Hippocampus trimaculatus Leach, 1814

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IDENTIFICATION

Order	:	**Syngnathiformes**
Family	:	**Syngnathidae**
Common/FAO Name (English)	:	**Longnose seahorse**

Local names: Jalaghoda (**Gujarati**); Ghodamasa (**Marathi**); Kudure meenu (**Kannada**); Kadal kuthira (**Malayalam**); Kadal kuthirai (**Tamil**); Neeti gurram (**Telugu**); Samudra ghoda (**Oriya**); Samudrik asma (**Bengali**)

MORPHOLOGICAL DESCRIPTION

The longnose seahorse has a distinctive low coronet, in line with arch of neck, which is the bony projection or 'crown' on the top of its head and the coronet is visible as five small points. It has sharp hook-like cheek and eye spines (appear flat) and a narrow head. It has no nose spine. There are 18-22 dorsal soft rays, 16-19 pectoral soft rays and 4 anal soft rays. There are 11 trunk rings and 40-41 tail rings. Two trunk rings and one tail ring supports the dorsal fin. The animal can be golden-orange, brownish or black in colour with large dark spots on the back on the first, fourth and seventh trunk rings. Sometimes the animal is striped in brown and white.

Source of image : RC of CMFRI, Kozhikode

PROFILE

GEOGRAPHICAL DISTRIBUTION

It occurs in the Indo-Pacific region: from southern India to Japan, Australia and Tahiti.

HABITAT AND BIOLOGY

It inhabits gravel or sandy bottoms around shallow reefs; muddy estuaries and near mangroves, tolerating brackish waters. It is typically found at more than10 m depth, with a maximum reported depth of 100 m. It feeds on zooplankton. Since they are poor swimmers, they utilize their thick snouts and specialized jaws to suck in their prey. It is ovoviviparous in nature. The maximum recorded adult height is 17 cm. The male carries the eggs in a brood pouch which is found under the tail. In the wild, it is monogamous within a single breeding cycle, the male accepting eggs from only one female. Pair bond is reinforced by daily greetings that extend into courtships and the male giving birth. The female deposits eggs into the male's brood pouch, where he fertilises them, protects them, nourishes them, and regulates their environment. Gestation periods vary from 12 to 14 days at 30 °C under controlled conditions. Males go through more than one pregnancy in a breeding season. Breeding season is year round, with peak during March to May and in October. Maximum reported brood size is 1,783. The egg diameter averages 1 mm. Length at birth averages 6 mm.

STATUS OF STOCK

Longnose seahorse, *Hippocamus trimaculatus* is listed as vulnerable (VU A4cd) under the World Conservation Union's IUCN Red List and are on the CITES Appendix II. While detailed population numbers for *Hippocampus trimaculatus* remain unknown, analysis of international trade data shows that this is one of the species most often reported as being traded internationally, indicating heavy and widespread exploitation globally. The available evidence shows that in 1995, at least 32 countries traded syngnathids (seahorses and their immediate relatives), and trade in Asia alone exceeded 45 t of dried seahorses. By 2000, nearly 80 countries have traded syngnathids with many new sources in Africa and Latin America. New official data, trade surveys, and qualitative evidence all indicate that Asian trade in dried seahorses exceeded 50 t in 2000. Hundreds of thousands of live seahorses were traded internationally, with smaller ones also finding a ready market. Surveys from 2000 to 2001 suggest that the population is in decline. The main threat is trade in the Chinese medicine market. Since 2004, international trade is monitored through a licensing system (CITES II) with a minimum size of capture at 10 cm.

NEED

The entire genus *Hippocampus* is listed in Appendix II of CITES, effective from May 2004. The species is listed as Vulnerable by IUCN. Indian populations have been placed under Schedule-I of the Wildlife Protection Act (1972) in 2001 with ban on collection or trade. The impact of trade on population is considerable, especially when combined with the damage that is being inflicted on the vulnerable inshore marine habitats. It is at high risk from intense fishing because of its sparse distribution, low reproductive rates and reluctance to move from a site. The fishermen population and their economic status were severely affected by the ban imposed on fishing of sea horse and its trade. So there is an urgent need for formulation of suitable conservation strategies for judicious management of this resource from over exploitation with participatory approach.

STRATEGIES

Seahorse population is exploited and traded illegally for consumption as traditional Chinese medicine. Culture and breeding under captive conditions in laboratories from different countries have been reported. Conservation and commercial mariculture, if permitted, will reduce the pressure on wild populations and its exploitation. Assessing the current status of the natural stock of sea horses in India will enable us to formulate strategies to curb the further depletion and enhancement of resources in the future. Lab scale culture and breeding of this species from different countries have been reported under captive conditions. So conservation and commercial mariculture of this species of seahorse may reduce the pressure on wild seahorses and its exploitation provided rules permit for this type of activities.

ISSUES

Seahorses are threatened by targeted fishing, accidental capture in fishing gears (by catch), and degradation of their habitats. Curbing bycatch in trawls especially can be a daunting task. Similarly effective conservation can only occur if the species itself is clearly identified. To curb confusion in identifying from their relatives, taxonomic definitions must be established first before researchers can confidently understand the biology, ecology, and relative abundance of these seahorses.

FUTURE PROSPECTS

Conservation mariculture of the species is an alternative strategy to conserve native seahorse populations. This would help in stock enhancement as well as trade to a certain extent. Mass production of seed in hatchery and their grow-out culture in suitable systems have to be done for mariculture of the species in larger scale, effectively meeting the high market demand while preventing further depletion of native populations. Future trade of sea horse from India will enhance if the management measures includes the restoration of overexploited seahorse stocks by conservation mariculture in the protected areas.

SUGGESTED READING

Lourie, S. A., Vincent, A. C. J. and Hall, H. J. 1999. Seahorses: an identification guide to the world's species and their conservation. Project Seahorse, London, 214 pp.

Froese, R. and Pauly, D. 2015. *Hippocampus trimaculatus* FishBase. July 2015.

IUCN, 2014. IUCN Red List of Threatened Species. Version 2014.1. IUCN Red List of Threatened Species. Downloaded in June 2016.

Garnaud, J. 1957. Ethologie de *Dascyllus trimaculatus* (Rüppell). Bull. Inst. Oceanogr. Monaco, 1096: 1-10.