Pseudochromis dilectus Lubbock, 1976

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IDENTIFICATION

Order	:	**Perciformes**
Family	:	**Pseudochromidae**
Common/FAO Name (English)	:	**Redhead dottyback**

Local names: Not available

MORPHOLOGICAL DESCRIPTION

Pseudochromis dilectus is black or gray in colour with bright orange-red head and shoulder area. It has an elongated body, with white accents. There is one spine on the pelvic fin. Pelvic fin insertion is underneath or before the pectoral fin base. Lateral line is variable (hindered or constant). The males are reddish, elongate and slender; while the females are dark green and smaller in appearance, with a plumpy abdomen.

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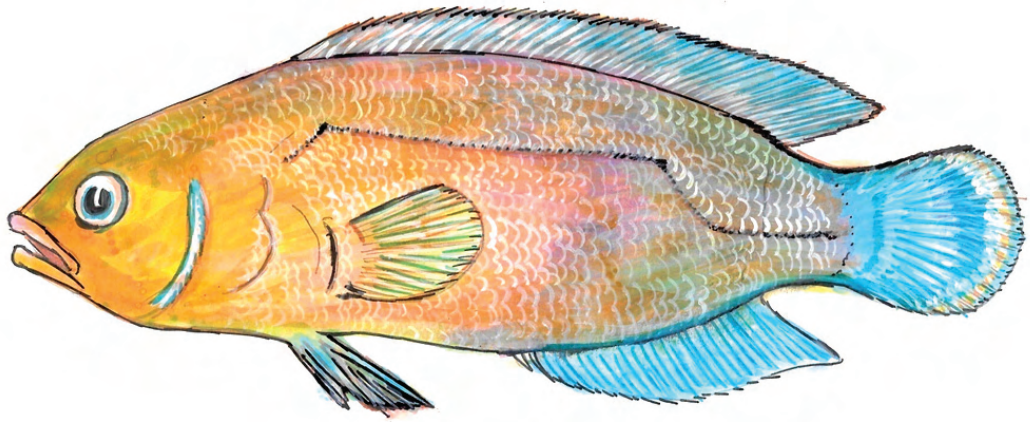

PROFILE

GEOGRAPHICAL DISTRIBUTION

Pseudochromis dilectus is distributed in the western Indian Ocean and Sri Lanka. It is also known as the Sri Lanka Dottyback, as it is believed to have originated from the reefs of Sri Lanka. They are generally found in coral reefs and lagoons.

HABITAT AND BIOLOGY

The red head dottyback is a marine, demersal and tropical ornamental fish. It mostly inhabits rocky coastal areas containing soft corals. The common features in its environment are the presence of hiding spaces, mainly coral and rock crevices and caves that it can duck into quickly. It is territorial and semi-aggressive in nature. It can coexist along with all other types of fish as long as its home territory is not disturbed by others. All dottybacks are hermaphrodites. Since each fish can adopt either the male or female sexual organs, adding two like species into a tank together will result in a pair, provided they do not kill each other first. Parental care is exhibited by males.

BREEDING IN CAPTIVE CONDITIONS

The Redhead Dottyback has been successfully bred in captivity at CMFRI, Kochi. The fishes ranging in length from 70 to 120 mm were stocked in glass aquaria or 1 t FRP tank for pair formation. They were fed daily with prawn meat and adult *Artemia* along with pelleted feed (Trade name Varna, CMFRI, Kochi, India). The healthy pair formed was selected and stocked in 500 l perspex tanks (one pair/tank) for broodstock development. The pairs were fed with wet feeds such as meat of mussel, shrimp, squid and clam and were also provided with live feeds viz., adult *Daphnella celebensis* fed with mixed microalgae (*Tetraselmis chuii, Chaetoceros calcitrans, Nannochloropsis oculata, Chlorella salina and Isochrysis galbana*) and *Artemia* nauplii enriched with vitamins, minerals and fatty acids. The male made burrows a few days before spawning. At this time, the male chased the female and displayed "leading behavior," during which the male repeatedly approached the female, stopped and turned in front of her, then swam back to the chosen spawning site. This courtship behaviour lasted for an hour, after which the female followed the male into its burrow and spawning took place.

Spawning began 60 to 80 days after acquisition in to the broodstock tanks. Successive spawning was obtained at an interval of every 6 to 15 days in all the pairs. Spawning usually occurred during early morning and lasted for 1-2 h, during which the female gradually laid ball-shaped egg mass. During spawning the male remained inside the nest for most of the time but sometimes left the nest and the females for a short duration, until the female completed ova deposition. The deposited spherical egg ball with a diameter of 25 to 35 mm and consisting of 400-500 eggs, sank to the bottom of the nest. At this time, the male chased off the female and started taking care of the egg ball in the hiding place until hatching.

A single female released 400 to 500 eggs, which were inter-connected by fine threads. Size of the individual eggs varied between 1,743 and 1,919 µm. All the eggs were spherical in shape and transparent. The egg ball was, however, not attached to the substrata but remained free inside the burrow. During incubation, the egg ball was white/transparent on first and second day, subsequently turning dark with black spots on the 3rd day showing the eyes of the larvae and silvery on the 4th day due to the glittering eyes of the developing larvae inside the egg.

Hatching took place in the evening shortly after sunset on completion of 96 h of incubation at water temperatures of 26-28 °C, with darkness accelerating hatching. The larvae hatched almost synchronously within 1 h under darkness and the emerging larvae rotated in clockwise direction. The presence of male with the eggs ball presumably aided in accelerating the hatching process by agitating the eggs, and hatching percentage ranged from 91 to 95 %.

LARVAL REARING

The newly hatched out larvae ranged in length from 5.1 to 5.3 mm, having a very small yolk-sac and were positively phototactic. The body was transparent and the mouth gape measured 150 to 160 µm. First feeding started 10 to 12 h after hatching. Initially, the larvae were fed with enriched rotifer *Brachionus rotundiformis* and subsequently with *enriched B. plicatilis*, copepod nauplii and *Artemia* nauplii. By the 7th day, the larvae showed light red pigmentation and measured 8 to 9 mm. By the 14th day, the larvae reached a pre-settlement stage with a total length of 10 mm, and metamorphosed to juveniles in 35-40 days.

FOOD AND FEEDING

The species is carnivorous. In the wild, it feeds on small crustaceans, worms and zooplankton. In captivity, it is a ravenous feeder of all types of feeds, especially frozen (brine shrimp and krill) and fresh meaty foods. Larger species preferred large meaty items like pieces of scallop, shrimp and clams while smaller species preferred brine shrimp, mysis shrimp and other smaller foods. Flake food or pellet food was added to supplement its diet and to add more variety.

GROWTH RATE

Information not available

DISEASES AND CONTROL MEASURES

Information not available

PRODUCTION, MARKET AND TRADE

PRODUCTION

Information not available

MARKET AND TRADE

Hatchery produced and wild caught specimens are in high demand in export and import markets. The redhead dottyback is a species of keen interest in the marine aquarium trade. In India, the species is available in local markets at Rameswaram, Tamil Nadu and West Bengal.

CHALLENGES TO MARICULTURE

Redhead dottybacks are among the most popular cultured marine ornamental fishes, but issues related to pair formation and filial cannibalism has to be sorted out. The males are colourful and mainly used in trade thus the technique has to develop to produce more male population.

FUTURE PROSPECTS

It is ideal for reef aquariums. As its males are colourful than the females, males are selectively exploited from the nature for trade which is a threat to natural populations, thereby reducing its availability. Captive production is a potential solution for reducing pressure on the wild natural stocks. Successful captive breeding will relieve stress on wild populations and will reduce market prices making dottybacks more affordable to hobbyists.

SUGGESTED READING

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