias batrachus* and *Heteropneustes fossilis* since 2010. At the end of April 2025, he started *C. striatus* farming in his own concrete-sided ponds after procuring 5,500 seeds from Andhra Pradesh. Initially, the

seed (36-48 mm in size) were reared in a concrete tank (3.65 × 2.4 × 1.4 m³, with an outlet in the middle) for 20-25 days. In his two grow-out ponds of 240 m² and 480 m² effective water area (0.9 m deep), he distributed 2,000 and 3,500 fish respectively. Remarkably, the fish are exhibiting fast growth rates of 250-300 g in the first 2 months. Adults will be sold at INR 350-400 per kg in the wholesale market in Mahishadal. As observed in September 2025, the fish weighed 500-800 g and are expected to attain 1.2-1.5 kg by March-April 2026.

Sri Maity provides commercially available pelleted feeds formulated for murrel: 0.8 mm diameter (INR 120 per kg; kept soaked in water before application for better results), 1.2 mm, and 1.8 mm. In 2024, he also farmed *C. striatus* using only 500 seeds. He now provides 15 kg of pelleted feed (1.8 mm) daily for his 5,500 growing *C. striatus*. Raw turmeric dust and Becosuls (vitamin) tablets are added to the feed. Yearlings of *Catla catla* (200 g size, total 20 kg) have been stocked with *C. striatus*. They have exhibited good growth (400-500 g by September 2025).

Sri Manna has brought aquaculture system diversification, farming five varieties of goldfish, Koi carp, milky carp, black molly, colour widow tetra, tiger barb, and rosy barb successfully since 2015. He uses open ponds that are slightly brackishwater in nature, unlike conventional medium- to large-sized rectangular cement cisterns or nylon net

enclosures fitted in homestead ponds. He has leased 16 ponds, each 2,000-3,000 m² in effective water area and owns 6 smaller ponds. Overhead netting covers every pond. Water exchange is not conducted.

A striking feature is that no infectious diseases have been observed in his growing fishes. This is most probably due to the salt content in water, which is higher than in freshwater. The salinity in Sri Manna's ponds restricts the growth and presence of bacterial and fungal microorganisms and ectoparasites that are generally pathogenic to aquarium fishes. Longevity of the fish is also high, with bright body colour. He also conducts controlled breeding and seed production of these fishes in rectangular cement cisterns, maintains brood fishes, and supplies aquarium fish seeds to villagers who have started this venture on a small scale. Marketable-sized fishes are supplied in oxygenated packets from his site 10-25 times every month to popular wholesale aquarium fish shops at CTI Dasnagar, Ankurhati, and Belepole in Howrah district, approximately 150-165 km away. He and four workers provide a total of 60 kg of feed daily to the aquarium fishes.

Both Sri Maity and Sri Manna have shown a new way forward. They have encouraged and guided several other farmers by profession in the same and adjacent Community Development Blocks in such new aquaculture practices, which are profitable and show promise. As an extension worker in fisheries, I had conversations with Sri Maity and Sri Manna at their pond sites on 13 September 2025 and 12 October 2025 respectively. These visits enriched and educated me about such newer aspects of aquaculture and the methods involved and allowed me to document farmers' knowledge.



Aquarium fish seed production facilities of Sri Manna.



A large specimen of *C. striatus*.



Black molly at one side of Sri Manna's pond.



An aquarium fish pond with overhead netting.



Sri B. Maity feeding *C. striatus*.