

## Occurrence of fangtooth moray *Enchelycore anatina* (Lowe, 1839) (Muraenidae) in Iskenderun Bay, Eastern Mediterranean, Turkey

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**Abstract.** During scuba diving, one specimen of the fangtooth moray *Enchelycore anatina* (Lowe, 1839) was seen and photographed in the area of the eastern Mediterranean Sea coast of Turkey on 21 July 2011. This record is the new locality for the fangtooth moray *E. anatina* from the Iskenderun Bay (Eastern Mediterranean).

**Keywords:** *Enchelycore anatina*, Eastern Mediterranean, Iskenderun Bay, New locality, Turkey.

The family Muraenidae is represented by three genera with three species (Böhlke, 1981, 1989) *Gymnothorax unicolor* (De-laroché, 1809), *Enchelycore anatina* (Lowe, 1839), *Murena helena* (Linnaeus, 1758) in the Mediterranean Sea.

The fangtooth moray *E. anatina* is a subtropical species widely distributed in eastern Atlantic, including the main insular systems, Azores, Madeira, Canary, Cape Verde, Ascension and St. Helena Islands (Bauchot 1986, Böhlke et al. 1989, Golani et al. 2002).

*Enchelycore anatina* have been previously reported for the first time by the Ben-Tuvia & Golani (1984) from the Israeli waters of the Mediterranean Sea (off Tel Aviv Jaffo, 5 November 1979) at depth of about 50 m. Later other records were reported by various researchers from Atlantic and Mediterranean, the Rhodes and Elafonissos Islands (Greece), the southern coast of Turkey, the Syrian coast, Cyprus and along the eastern Adriatic coast (Croatia), (Saad 2005, Katsanevakis et al. 2009, Kalogirou 2010, Bilecenoglu 2010, Lipej et al. 2011 and Guidetti et al. 2012).

Up to date, *E. anatina* have been reported from 4 localities (Fethiye Bay, Antalya Bay, Datca Peninsula (southern Aegean Sea), Mersin Bay) in the Mediterranean coast of Turkey between in 1998-2005 (Bilecenoglu 2010).

Up to now no specimens have been reported in the eastern side of Mediterranean coast of Turkey. Present study reports a new locality, the Iskenderun Bay (Eastern Mediterranean coast of Turkey).

During scuba diving investigations one specimen of *E. anatina* was captured by underwater camera from the coast of Samandag, Kamışlı Bay (Iskenderun Bay) (35° 57' 350" N; 35° 55' 288" E) on 21 July 2011. The specimen of *E. anatina* was photographed (only the head was visible) from the rocky bottoms rich in crevice about 12 m depth. This environment is inhabited mainly by algae (*Padina pavonica* and *Corallina officinalis*) (Fig. 1). The species identification was done according to Golani et al. (2002) and Bilecenoglu (2010).

The main characteristics of *E. anatina* (Fig. 2) were: Body very elongated; pointed head with a distinctly elevated



**Figure 1.** Map showing the occurrence of *Enchelycore anatina* in the Eastern Mediterranean coast of Turkey (■: new record locality; ▲: previous record localities).



**Figure 2.** Frontal view of the Eastern Mediterranean specimen of *Enchelycore anatina* (Lowe, 1839) [Photo: Necdet Uygur]

**Table 1.** Previous records of occurrence of *Enchelycore anatina* along the Mediterranean Sea between 1979-2013.

Location	Country	Record Date	Depth	Number of individuals	Sampling Method	References
off Tel Aviv jaffo	Israel	5 Nov. 1979	~ 50 m	1	Hook and line	Ben Tuvia & Golani 1984
Elafonissos Island (south-western Aegean Sea)	Greece	1987	-	5	Underwater observation	Golani et al. 2002
Sarigerme, Fethiye Bay	Turkey	1998	-	1	Underwater observation	Altan 1998
Antalya Bay	Turkey	2000	-	1	Underwater observation	Yokes et al. 2002
Datca Peninsula (southern Aegean Sea)	Turkey	2004	-	1	Underwater observation	Okuş et al. 2004
Tunel, Mersin coast	Turkey	2001	10 m	2	Underwater observation	Can & Bilecenoglu 2005
Tisan, Antalya coast		2002	~10 m	1		
Coast of Syria	Syria	2005	-	-	Long line	Saad 2005
Island of Bisevo, Vis, south Adriatic (Cape Gatula)	Croatia	13 Sep. 2007	12 m	1	Underwater observation	Lipej et al. 2012
Coast of Cyprus	Cyprus	July 2009	-	1	Underwater observation	Katsanevakis et al. 2009
Kolimbia Bay, Rhodes Island	Greece	13 April 2010	20-25 m	1	Gill net	Kalogirou 2010
Hertliyya north of Tel-Aviv)	Israel	5 May 2010	30 m	3	Underwater observation	Lipej et al. 2011
Northern Haifa Bay	Israel	17 Nov. 2010	8 m	1	Underwater observation	Lipej et al. 2011
Island of Susac (eastern middle Adriatic Sea)	Croatia	24 July 2010	17 m	1	Underwater observation	Lipej et al. 2011
South-eastern Apulian coast (south-eastern Italy)	Italy	4-30 Aug. 2011	~ 6 m	2	Underwater observation	Guidetti et al. 2012
Iskenderun Bay	Turkey	21 July 2011	12 m	1	Underwater observation	Present study

occipital region; tubular anterior nostril; posterior nostril round to oval opening in front of the eye; large mouth, arched jaw, with many conical and sharp fang-like teeth. Colour: dark brown body with numerous yellow blotches and dots arranged in longitudinal rows; light brown snout and cheeks with yellow dots. *E. anatina* distinguish features other species in the Mediterranean: *Gymnothorax unicolor* has no arched jaws and the body is uniformly colored; *Muraena helena* has no arched jaws, and both posterior and anterior nostrils have tubes.

*Enchelycore anatina* is a demersal inshore species lives rocky bottoms rich in crevices, generally occurs between the depth range of 3-60 m waters of the Atlantic and Mediterranean areas (Feitoza et al. 2003, Froese & Pauly 2013). It is mainly feeding on cephalopods; crustaceans and fish, eggs and larvae apparently pelagic. It is commonly reaching 50-100 cm, maximum 120 cm in total length (Böhlke 1981, Go-

lani 2002). According to Ben Rais Lasram & Mouillot (2009) and Lipej et al. (2011), the arrival of this species in various areas of the Mediterranean should be attributed to the Mediterranean Sea via the Gibraltar Strait. However, the role of the Strait of Gibraltar and its west-to-east current should not be underestimated. The recent discovery of Atlanto-boreal species in the Levantin basin may be related to a possible greater incoming flux of Atlantic current from west to east as a result of hydroclimatic modifications (Saad 1995). Golani et al. (2006) stated that the long pelagic larval stage might enable long-distance crossings, which could be a reason for the successful colonization in many areas.

So far *E. anatina* has not been reported from the eastern Mediterranean coast of Turkey (Iskenderun Bay). Previous records (location of capture, country, date, depth, sampling method and quantity of the specimens) from the other Mediterranean coasts are presented in Table 1. *E. anatina* is proba-

bly established on all around of Turkish Mediterranean water. The role of this newly established species within the coastal ecosystem, and its effect on other native fish species should also be investigated.

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