

Three Sea Cucumbers from the Bandar-e Bostaneh Coast (Persian Gulf, Iran)

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Abstract: In the wide coastal area of Iran, a survey guided appreciative inquiry into the intertidal zone of the Bandar-e Bostaneh coast resulted in the collection of three species of sea cucumber, including *Holothuria (Thymiosyca) arenicola* Semper, 1868; *Holothuria (Selenkothuria) parva* Krauss in Lampert, 1885; and *Holothuria (Mertensiothuria) leucospilota*, Brandt, 1835. This paper provides descriptions of these species.

Key words: Sea cucumber • Bandar-e Bostaneh • Persian Gulf

INTRODUCTION

Since there is an expansive coastal area in Iran, most coastal cities include some species of holothurians. Sea cucumber is not popular in Iran [1], therefore, only a few authors have dealt with their taxonomy, biology and culture [1- 6].

Of the 1400 recorded holothurian species [7], only 20 have been recorded to date [6]. In this survey, three species of sea cucumber were collected from the Bandar-e Bostaneh, which is located west of Bandar-e Lengeh.

MATERIAL AND METHODS

This survey was conducted in the middle of May 2011. The specimens were collected by hand from the Bandar-e Bostaneh coast and then deposited at the Persian Gulf Molluscs Research Station (PGMRS), Hormozgan Province, Bandar-e Lengeh, Iran. The method used was taken from Samyn *et al.* [8]. The specimens were anaesthetized with 5% magnesium chloride, so that the tentacles could be extended and counted. For further identification, the ossicles of some parts of the sea cucumbers were removed from the tissues using household bleach and then examined with a microscope at 40 X magnification.

RESULTS

Holothuria (Thymiosyca) arenicola Semper, 1868

Morphology: A collected specimen was measured 15 cm long. Colour in living condition was grey to yellow dorsally with a row of dark brown spots (Fig 1). Mouth was located terminally, surrounded by 20 tentacles. The tentacles were brownish. One polian vesicle was observed. Cuvierian organ was absent.

Spicules of dorsal body wall were rod-like plates, 140-200 µm long, smooth buttons with three pairs of holes 50-60 µm long, disc of tables 60 µm across (Fig 2A). Spicules of ventral body wall were smooth buttons with three pairs of holes, 50-70 µm long and disc of tables 60 across.

Habitat Characteristic: Habitat of *H. arenicola* is rocky shore, as the specimen was hidden under stones. The specimen was collected throughout intertidal zone.

Holothuria (Selenkothuria) parva Krauss in Lampert, 1885

Morphology: The specimen was measured 10 cm long. Colour in the living condition was brownish – the ventral side was slightly lighter in colour than the dorsal side – with yellowish tube feet (Fig. 3). Mouth was located ventrally and surrounded by 20 tentacles. One polian vesicle was observed. The Cuvierian organ was absent.

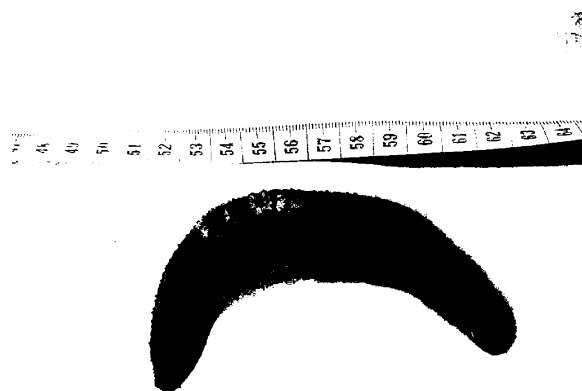


Fig. 1: *Holothuria (Thymiosyca) arenicola* Semper, 1868 from the Bandar-e Bostaneh coast.

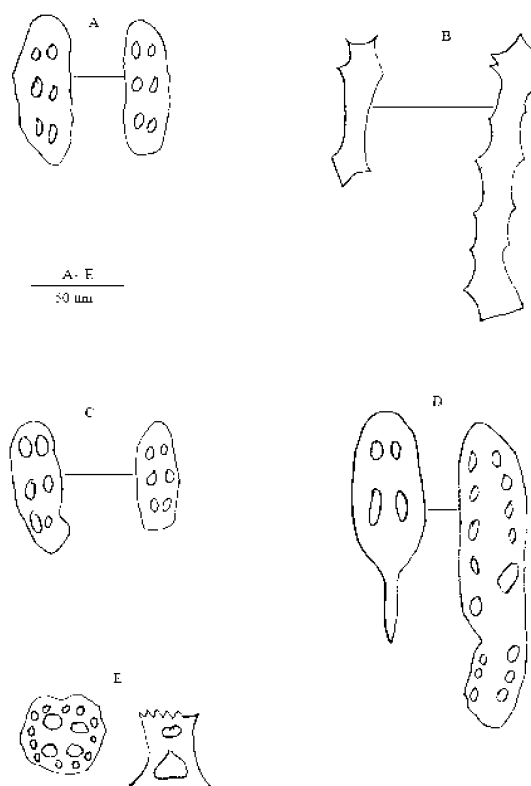


Fig. 2: A: Buttons From dorsal body wall of *Holothuria (Thymiosyca) arenicola* Semper, 1868. B: Rods from dorsal body wall of *Holothuria (Selenothuria) parva* Krauss in Lampert, 1885. C, D and E: Spicules of dorsal body wall of *Holothuria (Mertensiothuria) leucospilota*, in Brandt, 1835.

Spicules of the dorsal body wall were rods, 70- 130 μm long (Fig 2B). Spicules of podia were perforated plates (330 μm in diameter) and rods, 70- 150 μm long. The tentacles contained rods, 150 μm long.

Habitat Characteristic: The habitat of *H. parva* is rocky shores, as the specimens were hidden under stones. The specimens were collected throughout the intertidal zone.

***Holothuria (Mertensiothuria) leucospilota*, Brandt, 1835**

Morphology: Specimens were measured 22- 40 cm long. Colour in living condition was black and deep blue dorsally and deep brown ventrally (Fig 4). Mouth was located ventrally and surrounded by 20 tentacles. Single polian vesicle was observed. Cuvierian organ was long, narrow, adhesive and numerous.

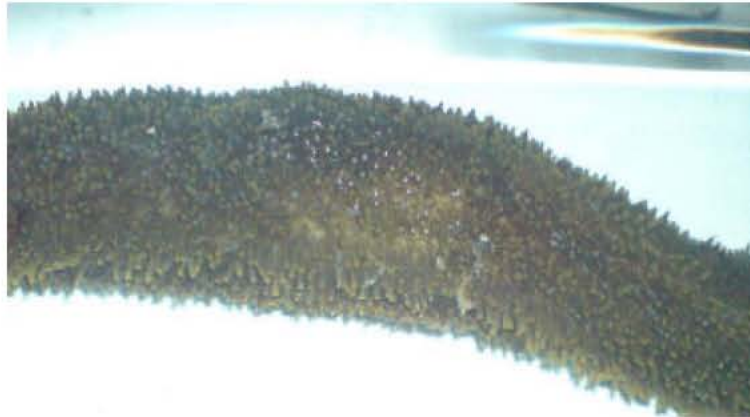


Fig. 3: Ventral side of *Holothuria (Selenkothuria) parva* Krauss in Lampert, 1885 from the Bandar-e Bostaneh coast.



Fig. 4: *Holothuria (Mertensiothuria) leucospilota*, Brandt, 1835 from the Bandar-e Bostaneh coast.



Fig. 5: Distribution of *Holothuria (Thymiosyca) arenicola* Semper, 1868 from the Bandar-e Bostaneh coast. (Red: Reported previously; Green: Bandar-e Bostaneh)



Fig. 6: Distribution of *Holothuria (Selenothuria) parva* Krauss in Lampert, 1885 from the Bandar-e Bostaneh coast. (Red: Reported previously; Green: Bandar-e Bostaneh)



Fig. 7: Distribution of *Holothuria (Mertensiothuria) leucospilota*, Brandt, 1835 from the Bandar-e Bostaneh coast. (Red: Reported previously; Green: Bandar-e Bostaneh)

Spicules of dorsal body wall were buttons, 50- 150 μ m long and disc of tables 40 μ m across (Fig 2C, D, E). Spicules of ventral body wall were buttons, 70- 80 μ m long.

Habitat Characteristic: Habitat of *H. leucospilota* is rocky shore, as the specimen was as abundant holothurians species in the area. The specimen was collected throughout intertidal zone.

DISCUSSION

This paper reports three species of the sea cucumbers in the Bandar-e Bostaneh Coast which is located south of the Persian Gulf. Although they have previously recorded in the Persian Gulf [9- 12], but here is the region without any record with these species formerly. Distribution of three species in the Persian Gulf on Fig 5, 6, 7 have been showed.

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