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New Observation of Two Species of Sea Cucumbers from Chabahar Bay (Southeast Coasts of Iran)

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Abstract: Although, sea cucumbers are well known animals in Eastern Asia, in Iran they are not popular marine animals. Divers recorded these animals in their dives but this is the first scientific approach in identification of holoturians in Southeast coast of Iran. All sea cucumbers were collected with SCUBA diving and species identification was done through morphological keys and review of their dermal ossicles. There are two species of sea cucumber belong to genus *Holothuria* were collected on subtidal zone of Chabahar Bay in the late of 2007. This is the first report of *H. hilla*, *H. parva* from Chabahar Bay (North of Oman Sea). This study is revealed the special characteristics of the presented species in order to just identification of them. In the studied areas, *H. parva* has known as a rare species.

Key words: Holothuridea, species identification, Chabahar Bay, Oman Sea

INTRODUCTION

Sea cucumbers are considered as one of the important organisms in the marine ecosystem. They are detritus or suspended feeders. Sea cucumbers disturb and mix the sediments accordingly facilitate the nutrient recycling and oxygen penetration (Bruckner *et al*., 2003).

They live in different depths but are found mostly in intertidal zone. A few species settle in the depths of ocean (Smirnov *et al*., 2000). They have a high range of lengths from small size (few millimeters) up to large size (>2 m) (James, 2001). Conand *et al*. (2005) have taken color photographs of sea cucumber from Mayotte.

About 1400 species have recorded from all of the world of which in the seas of India about 200 species have been identified which 75% live in shallow waters and it is noteworthy to be mentioned that inhabit in intertidal zone (James, 2001). Some of them live in moderate or polar waters (Woodby *et al*., 2005; Hamel and Mercier, 1995).

Some large sea cucumbers are considered delicacies and harvested for food because their protein content is high. Others may be collected for the live aquarium trade. Scientists are also studying the toxins of sea cucumbers for possible medical and other applications. Fredalina *et al*. (1999) mentioned that a fatty acid composition in a local sea cucumber is useful for wound healing. Sea cucumbers are rich in mucopolysaccharides like condroitin sulfate that can reduce the pains of rheumatoid arthritis and spondilit ankylosis (Chen, 2004).

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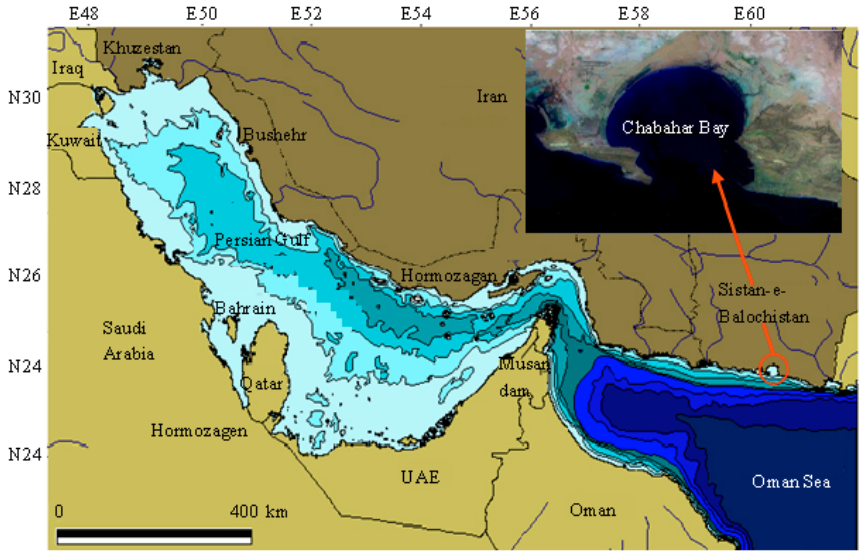

Fig. 1: The map showing the position of the Persian Gulf, Oman Sea and sampling area in Chabahar Bay

This article is driven from a comprehensive project carried out in the area of Chabahar Bay entitled: An Ecological survey on Sea cucumber populations from June 2007 up to May 2008 and this study is only a part of above-mentioned project in a short period with the main objective of to identify different species of sea cucumbers (Holothurids) in the Bay of Chabahar, North of Oman Sea.

MATERIALS AND METHODS

Sea cucumbers caught in Beheshti jetty, Chabahar Bay, at depth of 5 m, via scuba diving on December 2007. All two species were found in this area (Fig. 1). The samples transferred to laboratory in order to taking photograph and extract of their ossicles. For these means, relaxation of the samples is important. Several methods exist to relax of sea cucumbers, but the most commonly used one today is anaesthetization with magnesium chloride ($MgCl_2$) which is available in every drug stores (Jiaxin, 2003).

The sea cucumbers preserved in a container of seawater added 5% $MgCl_2$. After a few minutes, their tentacles and tube feet became completely extended. This time is the best stage for taking picture or ossicles extractions from different parts of their body for identification. In order to extract the ossicles a small piece of the skin placed into the commercial bleaching liquid for almost 30 min or less (Hickman, 1998). White sediments will accumulate at the end of test tube. One drop of white sediment was spread on the glass slide for further microscopic studies.

RESULTS AND DISCUSSION

Connand *et al*. (2005) recorded 25 species of sea cucumbers in southwest of India that dominance family was holothuridea. Genus *Holoturia* (Order: Aspidochirotida, Family:

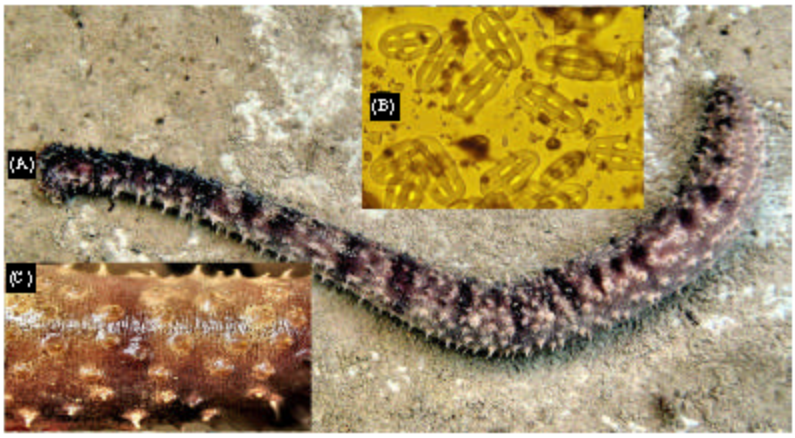

Fig. 2: *Holothuria hilla*. (A) Adult *H. hila* (B) Calcareouse Ossicls (C) body wall

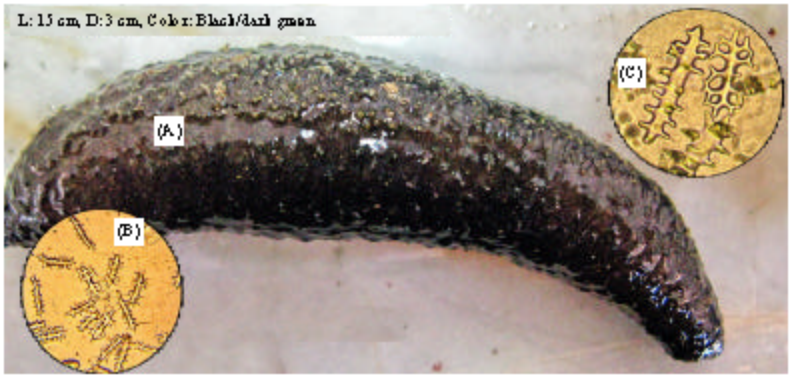

Fig. 3: *Holothuria parva*. (A) Adult H. parva. (B, C) Calcareouse ossicls

Holothuridae) is widespread in tropical waters and as the same result from this study most of sea cucumbers belong to this genus.

Systematic
Phylum: Echinodermata
Class: Holothuroidea
Order: Aspidochirota
Family: Holothuridae
Genus: *Holothuria*
Species: *hilla* (Fig. 2A-C)
Species: *parva* (Fig. 3A-C)

Description
***Holothuria* (*Thymiosycia*) *hilla* (Lesson, 1830)**

Holothuria hilla is known as the Sand Sifting Sea Cucumber and the Tiger Tail Sea Cucumber. *H. hilla* has a long, gray to chestnut-brown body with white spots and numerous

spiny papillae. It is cylindrical in shape and has blunt ends. It can grow up to 6 feet in length, so it is almost always too large for a home aquarium *H. hilla* feed on algae, bacteria and surface particles. It is very sensitive to high levels of copper-based medications and will not tolerate high nitrate levels. It will need to be kept with peaceful tank mates to avoid potential accidents. If it feels overly threatened, it will retract back into its shelter. It have not tubules of curvier, but in the wild, if it is attacked or injured, it will expel its internal organs, which can be toxic to fish. The maximum length and weight is recorded 44 cm and 210 g, respectively.

***Holothuria* (*Platyperona*) *parva* (Selenka, 1867)**

Two pieces of *Holothria parva* found around Beheshti's Jetty recently (25 17 33 N, 60 36 09 E). They live under the rocks and for finding them, is needed that to remove the rocks. It has spindle shape with dark-green spines in dorsal and black tube feet in abdominal of body. It can grow up to 20 cm. The maximum weight is recorded 70 g, respectively.

CONCLUSIONS

Holothuria hilla is one of the few species that attaches its lower body to the inside of its shelter and only extends its anterior half when searching for food.

Holothria parva is very rare in Chabahar Bay. In microscopical examine, was determined that the ossicles are very different in compare with other species of this family.

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