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New observation of sea cucumber, *Holothuria (Mertensiothuria) hilla*, from Larak Island (Persian Gulf, Iran)

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*This study has been conducted in order to identify the present species in the northern part of the Persian Gulf. Samples were collected on the sub tidal zone of Larak Island (Persian Gulf) via SCUBA diving in July 2011. The literature review on the distribution revealed that this is the first report of *Holothuria hilla* from Larak Island. The species identification was made using morphological keys and review of their ossicles.*

Keywords: sea cucumber, *Holothuria hilla*, Larak Island, Persian Gulf, Iran

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INTRODUCTION

In the oceans, there are hundreds of varieties of sea cucumbers. At present 1400 species of sea cucumber have been identified and reported in the seas of the whole world (Conand, 2006). Sea cucumbers are among the aquatic creatures that have many important and useful properties known for human health (Mamelona *et al.*, 2007). In Iran, sea cucumbers are not well known and they are not consumed as food, although they have been consumed as food in many countries for hundreds of years. This report is the first record of *Holothuria hilla* from Larak Island with some morphological details of the species.

MATERIALS AND METHODS

Sea cucumbers were caught around Larak Island in July 2011 by SCUBA diving at depths of 12 m (Figure 1). The samples were transferred to laboratory to be photographed and to extract their ossicles (Hickman, 1998). To identify the samples we used valid identification keys (Conand, 1993; Samyn *et al.*, 2006). Also, for the correct identification some specimens were sent to Professor Gustave Paulay at the National Museum of Florida, United States.

RESULTS AND DISCUSSION

SYSTEMATICS

Phylum ECHINODERMATA
Class HOLOTHUROIDEA

Order ASPIDOCHIROTIDA Grube, 1840
Family HOLOTHURIDAE Haeckel, 1886
Genus *Holothuria* (Metriatyla)
Holothuria (Metriatyla) *hilla* Lesson, 1830
(Figure 2)

DESCRIPTION

Small body wall at the back ends more slender than the anterior. Mouth ventral surrounded by 20 small yellowish tentacles, anus terminal. Ventral podia arranged in 3–4 rows in each ambulacra area. Dorsal papillae, large and conical, scattered in no particular order on the bivium. The spicules of the papillae were buttons with three or five pairs of holes (60–100 µm) and tables (80 µm across). The spicules of podia were similar to those within the papillae. The spicules of the body wall were tables (80 µm across) and buttons (100 µm). The spicules of tentacles were 130–200 µm long; the body wall included tables and buttons, as well as distinct papillae. The background colour was reddish-brown and it is still characterized by the presence of numerous white spots marking the base of creamy white buds.

Heding (1940) recorded 17 species of holothurians found in the waters around Iran. Since there is an expansive coastal area in Iran, most coastal cities include some species of holothurians (Shakouri *et al.*, 2009). Therefore, only a few authors have described their taxonomy, biology and culture (Amini Rad, 2004; Shakouri *et al.*, 2009; Dabagh & Kamrani, 2011).

Holothuria hilla has a body which is long and cylindrical with blunt ends. It reaches a length of 200 mm. The body wall is soft and the upper and lower sides are well demarcated, light brown in colour with scattered white conical papillae. This sea cucumber is primarily found under rocks on the bottom of coarse sand, generally between 0 and 20 m, but also to over 200 m (Lane *et al.*, 2000). They are very common species throughout the tropical part of the

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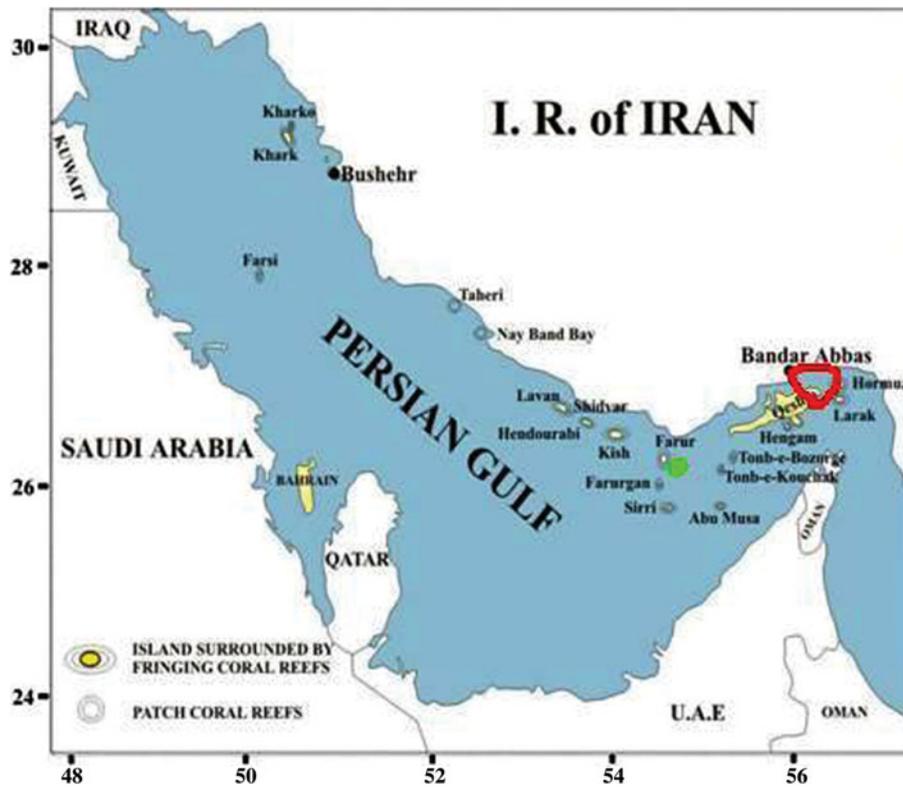


Fig. 1. Sampling site of *Holothuria hilla* in the Persian Gulf.

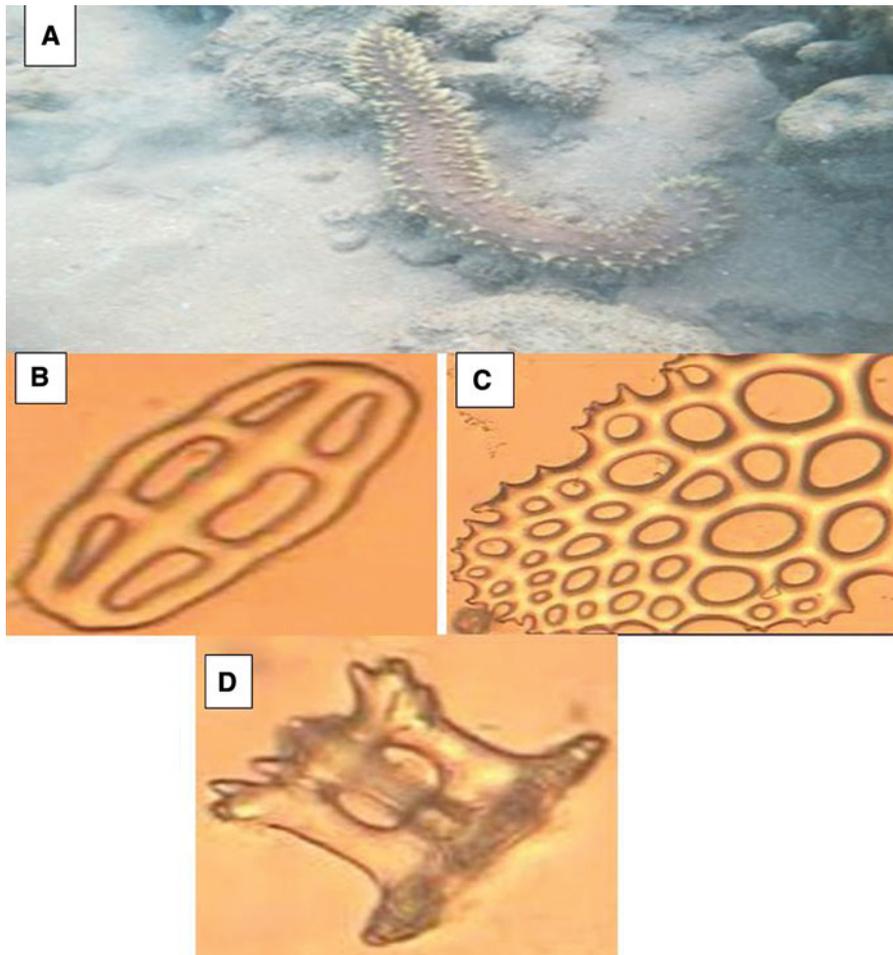


Fig. 2. (A) *Holothuria hilla*; (B and D) ossicles of dorsal tegument; (C) ossicles of ventral tegument; Scale bars: A = 25 cm; B = 20 microns; C = 100 microns; D = 20 microns (all photographs by M. Ehsanpour and M. Afkhami).

Indo-West Pacific. *Holothuria hilla* is a relatively rare species around Larak Island and has been observed under blocks of rubble on the reefs during the day. This species was recently transferred from the subgenus *Thymiosycia* Pearson, 1914 to subgenus *Mertensiothuria* Deichmann, 1958. The reason for this new classification is the presence of ossicles in the form of small buttons and turrets in the longitudinal muscles (Samyn & Massin, 2003). Some authors have described *H. hilla* previously (Massin, 1996; Samyn, 2003). Although *Holothuria hilla* was reported in general from the Persian Gulf (Heding, 1940) and in particular at Farour Island (Dabagh & Kamrani, 2011), this is a new observation of this species around Larak Island.

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