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First record of the moon crab *Ashtoret lunaris* (Forskål, 1775) from Syrian coasts

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Abstract - The number of aliens crustaceans is constantly increasing within the Syrian marine waters with the increasing of the interest in the marine biodiversity which allowed the discovery of many new species and various unrecorded species. The moon crab *Ashtoret lunaris* (Forskål, 1775) is recorded for the first time from the Syrian coast in the eastern Mediterranean. Two specimens of the Lessepsian crab *A. lunaris* were collected from Al-shokaifat area (at the north of Jableh). The specimens were collected by hand from the sandy shore on 7 August 2017.

Key words: Crustaceans, First record, Alien species, Syrian Coast, Eastern Mediterranean.

Introduction

The most recent data suggests that there are over 159 alien species of crustaceans in the Mediterranean (Zenetos *et al*., 2012), most of these spices are well established in the Mediterranean (Zenetos *et al*., 2017), 69 alien species of Decapods and Stomatopods were documented in the CIESM atlas (Galil *et al*., 2002).

The majority of the alien species had inhabited the southeastern Mediterranean. Lessepsain crustacean migrants from the Red Sea via the Suez canal are the dominant species (UNEP-MAP-RAC/SPA, 2015; Vlachogianni *et al*., 2013; Lipej *et al*., 2017).

In Syria, the coast (183 km in length) is located in the middle part of the Eastern Mediterranean Sea, and the Suez Canal which is 650 km away from the Syrian coast represents the main passage for the Indian and the Pacific species migrating through the Red Sea to the Mediterranean sea. Some of these species settled and become highly invasive and the benthic habitats along the coast of Syria have been densely colonized by Lessepsian species (Kucheruk, *et al*., 1998; Torchia *et al*., 2004; Ammar, 2004). The list of alien species is constantly extended in Syria (Bitar *et al*., 2003; Ammar 2016), and the crustaceans have had the second order next to mollusks in the number of alien species in Syria. About 23 alien species of crustaceans were already described along the Syrian coast.

The objective of this paper is to describe and report of *Ashtoret lunaris* from the Syrian Marine water which was not recorded before in this region.

Materials and Methods

Two Specimens of the moon crab (a male and a female) (Figs. 2 & 3) were collected by hand from the sandy shore of Al-Shokaifat area from (N 35 393340. E

35 916417) to (N 35 389240 E 35 917557) (Fig. 1). The specimens were classified and described according to the Ng *et al.* (2008). Nomenclature follows WoRMS Editorial Board (2017) (WoRMS, 2017).

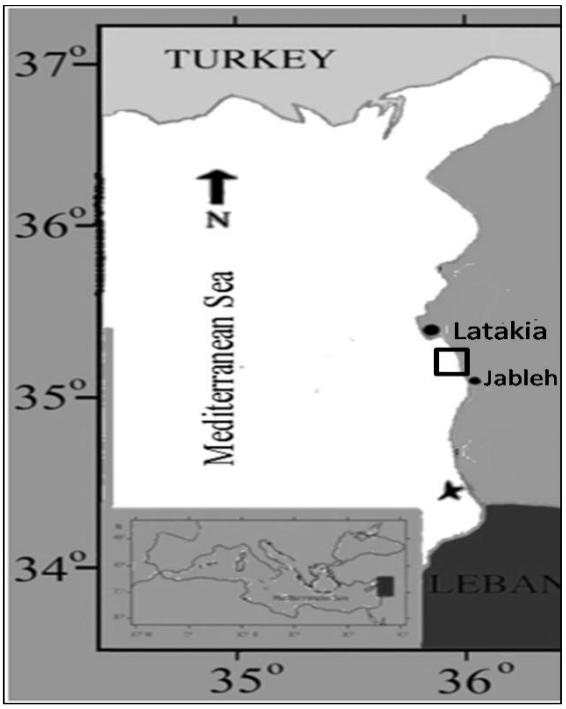

Figure 1. A map for the Syrian coast with the location of the sampling site.

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Classification:
Kingdom: Animalia; Phylum: Arthropoda; Class: Malacostraca; Order: Decapoda; Family: Matutidae; Genus: *Ashtoret*

Description:

The carapace of *Ashtoret lunaris* is subcircular in shape and with a grainy appearance, as there are very minute granules on the surface of the carapace and are more intense on the lateral side. The carapace is smooth in the posterior region, but with 6 tubercles. The larger granules are clustered between the central and posterior tubercles and 5 large tubercles, surrounding a small, pointed one.

In the frontal margin, there are two straight lobes with an intermediate and a short rostrum. Anterolateral margins is curved and provided with straight lobes on the lateral side, six small tubercules are located on the anterolateral edge followed by three large ones. The lateral spin is about 20% of the width of the carapace. The posterolateral margin is fitted with a rib that does not fully reach the lateral spin base. Tuber is clearly located in the center of the slightly curvy posterolateral margin.

A row of clear granules on the posterolateral and posterior margin. The upper external surface of palm is equipped with three rows of granulate tubercles, contain 4, 3 and 5 granules, respectively. In the front of the palm there are two lateral

conical spins in the male and three in the female and two granular tubercules rows. On the lower edge of the palm are 7 small tubers and one large on the side of the dactylus. First male pleopod with pronounced angle between shaft and apical lobe. The lower surface of the carapace is smooth.

The color of this species is almost yellow to beige with red dots and dark blotches on the carapace and more packed anteriorly, propodus and dactylus of the walking legs marked with large red patches the most important distinguishing marks that the end of the walking legs is a paddle shaped and used to shovel the sand quickly and hid in sandy shores.

Size of Specimens:

The size of male was (CW: 5.2 cm, CL: 3.5 cm), while the female was smaller (CW: 4.7 cm, CL: 3 cm) (Figs. 2 & 3).

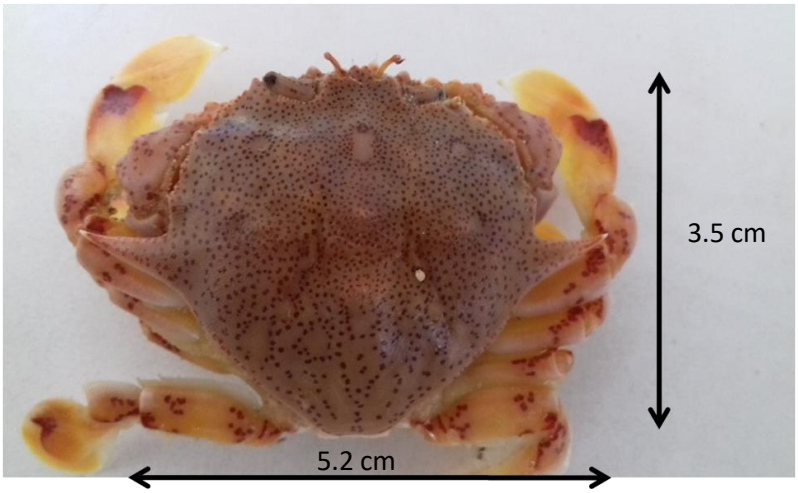

Figure 2. Dorsal view of *Ashtoret lunaris* (Forskål, 1775) from the Syrian coasts.

Figure 3. Ventral view of *Ashtoret lunaris* (Forskål,1775) (male and female) from the Syrian coasts.

The sculputer of the palm and different marks on the dactyli of the male and the female are shown in Figure (4).

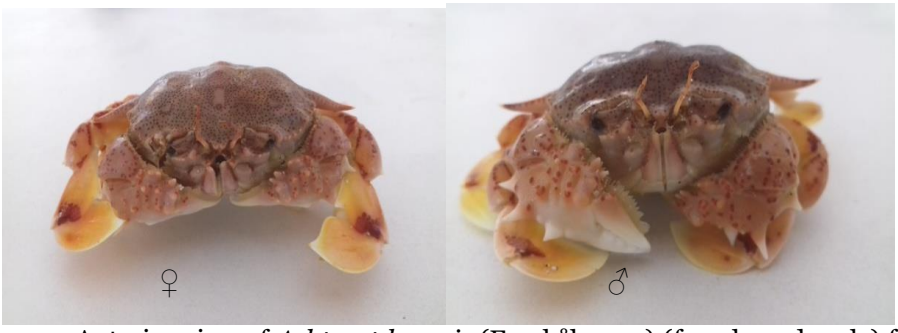

Figure 4. Anterior view of *Ashtoret lunaris* (Forskål, 1775) (female and male) from the Syrian coasts.

Discussion

The yellow moon crab, *Ashtoret lunaris* is probably a Lessepsian migrant in the area (Galil *et al*., 2002), it is of Indo-Pacific origin and has a wide distribution from the Red Sea to Japan and Australia (WoRMS, 2017). It was collected for the first time by trawler in 1987 in the eastern Mediterranean (Galil, 2011.; Galil & Golani, 1990), while the first records of the moon crab from the Turkish coasts were from the northeastern Mediterranean in 2015 (Turan *et al*., 2015). However, the presence of *A. lunaris* in the Syrian coasts emphasize the dispersion of this species along the eastern Mediterranean.

In general, the number of alien crabs in the Syrian coasts is 13, which does not seem to be large, compared with the total number of exotic crabs recorded throughout the Mediterranean Sea (Zaouali *et al*., 2012; Karhan *et al*., 2013).

Recording new species of crustaceans in the Syrian marine waters provides scientific and ecological information about the alien species in the Eastern Mediterranean. Continued monitoring is recommended following the distribution of this species in the other areas.

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