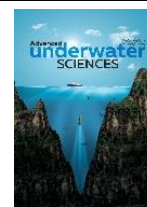




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## Rare occurrence of *Ariosoma balearicum* (Delaroche, 1809) from the Eastern Mediterranean

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### Keywords

Bandtooth conger,  
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Iskenderun Bay,  
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### ABSTRACT

The Bandtooth conger *Ariosoma balearicum* was recorded from the Iskenderun Bay. One specimen was caught by a trammel net at a depth of 32 m on 13 February 2018 in the Konacık/Arsuz coast, Turkey. Another specimen was photographed at a depth of 10 m during a SCUBA diving expedition in Keldag/Cevlik (Iskenderun Bay) on 20 June 2018. *A. balearicum* is extremely rare in the eastern part of the Mediterranean Sea. This paper reporting two specimens confirms the occurrence of the species in Iskenderun Bay (Southern Mediterranean coast of Turkey) in addition to the present report is the first observation for this location in the Mediterranean coast of Turkey.

## 1. INTRODUCTION

The family Congridae is represented in the Mediterranean Sea by four genera as *Arisoma*, *Conger*, *Gnathophis*, and *Rhynchoconger* (Golani et al., 2006). The genus *Arisoma* Swainson 1838 is represented a single species in the Mediterranean, namely Bandtooth conger *A. balearicum* (Delaroche, 1809). *A. balearicum* is also known as the Balearic conger, the Balearic conger, or the Conger eel (IUCN, 2022).

The bandtooth conger *A. balearicum* is found from the Northwest Atlantic, western Atlantic, and eastern Atlantic including the Mediterranean (Froese and Pauly, 2022). Although Varezic et al. (2013) first reported of leptocephali of *A. balearicum* in the Adriatic Sea. This species is more common in its southern part, it never occurs in the extreme northern part of the Adriatic coast (Froese & Pauly, 2022).

To date, the underwater observation record and caught specimen of *A. balearicum* has not been reported from the Eastern Mediterranean waters of Turkey. Although the occurrence of *A. balearicum* has been reported in checklist from Turkish marine waters in the Mediterranean Sea in previous years (Aksiray, 1987; Fricke et al., 2007). Previous studies have neither given any specific location nor any detailed information about the fish.

*A. balearicum* is extremely rare in the eastern part of the Mediterranean Sea. However, until now *A. balearicum* has not been reported with certainty from the Iskenderun Bay (Southern Mediterranean coast of Turkey). This report, hence, is very important information since it is the first confirmed occurrence of *A. balearicum* and with detailed information about its presence from Iskenderun Bay, Eastern Mediterranean Turkey.

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## 2. METHOD

The first specimen of *A. balaericum* was captured in Konacık (Arsuz) coast (Coordinate: 36°21'N, 35°48'E), Iskenderun Bay on 13 February 2018. This specimen was caught on rocky bottoms, partially covered with algae and seagrass, by a trammel net of 22 mm mesh size (Fig. 1). The second specimen of *A. balaericum* was photographed at a depth of 10 m during a SCUBA diving expedition in Keldag/Çevlik (Iskenderun Bay) on 20 June 2018 (Fig. 2).

Morphometric measurements of the specimen were made to the nearest 0.1 mm using a digital caliper and weighed to the nearest gram (g). All measurements, counts, morphological descriptions, and colors agree with the descriptions given by Bauchot (1987). The specimen is deposited in the Museum of the Faculty of Marine Sciences and Technology, Iskenderun Technical University with catalog number MSM-PIS/2018-5.



**Figure 1.** Dorsal view of *A. balaericum* from Konacık coast (Iskenderun Bay)



**Figure 2.** Underwater observation of *A. balaericum* in Çevlik, Iskenderun Bay (Photo: Necdet Uyğur)

## 3. RESULTS

The body is stout. The snout is round, projecting a little, its length almost equal to a large eye. The front nostril is tubular, forward-pointing near the tip of the snout. The rear nostril is a small oval hole in front of and a little below the middle of the eye. Dorsal fin begins over gill opening. Dorsal and anal fins are continuous with the tail fin. The tail fin is reduced and stiff. No scales on the body.

Head length (HL) 7.3% of total length (TL), body depth 5.0% of TL, Eye diameter 24.3% of HL, interorbital distance 30.1% of HL. The morphometric data of the specimen was given in Table 1.

Color (fresh): The body is brownish with the lower half of the flank with silvery to golden reflections. There is an orange crescent on top of the eye. The pectoral fin is red with margins of vertical fins black.

**Table 1.** Morphometric measurements of *Arisoma balaericum* from the Iskenderun Bay

Measurement	Value (mm)
Total length	114
Head length	8.33
Head/total length	13.63
Pre-orbital distance	2.54
Eye diameter	2.03
Max body depth	5.72
Body depth/total length	0.044
Depth at anal origin	5.14
Pre-dorsal distance	4.374
Pre-dorsal/total length	0.039
Pre-anal distance	17.21
Pre-anal/total length	0.132
Pectoral fin length	3.50
Weight	97.0

## 4. DISCUSSION

The bandtooth conger *A. balaericum* is found common on sandy bottoms on the continental shelf, usually in the sand between 1 m and 732 m (Smith, 1990), most frequently between 20-100 m and can reach up to 35 cm in TL (Sanches, 1991). This species is a nocturnal species that spends its days buried in sand in the Mediterranean. It feeds on invertebrates and small fishes (Bauchot & Saldanha, 1986; Golani et al., 2006).

Although Sanches (1991) claimed that the species is usually found at 10-200 m depths. The first specimen was caught at a depth of 32 m from Konacık (Arsuz) by a trammel net (mesh size 22 mm). The second specimen reported in this study was observed at 10 m depth in its natural habitat in Keldag (Çevlik) on sandy bottoms, during a SCUBA diving expedition (Fig. 2). This depths range is in accordance with the literature (Sanches, 1991).

In the present study, our measured specimen was 11.40 cm in TL and 97.0 g in TW. Although *A. balaericum* is commonly reported as 20-30 cm in total length. The present length record for this specimen was found smaller and lower than the previous record for Mediterranean samples report (Grassi, 1993; Morey et al., 2003). The historical captured record of the species in the Mediterranean Sea was documented in Table 2.

## 5. CONCLUSION

*A. balaericum* is non-commercial fish species that typically inhabit bottoms with burrowed sand and mud in coastal areas. *A. balaericum* is rare in the eastern part of the Mediterranean Sea. It is considered as "Least Concern" in the Global Red List Categories and Criteria, (Carpenter et al., 2015). However, this species is assessed as "Data Deficient" in Turkey (Fricke et al., 2007). Thus, we propose that further studies are needed in this region to monitor this species in the eastern Mediterranean, Turkey.

**Table 2.** Records of *A. balearicum* in the Mediterranean Sea in 1913-2018

Author (s)	Year (s)	Location	Depth	Sampling	Total Length(cm)
Grassi (1913)	1913	Mediterranean Sea, Italy	-	-	21.2
Morey et al. (2003)	April 2000- June 2001	Balearic Islands and Iberian Peninsula, Spain	8-35	Trammel net	16.7-28.4
This study	Feb. 2018	Arsuz coast, Iskenderun Bay, Turkey	32	Trammel net	11.4

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**Author contributions**

Deniz Ergüden (DE): Investigation, data analysis, writing, sample design and methodology. Servet Ahmet Dođdu (SAD): Data collection, data curation and editing. Necdet Uyğur (NE): Scuba diving expedition and underwater photo

**Conflicts of interest**

The authors declare that they have no conflict of interest.

**Statement of Research and Publication Ethics**

For this type of study formal consent is not required.

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