First occurrence of knight rock shrimp, Sicyonia lancifer (Olivier, 1811) (Decapoda: Sicyoniidae) in the Mediterranean Sea.

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Introduction

Rock shrimps of the family Sicyoniidae are benthic penaeid shrimps including only a single genus Sicyonia with 52 species known (Perez Farfante & Kensly, 1997; Crosnier, 2003). The rock shrimps are distributed mainly in tropical and subtropical regions from shallow waters to 1000 m depth. Six species of rock shrimps are of minor commercial importance (Carpenter & Niem, 1998). The family Sicyoniidae is represented only by the native species Sicyonia carinata in the Mediterranean Sea (Brünnich, 1768). S. carinata is commonly known as Mediterranean rock shrimp.

Herein we report the occurrence of Sicyonia lancifer (Olivier, 1811) which is the first alien species representative of family Sicyoniidae in the Mediterranean Sea. The new alien shrimp was collected in the Gulf of Antalya, located on the Levantine coast of Turkey, a region particularly susceptible to biological invasions (Bakır et al., 2014).

Materials and Methods

During bottom trawl surveys on macrozoobenthos of the Antalya Gulf (Figure 1), two specimens of Sicyonia lancifer (Olivier, 1811) were collected. The crustaceans were captured by means of a trawl with cod end of 44 mm square and trawl cover of 24 mm net mesh onboard the R/V “Akdeniz Su”. The specimens of knight rock shrimp were identified based on the studies of Carpenter & Niem (1998), De Freitas (1984) and George (1966, 1969). The carapace length (CL), carapace width (CW) and total length (TL) of samples were measured with a digital calliper to the nearest 0.1 mm. The specimens, preserved in 70% ethanol, are deposited in the Benthos laboratory of the Faculty of Fisheries, Akdeniz University.

Results

Sicyonia lancifer (Olivier, 1811)

Order: Decapoda Latreille, 1802
Family: Sicyoniidae Ortmann, 1898
Genus: Sicyonia H. Milne Edwards, 1830
Synonymy: Palaemon lancifer - Olivier, 1811, p. 664; Eusicyonia lancifer - Burkenroad, 1934, p. 71.

Material examined: Single male individual (TL 48.3 mm, CL 19.7 mm, CW 11 mm) was caught on October 21st 2014 on sand-muddy bottom (36.698315°N, 31.537889°E), at a depth of 84.2 m and seawater

Fig. 1: Map showing the sampling stations (full red diamonds) where the individuals of Sicyonia lancifer have been collected in the Antalya Gulf.
温度23.56°C。第二只雄性标本（TL 53.1 mm, CL 19.3 mm, CW 10.9 mm）于2015年2月14日捕获，位于沙质底质（36.774121°N, 31.160361°E）深处46米，海水温度为20.13°C。


图2：A. 背面视图，B. 背面视图，C. 腹面视图（背面）。

讨论
Sicyonia lancifer 是一种分布广泛的印度西太平洋物种，广泛分布于日本、越南、印度尼西亚、印度西部和东部海岸、马来西亚、斯里兰卡、马尔代夫、莫桑比克海岸（De Freitas, 1984; Muthu, 1968）。其在红海的存在已由Holthuis (1980) 记录，但尚未在苏伊士运河报告。

该物种已知栖息于软质底质，如沙泥底质，其生活范围分布从浅水25米到200米，通常在100米以下。它是一个在夜间活动的物种，并且可能在沙中挖掘洞穴。

The decapod assemblage associated with this species was characterized by the following species, listed in order of abundance: Charybdis longicollis (Leene, 1938), Penaeus japonicus (Spence-Bate, 1888), Medorippe lanata (Linnaeus, 1767), and Pagurus prideaux (Leach, 1815).

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daytime. When it comes out, often walks on the bottom with the abdomen strongly curved upward. (Carpenter & Niem 1998, De Freitas, 1984). The specimens here reported were collected in analogous habitats and at similar depths to those of the previously reported in literature.

According to Holthuis (1980) and Carpenter & Niem (1998) *Sicyonia lancifer* has no commercial fishery importance or its commercial value is low throughout its distribution range. *Sicyonia lancifer* is reported as bycatch from trawl fishery along north Tamil Nadu coast in India (Pillai et al., 2014.). Kurian & Sebastian (1976) listed the species among the Indian prawns with commercial importance, remarking that only low quantities are reported from Arabian Sea.

The Mediterranean Ecosystem has been affected by significant changes of fauna and flora due to biological invasion of non-native species, by the Suez Canal and from the Strait of Gibraltar. Since the opening of the artificial Suez Canal in 1869, there has been an incessant influx of Indo-Pacific species (the so-called Lessepsian species) into the Mediterranean Sea (Por, 1978). There are 161 alien species of crustacean, and the majority of them occurs in Eastern Mediterranean, inasmuch the native range of four-fifths of them in Mediterranean Sea is introduced from Suez Canal (Zenetos et al., 2012; Zenetos et al., 2010). The detected presence of *Sicyonia lancifer* in this area, reported as the first occurrence in the Mediterranean Sea, reinforces the common invasion pattern of Lessepsian species that are going to be established in the Levantine Sea and further progressively spread westward and northward in the Mediterranean to Ionian and Aegean Sea (Katsanevakis et al., 2013).

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