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# First Record of the Heart Sea Urchins *Metalia persica* (Coppard, 2008) from the Coral Reef Region, Marine Waters of Iraq.

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**Abstract**
In the present article we report a first record of the heart sea urchin *Metalia persica* (Coppard, 2008) from the recently discovered coral reef in the coastal waters of Iraq. Four specimens of this echinoid were collected by diving during June 2014 and June 2015. This work is a part of larger programme on the identification and some other interesting observations of the macrobenthos living in the coral reef region of Iraq.

**Key words**: Sea urchin, *Metalia persica,* coral reef, Iraq, first record.

## 1- Introduction

Echinometridae or "spiny – skinned" animals are distinct phylum built on a radially symmetrical plan, exists exclusively in the sea. The phylum is divided into five marine classes included the class Echinodiea (sea urchins, sand-dollers and heart-urchins). Echinoids distinguished from the other echinoderm classes in that the majority of their skeleton is built up of oral elements and the abord plating system is reduced to a tiny periapical region . In sea urchins, the radial symmetry is obvious and pentamerous (based on five rays) (Jones, 1986). The hard urchin *Metalia persica* is belonging to the family Brissidae which is distinguished from other Spatangoids by the short and wide labral plate that does not extend beyond the first ambulacral plate and by its relatively narrow and parallel-sided petals., without wide perradial zone; generally sunken (Smith, 2005).
The heart urchin species *Brissopsis persica* species was described for the first time by Mortensen and Gilson (1940) in the Iranian Gulf (Kroh 2010). Coppard (2008) moved the species to *Metalia persica* based on morphological characteristics. In the present investigation we have identified *M. persica* from the coral reef region of the Iraqi marine waters ( Pohl *et al*.,2014), this is a part of larger programme aiming at publishing of short articles, by the Marine Science Center/ Basrah University, on the taxonomy and some other interesting observations on the macrobenthic invertebrates which have been collected from the very important unique coral reef that had been discovered recently in an extreme environment of the Iraqi Marine waters (Ali *et al*. 2017).

## 2- Materials and methods

Samples of the sea urchin *Metalia persica* were collected from the coral reef area of Iraqi Marine waters (The coral reef has an area of 28 $km^2$ and is located at 29°37′00 N and 048°48′00 E) by scientific diving Team, including underwater photography. The detail information of the coral reef area, location and environmental characteristics is reported by Pohl *et al*. (2014). Four specimens of the urchin were collected from sand sea bed during June and December 2014, and June 2015. Samples were Photographed before preserving in 75% ethanol. In the laboratory the urchins work subjected to detailed examination and the morphometric measurements of the specimens were taken by vernier caliper to the nearest 0.1mm. Identification of urchins were made by using different current taxonomic literatures available on the fauna of the region such as : Jones (1986) and Al-Yamani *et al*. (2012). Confirmation to the identification was done by consulting Dr. Simon Edward Coppard . Specimens were photographed and deposited at the Genetic Legacy Laboratory and Museum of the Marine Science Center/ University of Basra.

## 3-Results and Discussion

### 3-1 Systematic

The sea urchin *Metalia persica* is classified as follows:

Phylum : Echinodermata
Class: Echinoidea
Order: Spatangoida
Family: Brissidae Gray, 1855
Genus : *Brissopsis* (L. Agassiz, in L. Agassiz and Desor 1847)
*Brissopsis persica* ( Mortensen,1940)
*Metalia persica* (Coppar, 2008*)*

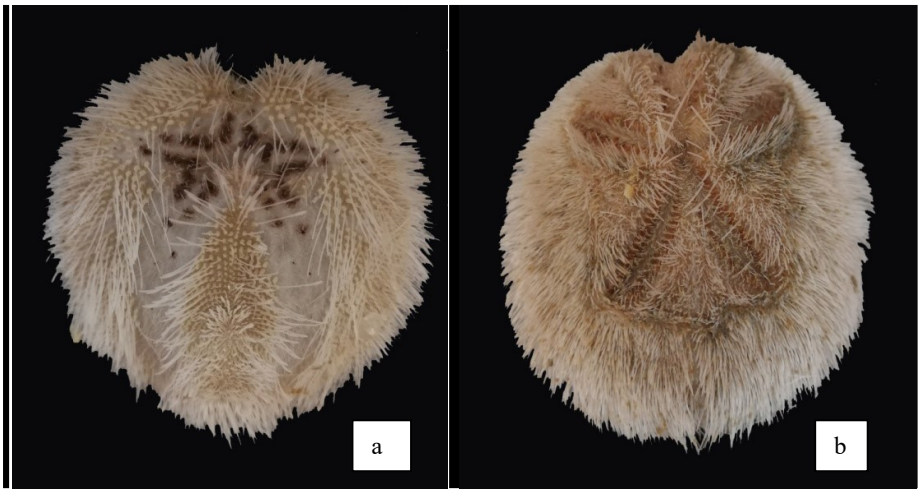
The dimensions of the collected specimens were 5.7- 8cm in length and 5.3 - 6 cm in width (Fig.1, a&b). *B. persica* was first scientifically described in 1940 by Th. Mortensen in Iranian Gulf, the specimens armour are covered with spines and their sizes are ranged from 20 to 37 mm in length and from 24 to 34mm in width ( Mortensen & Gilsen ,1940).

### 3-2 Distribution

In this study the heart urchin *M. persica* was found only in a few numbers at depths between 12-20 m of the newly discovered coral reef in the Iraqi marine waters . The corals species and all other associated benthic fauna are living in an extreme temperature ranges and high turbidity environment. Moreover, the area have been subjected to various kinds of oil and other sources of pollutions, as well as, an unwise shrimp and fish trawling (Pohl *et al*., 2014; Ali& Ahmed, 2015; Ali *et al*., 2016). The species was found in the Iranian and Kuwait marine waters of the Gulf.

**Fig.1. The heart urchin *Metalia persica* from coral reef region in the Iraqi Marine Waters, North West Arabian Gulf , a: oral view; b: aboral view .**

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