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SHORT COMMUNICATION

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New record of Blackmouth catshark, *Galeus melastomus* Rafinesque, 1810 (Carcharhiniformes, Scyliorhinidae) from the International Waters of the Mersin Bay, Turkey

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ABSTRACT

An immature specimen of the blackmouth catshark, *Galeus melastomus* Rafinesque, 1810, was caught by a bottom trawl in the international waters of the Mersin Bay in May 2018. This species was recorded earlier from Israel Open Waters, and Marmara, Aegean and Mediterranean Sea. This is the third record for the southern coast of Turkey and the first record for Mersin Bay.

Keywords: Blackmouth catshark, *Galeus melastomus*, Deep-sea, Mersin Bay, Turkey

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1. Introduction

The blackmouth catshark, *G. melastomus*, is a marine demersal fish species. It is widely distributed in the Northeast Atlantic and Mediterranean Sea. They usually live in the depth of 150-1200 m (Muus and Nielsen, 1999) and on outer continental shelves and upper slopes. This is a carnivorous fish which feeds in both benthic and pelagic regions. The dietary variety is quite extensive including invertebrates, fish, and small elasmobranchs (Olaso et al., 2004). *G. melastomus*, a species of oviparous, has the ability to reproduce in all seasons. On the other hand, it was reported that this species was most active to reproduce during the spring and summer season (Rey et al., 2005). This species is assessed as Least Concern by IUCN data (Serena et al., 2009; CITES, 2017).

It has been reported that the Scyliorhinidae family is the most specific family of Elasmobranchii, represented by at least 15 genera and more than 100 species (Compagno & Niem, 1999). Seventeen species belonging to the genus of *Galeus* have been identified so far worldwide (Compagno et al., 2005) and the blackmouth catshark, *G. melastomus*, and Atlantic sawtail catshark, *G. atlanticus*, have shown morphologically significant similarities. These catsharks species are very similar to each other, have overlapping geographical regions, and it is difficult to identify these species with morphological characters (Compagno, 1984, Castilho et al., 2007). The taxonomic confusion between the two species causes confusion in the by-catch fishery statistics, and caught species are often recorded as blackmouth catshark (Erzini et al., 2002; Coelho et al., 2005; Pawson & Ellis, 2005). Mun˜oz-Chapuli and Ortega (1985), however, re-emphasized the existence of *G. atlanticus* as a valid species, and Rey et al. (2006) redefined the main living areas of *G. atlanticus*.

The most distinctive features distinguishing *G. melastomus* from other *Galeus* species are the presence of two rows of brown blotches extending along the linea lateral; the number of blotches is larger and more; the groove of labial furrows is small and white in color; the presence of dark distinct blotches on the anal fin rays. Its maximum size is 64 cm in the Alboran Sea (Mediterranean Sea) and 90 cm in South Portugal (NE Atlantic) (Rey et al., 2005).

The Mediterranean Sea which is located between European, Asian and African continents, is one of the largest oligotrophic waters of the world with three different water layers in terms of its hydrographic characteristics. It connects with the Gibraltar Strait to the Atlantic Ocean and the Indian Ocean with the opening of the Suez Canal. There are three large basins in the western part and four in the eastern part of the Mediterranean Sea. Levant basin is surrounded to the north by Turkey, to the east by Lebanon and Israel, to the south by Egypt and Libya. Its average depth is 4300 meters. The continental shelf is generally narrow and expanding in the Mersin and Iskenderun Bays and the Nile River spill area (Biju-Duval et. al., 1974). Because of its geomorphological structure and its ecological characteristics, both exotic and Atlantic species live in the Mersin Bay. *G. melastomus*, which is of Atlantic origin, caught in trawling operations carried out in the international waters of the Mersin Bay is the new record for the Mersin Bay.

2. Material and Methods

Deep-sea sampling was carried out in the international waters of the Mersin bay between 14 and 17 May 2018 by a commercial trawl. The depth of sampling area is between 274 and 641 m. Coordinates of the sampled area: 36.24853N-34.36491E, 36.18839N-43.38847E, 36.17065N-34.40686E, 36.07227N-34.53326E (Fig.1). A total of 13 trawling operations were carried out. Each trawl operation lasted approximately 4 hours. During the sampling, an immature blackmouth catshark was caught. This specimen was preserved in 4% formalin and was deposited in the Museum of the Systematic, Faculty of Fisheries, Mersin University, (Catalogue number: MEUFC-18-11-078) (Fig. 2). Taxonomic identification was based on diagnostic characters provided by Rey et al. (2006). All morphometric were measured to the nearest 0.01 cm using a dial caliper (Table 1).

Figure 1. The white area indicates the location where the specimen was collected

3. Results and Discussion

During the sampling, an immature specimen with a size of 19 cm and a weight of 28.61 g was caught (Fig. 2). Some morphometric measurements of the specimen were taken (Table 1).

Figure 2. The immature specimen of *G. melastomus* from the International Waters of the Mersin Bay, Turkey

Table 1. Some biometrical measurements expressed as a percentage of TL in *G. melastomus*

Parameter	Present study	Rey et al., 2006
Total length (TL)	19.0 cm	31.5-54.2 cm
Weight	28.61 g	-
Pelvic length/TL	10.00%	12.27-13.58%
Interdorsal space/TL	12.11%	11.37-12.44%
Mouth width/TL	6.84%	6.26-7.02%
Mouth length/TL	4.21%	4.05-4.33%
First dorsal height/TL	4.21%	2.73-4.72%
Second dorsal height/TL	3.15%	3.10-3.33%
Interorbital space/TL	7.89%	6.72-7.79%

In this study, the morphometric measurements of the caught individual were determined and compared with the findings of Rey et al., 2006. Despite the fact that the individual involved in this study was smaller than the individuals in the other study, proportions of the morphometric measurements were found to be similar (Table 1).

G. melastomus has been recorded from Tunisia, Israel, and Turkish coastal waters previously (Table 2). *G. melastomus* has been reported from Turkish Coastal Waters, Marmara, Aegean and Mediterranean Sea (Bilecenoğlu et al., 2014). The last record of *G. melastomus* from Turkish coastal waters was given from Antalya in 2018.

Table 2. Some reports of the *G. melastomus* from the Mediterranean Sea

	Total Length(cm)	Depth (m)	Location
Present Study (2018)	19	274 to 641	Mersin Bay, Turkey
Genç et al., 2018	30.95	610-640	Antalya Coast, Turkey
Bilecenoğlu et al., 2014	?	?	Marmara Sea, Aegean Sea, Mediterranean Sea, Turkey
Bradai et al., (2000)	20.5	600	Hammamet Gulf, Eastern Tunisia
Goren and Galil, 1997	?	?	Israel Coast

It was reported that a significant portion (40%) of this fish population was found in Alboran Sea, Tiren and Sardinian waters. Mature specimens were reported to be distributed in the deep waters when immature specimens were found in shallow water (max 800 m) (Rey et al., 2005). In this study, the immature individual is 19 cm in length and caught in a shallower area from a depth of 800 m (274 to 641 m). This finding is supported by the literature.

In order to increase our knowledge about the deep-sea ichthyofauna, there is a need for continuous monitoring on deep-sea fisheries in Mediterranean Sea. The deep-sea red shrimp species are the target species of deep sea fishing carried out in international waters between May and July in the Mediterranean Sea. During the deep-sea trawling operations, a large number of discard fish species are caught such as *G. melastomus*.

Conflict of interests

The authors declare no conflict of interests.

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