

*Research article***First record of the African hind, *Cephalopholis taeniops* (Valenciennes, 1828), in the Mediterranean Sea coast of Turkey****Gülnaz ÖZCAN***^{ORCID}, **Deniz ERGÜDEN**^{ORCID}, **Tahir ÖZCAN**^{ORCID}

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Abstract: Non-native African hind, *Cephalopholis taeniops* (Valenciennes, 1828), was for the first time recorded in the Levantine coast of Turkey (eastern Mediterranean). One specimen of *C. taeniops* was collected at the depths between 15 and 25 m in Iskenderun Bay.

Keywords: Serranidae, *Cephalopholis taeniops*, Non-native, Iskenderun Bay, eastern Mediterranean

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Introduction

In the last century, the Mediterranean Sea is affected by non-native marine species by means of the different vectors. Most of pathways for the introduction of non-native species are Suez Canal, Straits of Gibraltar, via hull fouling and/or ballast water from ships and Aquaculture (Özcan et al., 2010; Galil et al., 2018). Until today, 726 non-native marine species reported and an average of 10 non-native species per year has introduced in the Mediterranean Sea (Galil, 2009; Galil et al., 2018).

The African hind, *Cephalopholis taeniops* (Valenciennes, 1828) is known a sandy and rocky bottoms in depths of 20 to 200m. The species distribution is known eastern Atlantic Ocean from West Sahara to Angola, including the Cape Verde Islands, Principe Island, and São Tome Island (Heemstra & Randall, 1993).

The non-native serranid species to reach 70 cm total length (Heemstra & Randall, 1993) and abundant off the west African coast of Atlantic Ocean and commercial importance in local fisheries of Senegal and used for human consumption. It is imported from Senegal and marketed in France (Heemstra & Randall, 1993; Ben Abdallah et al., 2007).

The African hind was first recorded from the Libya coast (Gulf of Syrte and Missurata) of the Mediterranean Sea (Ben Abdallah et al., 2007). Then subsequently recorded from the Israel (Salameh et al., 2009), Italy (Guidetti et al., 2010), Malta Islands (Schemberi & Tonna, 2011; Evans & Schemberi, 2017), Turkey (Aegean Sea) (Engin et al., 2016) and Lebanon (Gerovasileiou et al., 2017). Here, we present the first occurrence of *C. taeniops* in the Levantine coast of Turkey.

Material and Methods

Only one specimen (12.7 cm total length, 11.0 cm standard length / 29 (g) weight) was collected during daylight by a commercial trawl vessel (17.02.2020 / 36°36'529 N-35°56'516E) at the 15-25 m depth on sandy/muddy bottom in Iskenderun Bay (Figure 1)

The specimen (Figure 2) was identified using taxonomic key of Heemstra & Randall (1993), then photographed, preserved in formalin of 4%, and deposited in the Faculty of Marine Sciences and Technology, Iskenderun Technical University, Iskenderun-Hatay, Turkey (Collection of Dr. T. Özcan).

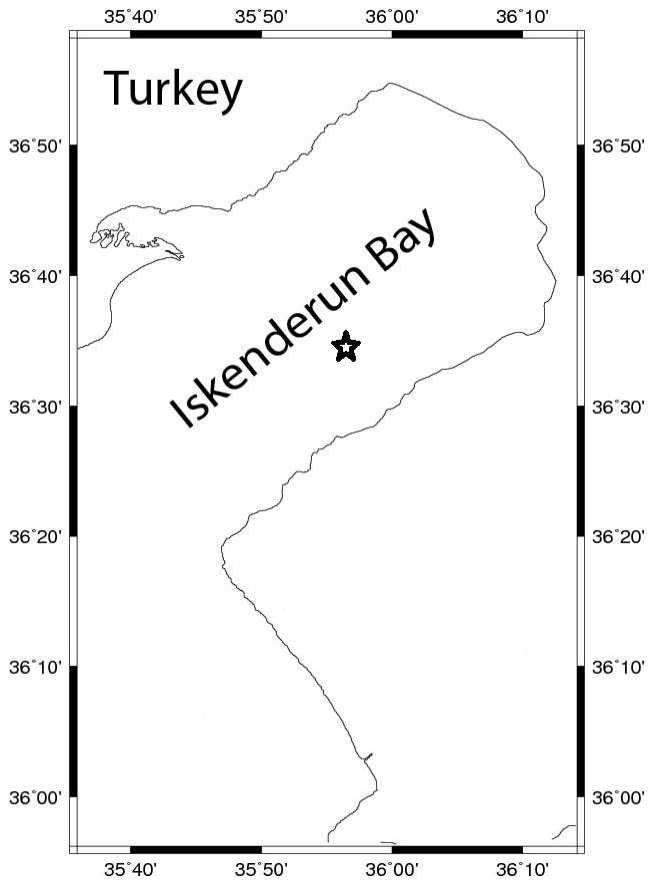


Figure 1. Map showing the sampling location

Results and Discussion

Based on taxonomic key given by Heemstra & Randall (1993) The specimen was identified as *Cephalopholis taeniops* (Figure 2). The habitat was sandy/muddy bottom

and probably the station where the species was collected is located close to the rocky areas. The fresh body colour is red-orange, covered with numerous light blue spot surrounded with black margin. Dorsal fin with 9 spines and 15 soft rays, anal fin with 3 spines and 9 soft rays. Single specimen of undetermined sex measure as follows: 12.7 cm (total length), 11.0 cm (standart lngth) and 29 g (weight).

The African hind of the Atlantic Ocean was immigrant via the Strait of Gibraltar to the Mediterranean Sea and its distribution range in the Mediterranean Sea is very dispersed. Firstly, *C. taeniops* reported in the Libya in 2002 (Gulf of Sidra and Missurata) (Ben Abdallah et al., 2007), and subsequently recorded, too far, from the Israel (Haifa Bay) (Salameh et al., 2009), Italy (Lampedusa Island) (Guidetti et al., 2010), Malta Islands (Harbour at Valletta) (Schemberi & Tonna, 2011), Turkey (Tavşanlı Island / Çandarlı Bay - Aegean Sea) (Engin et al., 2016), Maltase Islands (Evans & Schemberi, 2017) and Lebanon (Tripoli) (Gerovasileiou et al., 2017 (Table). According to Evans & Schemberi (2017) in August 2009 and in January 2011 *C. taeniops* specimens reported by Deidun et al. (2011) from the Maltese waters. However, the specimen that was photographed and misidentified in August 2009 has represented the first record of *Cephalopholis hemistiktos* (Rüppell, 1830), on the other hand, since the other record in January 2011 was not confirmed by a photograph, it will be inaccurate to be considered as the definitive record of *C. taeniops*.



Figure 2. *Cephalopholis taeniops* (Valenciennes, 1828), Dorsal view (photographed by Dr. T. Özcan).

Table. Chronological distribution of *Cephalopholis taeniops* found in the Mediterranean Sea.

Location	Number of specimens	Lat.-Long. (N-E)	Date	Depth/Substratum	Reference
Libya (Gulf of Sidra)	1	32°59'9"-13°11'9"	7 September 2002	40-50 m/rocky	Ben Abdallah et al (2007)
Libya (Missurata)	1	32°26'9"-15°06'9"	7 June 2004	40-50 m/rocky	Ben Abdallah et al (2007)
Israel (Haifa Bay)	1		23 June 2009	30 m/rocky	Salameh et al (2009)
Italy (Lampedusa Island)	Several		13 July 2009 16 July 2009	10 m/rocky	Guidetti et al (2010)
Maltese (Grand Harbour at Valletta)	1		16 July 2011	5 m/rocky	Schembri and Tonna (2011)
Turkey (Çandarlı Bay)	2	38°50'-26°52'	14 June 2015 11 July 2015	3-6 m/bedrock	Engin et al (2016)
Maltese Islands	2		December 2015 July 2016		Evans and Schembri (2017)
Lebanon (Tripoli)	1	34.45049°-35.71464°	June 2016	32 m/rocky	Gerovasileiou et al (2017)
İskenderun Bay (Turkey)	1	36°36'529-35°56'516	17 February 2020	25 m/sandy	Present study

Since a total of eight grouper species with economic importance have been reported in the Turkish coast (Bilecenoglu et al., 2014; Engin et al., 2016), *C. taeniops* too may have a potential positive effect on the local fisheries.

As a result, the study focuses on the first occurrence of *C. taeniops* from the Levantine coast of Turkey marine waters. Recently, studies showed that the Iskenderun Bay biodiversity is highly changed. Therefore, we need detailed studies on competition between native and non-native species, and on non-native species economically affecting local fisheries in the Iskenderun Bay and Mediterranean Sea.

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