

Marine Fisheries Information Service

**Technical and
Extension Series**



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Holothuria scabra commonly called sand fish, is one of the most commercially important and widely distributed holothurian species, chiefly distributed along Gulf of Mannar, Palk Bay and Andaman and Nicobar Islands along the Indian coast and is considered to be an ideal candidate for natural stock restoration programme. The colour of the animal is usually greyish to black on the dorsal side with white or yellow horizontal cross bars and white on



Fig. 1. *Holothuria scabra* with usual and unusual colour pattern

the lower side with a number of fine black dots (Fig. 1).

The hatchery operations of this species mainly depend on the wild brooders. Some unusual colour pattern was observed among the brooders of this species during collections.

One of them was an albino, with an off white colour on the dorsal side with light yellow cross bars and pure white on the lower side (Fig. 1). The brood stock was collected from the skin diver's catch along Kalavasal area. The local fisherman did not prefer it due to unusual colour pattern. While examining under microscope, the spicules were found similar to *H. scabra*. Though the specimen was retained in the hatchery along with other brooders for two years, it never showed any change in the colour pattern. Such an albino specimen was never encountered among the wild caught brooders later, hence the chance

of occurrence was considered very low.

Another specimen, observed among the Thallumadi catches of Mottaigopuram area was bright yellow on the dorsal side with black dots and fine patches and light yellow on the ventral side. Without knowing the identity of the specimen, the fishermen discarded it. By observing the spicules under a microscope, this specimen was also identified as *H. scabra*. The specimen, when maintained along with other brooders, slowly developed the usual colour pattern of *H. scabra* within six months.

Holothuria scabra versicolor with its three colour morphs like black, moderate black spots and speckled have already been reported world wide, but its availability in

Indian water is yet to be confirmed. Though *H. scabra versicolor* is having the same spicule structure and internal anatomy as that of *H. scabra*, its taxonomic position, either as a subspecies or as a new species is yet to be ascertained. The colour transformation among these three different colour morphs of *H. scabra versicolor* was also never reported else where. Thus it has been clearly demonstrated that the color variation among *H. scabra* is mainly influenced by the environment where it lives. However, future studies can also be initiated on DNA sequencing of such varieties to understand the phylogenetic differences.

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