

Holothuria (Metriatyla) scabra Jaeger, 1833

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IDENTIFICATION

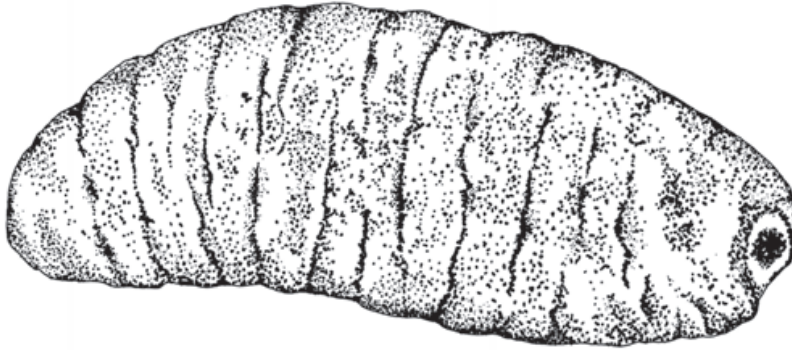
Order	: Holothuriida
Family	: Holothuriidae
Common/FAO Name (English)	: Sand fish



Local names: Samudra kakdi (**Marathi**); Vella kadal atta (**Malayalam**); Vella attai (**Tamil**); Samudra kakudi (**Oriya**); Samudrik sasha (**Bengali**)

MORPHOLOGICAL DESCRIPTION

Body is oval, arched dorsally and moderately flattened ventrally. Dorsal surface is with deep wrinkles and short papillae. Body is often covered by fine muddy-sand. Mouth is ventral with 20 small, greyish peltate tentacles. Anus is terminal. Colour is usually dark grey with white or yellow transverse strips. Ventral surface is white or light grey with fine dark spots.



PROFILE

GEOGRAPHICAL DISTRIBUTION

Sea cucumbers are distributed all over the world, particularly in tropical regions. It has a wide distribution in the tropical Indo-Pacific region excluding Hawaii, between latitudes 30° N and 30° S, from South Africa to the Red Sea, India, China and Japan to Australia, and to Micronesia in the north-east and Tonga in the south-east, not found further east than Fiji. Sea cucumbers are distributed in Andaman and Nicobar Islands, Lakshadweep, Gulf of Kutch, Gulf of Mannar and Palk Bay in India.

HABITAT AND BIOLOGY

It is found in shallow waters up to a depth of 20 m. It is commonly found on inner flat fringing and lagoon reefs, coastal sand-flats and sea grass beds with muddy-sandy substrates. It attains maturity at 25 cm size. Spawning peak in India is during July to October. Near to equator, it spawns throughout the year. In Indonesia, it has two peak spawning periods, while in Philippines, the main spawning is from May to June and October to November. In Australia, it spawns in warmer months, but also undergoes a smaller secondary spawning peak later in the year.

STATUS OF THE STOCK

IUCN has listed it as Endangered, as 50 % decline in population was observed over the past 30-50 years. Increase in demand and inadequate fishery management measures have led to its over-exploitation. Consequently in 2003, the Ministry of Environment and Forest, Government of India, imposed a total ban on both fishery and trade by listing it under Schedule I of the Wild Life Protection Act of 1972. Moreover, declaring a part of Gulf of Mannar as a biosphere reserve has attributed to the protection of its stocks. A reliable long term estimate is not available on the exploited as well as on the potential stocks along Indian waters. Surveys conducted by Zoological Survey of India along Gulf of Mannar and Palk Bay reveal a numerical density of 19-25 individuals/10 m² and a biomass of 10.64-14.89 kg/10 m².

NEED

Ban imposed on sea cucumber trade has caused a major impact on the economic status of poor fishermen along the south-east coast of India. Formulation of suitable conservation strategies for overexploited stocks and judicious management of resources will help to improve India's foreign trade and uplift the economic status of poor fishermen communities along Gulf of Mannar and Palk Bay.

STRATEGIES

Assessing the current status of the natural stocks along east coast of india will enable us to formulate strategies for curbing further depletion and enhancement of resources in the forthcoming years. Restoration by releasing hatchery produced juveniles to their natural habitat is an effective way to replenish the natural stocks. The technology for captive breeding, larval and juvenile rearing developed and standardized by CMFRI will be of immense help in designing conservation measures through stock enhancement. By upgrading the existing larval and juvenile rearing techniques, cost effective mass production of juveniles can be carried out in an effective way. This will help in evolving strategies for conservation and sustainable fishery and export, ultimately improving the foreign exchange and the economic status of poor fishermen communities along Gulf of Mannar and Palk Bay.

ISSUES

In India, sea cucumber fishery is not organized; hence management measures cannot be effectively implemented. Poaching and illegal trade of both raw and dried sea cucumbers to neighbouring countries is an enforcement issue which needs to be addressed. Despite the awareness about ban and punishment, fishermen are illegally involving in fishing of this species for their livelihood. Representations from fishermen welfare associations have been made to authorities, highlighting the negative impacts of ban on the livelihood of poor coastal fishing communities, urging the need for lifting the ban.

FUTURE PROSPECTS

As a stepping stone to lift the ban on sea cucumber trade, the Government in 2006 commissioned the Zoological Survey of India to undertake studies on population status. The surveys reported no recovery in the population size. The effectiveness of the current ban on the population is yet to be determined. Implementation of effective and sustainable management methods, involving various stakeholders from the fishermen to the exporters, will have to be made. The management measures are likely to include the restoration of overexploited holothurian stocks in the protected areas, thereby reducing the pressure on wild stocks. Training fishermen on sea cucumber aquaculture practices is required to meet the market demand and continuous stock assessment has to be performed.

SUGGESTED READING

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