Nemateleotris decora Randall & Allen, 1973

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IDENTIFICATION

Order	:	**Perciformes**
Family	:	**Microdesmidae**
Common/FAO Name (English)	:	**Elegant fire fish**

Local names: Not available

MORPHOLOGICAL DESCRIPTION

The elegant fire fish is a slender, colourful fish with a maximum reported size of 9 cm. There are 7 dorsal spines and 27-32 dorsal soft rays. There is a single anal spine and 28-31 anal soft rays. Longitudinal scale series is 135-160.The elevated first dorsal fin does not extend beyond anterior one-third of second dorsal fin. The posterior body scales are with ctenii, usually less than 10. The posterior-most rays of dorsal and anal fins are frequently branched in adults. The head is purple and the body is whitish or yellowish, gradually darkening to deep grey towards the tail, caudal fin is with broad red lobes and a central bluish area. The fins have longitudinal bands of purple, red, black and orange. It is characterized in having a violet snout and a mid-dorsal stripe on head. Fishes from Andaman Islands are with more vivid violet coloration and with duller red portions.

Source of image : www.fishwisepro.com

PROFILE

GEOGRAPHICAL DISTRIBUTION

The species is native to tropical waters of the Indo-Pacific region; ranging from Philippines to Australia, Fiji to Ryuku islands, Mauritius to Samoa, New Caledonia, Maldives and Sri Lanka. In India, they are available from the Andaman and Nicobar Islands.

HABITAT AND BIOLOGY

Nemateleotris decora is marine, reef-associated and found in depths ranging from 25-70 m. It is found over hard, open bottoms at the bases of reefs and over sand and rubble patches and also observed in deep coastal to outer reef drops-offs subjected to strong currents. It is often found in pairs and is monogamous. It is carnivorous in nature.

BREEDING IN CAPTIVE CONDITIONS

Courtship behaviour, captive breeding, embryonic and larval developments of *Nemateleotris decora* and its rearing has been developed by researchers of CMFRI, Kochi. The different age groups of 60 to 100 mm length and 1.3 to 2.8 g weight were stocked in 500 l glass aquaria for pair formation. The pairs are formed after 5-6 month of rearing and increased interaction was observed after pair formation. Consequently, formed pair was shifted to 250 l perspex broodstock tanks. The pairs were fed with cooked meat of squid, shrimp, green mussel, and raw fish egg mass at 10 % of their body weight in four split doses. The breeding behaviour consisted of cleaning, biting the egg, depositing substrate and rubbing the surface of the nest site with its anal and pectoral fins for making nest 5 days prior to spawning. Spawning was preceded by an obvious bulging and distension of female's abdomen. The courtship and spawning behaviour of female in the nest site was highly influenced by the male enticement. Each spawning consists of 400 to 500 eggs in white clutch, which was oval with length and width of 9 cm and 5 cm, respectively. In the parental care, the males showed more devotion to tend and guard the egg clutches than the females. The female was observed resting near to the nest with its pectoral fins spread. The incubation period lasts for 96 h at an average water temperature of 28±1 °C. The eggs were elongated, capsule-shaped with a length of 1.1±0.1 mm and a width of 0.37 to 0.4 mm.

LARVAL REARING

Soon after hatching, the larvae were reared in green water of *Nannochloropsis oculata* and *Chlorella salina* (1:1 proportion at 1-5 × 10^6 cells/ml) till 40 days post hatch (dph) at an average water temperature of 29±1°C. The average size of the newly hatched out larva was 1.9±0.1 mm with a mouth gape of 90-110 µm. It had a transparent body and a small yolk sac. From 5th day onwards, it showed active feeding. At 25 dph, it actively fed on the enriched *Artemia* nauplii. Larvae fed on *Euplotes* sp. and *Brachionus rotundiformis* showed a higher survival rate (66±0.23 %), whereas those fed on nauplii of copepod *Acartia danae* and *B. rotundiformis* showed less (40±0.40 %) survival rate. The larvae metamorphosed to juveniles between 35 and 40 dph and shifted from being partially pelagic to epibenthic. At this stage, all the juveniles exhibited light pink colouration on fins and yellow on the body.

FOOD AND FEEDING

It feeds on zooplankton, especially larvae of crustaceans and copepods in the wild. As mentioned above, in captivity, adult fish are amenable to feeding with cooked meat of squid, shrimp, green mussel and raw fish egg mass.

GROWTH RATE

Information not available

DISEASES AND CONTROL MEASURES

Information not available

PRODUCTION, MARKET AND TRADE

PRODUCTION

Information not available

MARKET AND TRADE

It is of keen interest for the aquarium trade because of their amazing colours (light pink to white body, dark purple rear end and purple red fins), peaceful behaviour towards tank mates, hardiness, elongated shape and small size. It is the top ranked fish in the aquarium industry with an international market price of US $ 35-40/individual depending upon its size.

CHALLENGES TO MARICULTURE

A major impediment in the larval rearing is the first feeding, when the larvae shift from endogenous yolk reserves to exogenous feeding. To overcome this critical period, proper enrichment of live feeds with HUFA supplements is essential for its successful rearing. Prey capture success and prey selectivity during first feeding and subsequent larval development is a bottleneck, and due to it, the captive production of microdesmids is still in infancy when compared to clown fishes and other marine ornamental fishes. The major challenge is to increase the survival during the larval rearing through environmental and feed manipulation.

FUTURE PROSPECTS

It is considered a very good fish for reef tanks because of its hardiness, its ability to eat most fish foods offered and its capacity to remain disease free. Standardization of its larval rearing will help to reduce exploitation from the wild. The remuneration for the species is high. Thus the present species is having very good prospects for Indian farmer as good revenue earner.

SUGGESTED READING

Froese, R. and Pauly, D. 2016. *Nemateleotris decora* in FishBase. January 2016.

http://fishindex.blogspot.in/2008/08/firefish-nemateleotris-decora.html.

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