

short scientific article
received: 2018-05-16

DOI 10.19233/ASHN.2018.14

OCCURRENCE OF PEARL FISH, *CARAPUS ACUS* (OSTEICHTHYES: CARAPIDAE) IN ÇEŞME, IZMIR (AEGEAN SEA, TURKEY)

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ABSTRACT

A specimen of Carapus acus, 181 mm in total length, was captured by a commercial trawl net off Çeşme, Izmir, on muddy bottom, at a depth of 60-80 m. This paper presents the real occurrence of the rare pearl fish off Izmir in the Aegean Sea.

Key words: Pearl fish, measurement, sea cucumber, Izmir, Aegean Sea

PRESENZA DI GALIOTTO, *CARAPUS ACUS* (OSTEICHTHYES: CARAPIDAE), A ÇEŞME, SMIRNE (MAR EGEO, TURCHIA)

SINTESI

Un esemplare di Carapus acus, 181 mm di lunghezza totale, è stato catturato con una rete commerciale a strascico al largo di Çeşme, Smirne (Izmir), su fondale fangoso, ad una profondità di circa 60-80 m. L'articolo riporta la presenza di questa rara specie ittica al largo di Smirne nel mar Egeo.

Parole chiave: galiotto, misurazioni, cetriolo di mare, Smirne, mar Egeo

INTRODUCTION

The pearl fish *Carapus acus* (Brünnich, 1768) is a non-migratory marine fish species inhabiting the 1-150 m depth range and reaching up to 200 mm in TL. Adults of *C. acus* live in the body cavities of holothurian species, such as *Holothuria tubulosa* Gmelin, 1791 and *Parastichopus regalis* (Cuvier, 1817). At night, the species leaves the host to feed on small benthic invertebrates and small fish (Trott & Olney, 1986; Golani *et al.*, 2006; Froese & Pauly, 2018). *C. acus* is known throughout the Mediterranean Sea; while it is most commonly found in the western part, mainly around Italy, Spain and France, it also occurs in the Adriatic and Aegean Seas (González-Wangüemert *et al.*, 2014).

C. acus larvae were identified from a total of 12 individuals in the bongo-net collections during the June 1995 and June 1996 surveys in the northern Aegean Sea (Somarakis *et al.*, 2002). Fischer *et al.* (2007) stated that the occurrence of the *C. acus* species was very rare in Ibiza, Spain. In Tunisia, this species was first recorded in the Gulf of Gabes (Enajjar & Bradai, 2016).

C. acus used to be mentioned only by name among the fishes of the Turkish waters of the Aegean Sea (Geldiay, 1969), until trawl catch records of *C. acus* were given by Gücü & Bingel (1994) from the Mersin and Iskenderun Bays in the northeastern Levantine Sea.

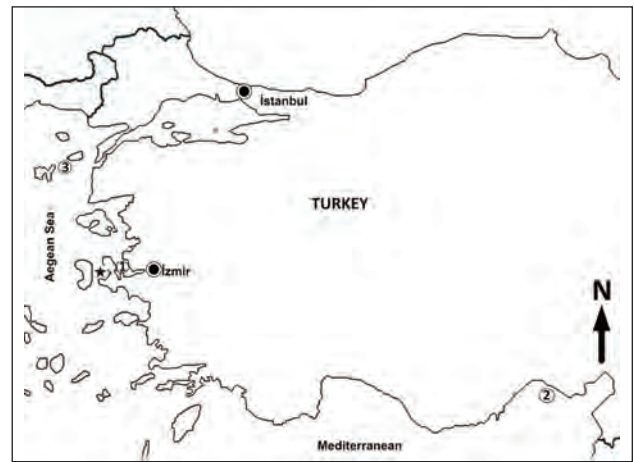


Fig. 1: Capture sites of the *Carapus acus* specimens in the Turkish sea, eastern Mediterranean: 1. Bay of Izmir (Geldiay, 1969), 2. Off Mersin Bay (Gücü & Bingel, 1994), 3. Off Bozcaada Island (Eryilmaz, 2003); the black star indicates the sampling location of this study.
Sl. 1: Lokalitete, kjer so bili ujeti primerki strmorinca *Carapus acus* v turškem morju, vzhodno Sredozemsko morje: 1. Izmirski zaliv (Geldiay, 1969), 2. zaliv Mersin (Gücü & Bingel, 1994), 3. otok Bozcaada (Eryilmaz, 2003); črna zvezdica označuje vzorčevalno lokaliteto iz pričujoče raziskave.



Fig. 2: A. *Carapus acus* (ref.: ESFM-PIS/2018-03). B. Sea cucumber, *Parastichopus regalis*, captured off Çeşme, Izmir (scale bar: 50 mm).

Sl. 2: A. *Carapus acus* (ref.: ESFM-PIS/2018-03). B. Morska klobasa, *Parastichopus regalis*, ujeta v vodah predela Çeşme, Izmir (merilo: 50 mm).

Eryılmaz (2003) reported four specimens (149-161 mm TL) from off Bozcaada Island, northern Aegean Sea. This paper presents the real occurrence of the rare pearl fish off the shores of Izmir in the Aegean Sea.

MATERIAL AND METHODS

On 30 March 2018, a specimen of *Carapus acus* was captured by a commercial trawl net (44 mm stretched mesh size) off Çeşme, Izmir at 38°25' N - 26°16' E (Fig. 1), on muddy bottom, at a depth of between 60 and 80 m. The specimen (Fig. 2a) was collected together with some sea cucumbers, *P. regalis* (Fig. 2b), but not in the body cavity of any of them. The specimen was measured to the nearest millimetre, fixed in 5% formaldehyde solution and deposited in the Ichthyological Collection of Ege University, Faculty of Fisheries, under catalogue number ESFM-PIS/2018-03.

RESULTS AND DISCUSSION

The specimen of *Carapus acus* measured 181 mm in total length, the morphometric data corresponding to the following ratios as percentages of standard length (TL) or head length (HL): maximum body depth 9.4, head

length 13.3, predorsal length 43.6, preanal length 13.8, prepectoral length 12.7 (all in TL); eye diameter 16.7, preorbital distance 12.5, interorbital 20.8, (all in HL); 20 pectoral fin rays. The description, measurements and percentages of total length in *C. acus* are in complete accordance with Trott & Olney, (1986), Nielsen *et al.* (1999), Golani *et al.* (2006) and Froese & Pauly (2018).

The small number of records of larvae and adult specimens indicates that *C. acus* is a very rare species throughout the Mediterranean. The species is known to live in association with the sea cucumber, but recently, González-Wangüemert *et al.* (2014), reported that among the six sea cucumber species, *C. acus* is only found in *P. regalis*, and that it apparently chooses its host regardless of its size. The present study, given that *C. acus* and *P. regalis* were caught together in the same trawl operation, seems to support this thesis. However, further research is necessary to establish the species' abundance, geographical distribution and the nature of the host with regard to commensalism.

ACKNOWLEDGEMENTS

The authors thank Captain Mustafa Taşlı and his crew of trawler "Yeni Asya".

POJAVLJANJE STRMORINCA, *CARAPUS ACUS* (OSTEICHTHYES: CARAPIDAE) V PREDELU ÇEŞME, IZMIR (EGEJSKO MORJE, TURČIJA)

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POVZETEK

Primerek strmorinca (*Carapus acus*), ki je meril v dolžino 181 mm, je bil ujet v ribiško mrežo na lokaliteti Çeşme (Izmir), na muljastem dnu, na globini med 60 in 80 m. Avtorja poročata o dejanskem pojavljanju te redke vrste v vodah okoli Izmirja v Egejskem morju.

Ključne besede: strmorinec, meritve, morske klobase, Izmir, Egejsko morje

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