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FIRST RECORD OF ROCHE'S SNAKE BLENNY *OPHIDION ROCHEI*
MÜLLER, 1845 (OSTEICHTHYES: OPHIDIIFORMES)
IN THE NORTH-EASTERN MEDITERRANEAN

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ABSTRACT

A single specimen of Ophidion rochei Müller, 1845 was collected in November 2018 at a depth of 70 m in the northeastern Mediterranean, Turkey (Cevlik coast, Bay of Iskenderun). The total length of the captured O. rochei specimen was 21.6 cm, the body weight 23.5 g. O. rochei is endemic to the Mediterranean Sea, but this species is extremely rare in the eastern part of the Mediterranean. It has been classified as "data deficient (DD)" by the International Union for Conservation of Nature (IUCN). This ichthyological note is important as it represents the first record of this species in the northeastern Mediterranean waters of Turkey and fills a gap for Ophidion fishes in the Turkish marine fish checklist for the Mediterranean region.

Key words: Ophidiidae, first sighting, eastern Mediterranean, Iskenderun Bay, Turkey

PRIMA SEGNALEZIONE DEL GALLETTO PINNEGIALLE *OPHIDION ROCHEI* MÜLLER,
1845 (OSTEICHTHYES: OPHIDIIFORMES) NEL MEDITERRANEO NORD-ORIENTALE

SINTESI

Un singolo esemplare di Ophidion rochei Müller, 1845 è stato catturato a novembre 2018 a 70 m di profondità nel Mediterraneo nord-orientale, in Turchia (costa di Cevlik, baia di Iskenderun). La lunghezza totale dell'esemplare di O. rochei era di 21,6 cm, e il peso corporeo di 23,5 g. La specie è endemica nel Mediterraneo, ma è estremamente rara nella parte orientale del bacino in questione. È stata classificata come "data deficient (DD)" dall'Unione Internazionale per la Conservazione della Natura (IUCN). Questa nota ittologica è importante in quanto rappresenta il primo ritrovamento della specie nelle acque mediterranee nord-orientali della Turchia e colma una lacuna per le specie del genere Ophidion nella checklist dei pesci marini nella parte turca del Mediterraneo.

Parole chiave: Ophidiidae, primo avvistamento, Mediterraneo orientale, Baia di Iskenderun, Turchia

INTRODUCTION

The family Ophidiidae consists of 50 genera and 272 species distributed across the Atlantic, Indian and Pacific Oceans (Fricke *et al.*, 2023). In the Mediterranean Sea, four valid species belonging to three ophidiiform genera can be found (Abdul Malak, 2011; IUCN, 2023), all of which have a wide geographical range and also occur in the marine waters of Turkey. They are *Benthocometes robustus* (Goode & Bean, 1886), *Ophidion barbatum* Linnaeus, 1758, *Ophidion rochei* Müller, 1845, and *Parophidion vassali* (Risso, 1810) (Bilecenoglu *et al.*, 2014; IUCN, 2023).

In the Mediterranean, *O. rochei* was reported from the Adriatic waters in 2002 (Dulčić *et al.*, 2002). In 2013, two specimens were collected from the Lebanese coast (off Daoura) by Bariche & Fricke (2020), and recently, the species has also been recorded in Syrian waters by Othman *et al.* (2020).

To date, two snake blenny species of the genus *Ophidion* have been reported for marine demersal habitats of Turkey (Aksiray, 1987; Fricke *et al.*, 2007), namely the snake blenny *O. barbatum*, and the Roche's snake blenny *O. rochei* (Whitehead *et al.*, 1984–1986; Mater & Meriç, 1996). The Roche's snake blenny *O. rochei* has been recorded in the Aegean, Marmara, and Black Seas by Whitehead *et al.* (1984–1986).

Even so, *O. rochei* has not been included in the checklist of the marine fishes of Turkey from the Mediterranean marine waters (Bilecenoglu *et al.*, 2014). Moreover, neither a specific location nor any detailed information about this fish in Turkish marine waters has been provided (Bilecenoglu *et al.*, 2002; Bilecenoglu *et al.*, 2014).

This study is the first substantiated record of the Roche's snake blenny *O. rochei* from the eastern Mediterranean waters of Turkey, and the first sighting and confirmation of *O. rochei* in the Bay of Iskenderun, Turkey.



Fig 1: Map showing the capture point (•) of the *Ophidion rochei* Müller, 1845 in the northeastern Mediterranean.

Sl. 1: Zemljevid obravnavanega območja z označeno lokaliteto ulova (•) primerka *Ophidion rochei* Müller, 1845 v severovzhodnem Sredozemlju.



Fig. 2: The *Ophidion rochei* from the northeastern Mediterranean, Turkey.
Sl. 2: *Primerik vrste* *Ophidion rochei* iz severovzhodnega Sredozemskega morja, Turčija.

MATERIAL AND METHODS

One specimen of Roche's snake blenny *O. rochei* was recorded in a trawl survey on 12 December 2018, in the Bay of Iskenderun, Turkey, at a depth of 70 m (36°07' N, 35°85' E), (Figs. 1 and 2). The specimen was caught off Cevlik (Samandağ/Hatay), 4 km north-west of Samandağ, by a commercial trawl net with a 22 mm mesh size, over sandy and muddy bottoms.

The morphometric measurements of the specimen were taken to the nearest 0.1 mm using a caliper. Some morphometric characteristics are given as percentages of total length (TL%) and head length (HL%). All measurements, counts, morphological descriptions, and colors agree with the descriptions provided by Casadevall et al. (1996) and Nielsen et al. (1999). The Roche's snake blenny specimen is deposited in the Museum of the Faculty of Marine Sciences and Technology, Iskenderun Technical University, with the catalog number MSM-PIS/2018-6.

RESULTS AND DISCUSSION

The captured specimen of Roche's snake blenny *O. rochei* measured 21.6 cm in total length (TL) and weighed 20.3 g in total weight (Fig. 2). The body was long, eel-shaped, and lateralized. The head was naked and without scales, the mouth large, with the upper jaw longer than the lower. The dorsal and anal fins were elongated and fused with the caudal fin. Color: dorsal side brownish, ventral side whitish, with black margins on dorsal, anal, and caudal fins.

The morphometric characteristics of the *O. rochei* specimen are provided in Table 1 and compared to other specimens previously reported from the Sea of Azov (Diripasko et al., 2020) and Syrian waters (Othman et al., 2020).

The Roche's snake blenny, *O. rochei*, is a demersal species and occurs mostly on sandy substrates (Nielsen et al., 1999) at depths ranging from 10 to 150 m (Nielsen et al., 1999; IUCN, 2023). The species is found in the Mediterranean Sea (western and northern regions), the Marmara Sea (Whitehead et al., 1984–1986; Fischer et al., 1987), the Black Sea (Svetovidov, 1964), as well as the Sea of Azov (Diripasko et al., 2020), and the Kerch Strait (Shaganov, 2013) (Nielsen, 2016; Knudsen et al., 2015).

The Roche's snake blenny spawn is commonly found benthically in the continental shelf areas of tropical and temperate waters. The species reaches a maximum length of 29.3 cm in both males and females (Matallanas & Riba, 1980). *O. rochei* lays oval pelagic eggs that float in a gelatinous mass (Breder & Rosen, 1966). Casadevall et al. (1993) reported that individuals of *O. rochei* produce pelagic eggs between July and October. The number of eggs varies between 15 and 18 thousand. Juveniles are pelagic and feed on planktonic organisms.

The studied *O. rochei* individual was captured in the 70 m depth range, which is consistent with the literature (Froese & Pauly, 2023). Our specimen measured 21.6 cm in TL, which is more than the individual caught on the Syrian coast in 2019 (14.3 cm TL) reported by Othman et al. (2020), but still less than the longest recorded individual caught off the coast of Spain (29.3 cm TL), which was reported by Matallanas & Riba (1980), and less than the second longest specimen (27.7 cm TL), also from the Spanish coast, reported by Casadevall et al. (1996).

Ophidion species are active fish, but since they are not strong swimmers, they do not undertake long migrations and only travel from deep water to the shore seasonally for reproduction. *O. rochei* is a nocturnal carnivore that usually hides on the sandy bottom during

Tab. 1: Morphometric comparison of the *Ophidion rochei* specimens from the Sea of Azov and from the eastern Mediterranean Sea (percentages are provided in parentheses).**Tab. 1: Morfometrična primerjava primerkov vrste *Ophidion rochei* iz Azovskega morja in vzhodnega Sredozemskega morja (deleži so podani v oklepajih).**

Characters	Measurements (cm)		
	This study (n=1)	Diripasko <i>et al.</i> (2020) (n=1)	Othman <i>et al.</i> (2020) (n=1)
Total length	21.6	17.2	14.3
Maximum body depth	2.3 (10.6 %TL)	2.5 (14.7 %TL)	1.5 (10.5 %TL)
Head length	4.2 (19.4 %TL)	3.4 (20.0 %TL)	2.5 (17.5 %TL)
Snouth length	0.8 (19.0 %HL)	0.7 (21.2 %HL)	0.6 (24.0 %HL)
Eye length	0.9 (21.4 %HL)	-	0.6 (24.0 %HL)
Eye horizontal length	1.1 (26.2 %HL)	0.8 (23.8 %HL)	-
Interorbital width	1.0 (23.8 %HL)	0.5 (14.2 %HL)	-
Length of upper jaw	1.8 (42.8 %HL)	1.8 (54.4 %HL)	-
Length of lower jaw	1.6 (38.1 %HL)	1.6 (42.7 %HL)	-
Weight (g)	23.5	22.6	11.94

the day and is active at night (Jardas, 1996). Adult specimens feed mainly on decapods and small teleost fish. The single adult presented in this study was probably accidentally caught by the trawl net while moving from deep to shallow waters to feed.

Although *O. rochei* and *O. barbatum* are morphologically very close, they differ in the inclination of the head and the shape of the mouth (when closed, the upper and lower lip are perfectly aligned in *O. rochei*, while in *O. barbatum* the upper lip is protruding), in the beginning of the scales (at the edge of the operculum in *O. barbatum*, much further back in *O. rochei*), and in the number of gill rakers on the anterior first gill arch (3–4 in *O. rochei*, 5–6 in *O. barbatum*). In addition, in contrast to *O. barbatum*, *O. rochei* has no scales on the ventral part of the posterior two-thirds of the body, with the skin there completely bare.

The Roche's snake blenny is a non-commercial fish, not targeted by fisheries and only accidentally caught in nets as bycatch. Therefore, there are no conservation measures in place specific to this species.

Although endemic to the Mediterranean, *O. rochei* is extremely rare in the eastern part of the Mediterranean Basin. Its presence on the eastern Mediterranean coast of Turkey is probably due to

environmental changes and the related alterations in feeding and breeding patterns. *O. rochei* has been classified as a "Data Deficient (DD)" species in the global and Mediterranean assessments by the International Union for Conservation of Nature (IUCN) since 2008 (Kara, 2011; Knudsen *et al.*, 2015; IUCN, 2023). By providing new data on *Ophidion* species, this study represents an important contribution to the knowledge on the biodiversity of fish fauna.

CONCLUSIONS

This ichthyological note is very important as it represents the first substantiated record of *O. rochei* from the Mediterranean coasts of Turkey, specifically the northeastern coast. Until now, no specific location or detailed information was provided about this species in relation to the Mediterranean coast of Turkey. Therefore, this study fills the data gap for *O. rochei* in the Turkish marine fish checklist for the Mediterranean region.

ACKNOWLEDGMENTS

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PRVI ZAPIS O POJAVLJANJU HUJA VRSTE *OPHIDION ROCHEI* MÜLLER,
1845 (OSTEICHTHYES: OPHIDIIFORMES) V SEVEROVZHODNEM
SREDOZEMSKEM MORJU

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POVZETEK

Novembra 2018 so na globini 70 m v severovzhodnem Sredozemskem morju (obala Cevlik, zaliv Iskenderun, Turčija) ujeli primerek vrste *Ophidion rochei* Müller, 1845. Primerek je meril 21,6 cm telesne dolžine in tehtal 23,5 g. Vrsta *O. rochei* je endemična v Sredozemskem morju, v njegovem vzhodnem delu je zelo redka. V Mednarodni Zvezi za varstvo narave so jo označili s kategorijo "pomanjkljivi podatki" (data deficient, DD). Ta ihtiološka novica je pomembna, saj predstavlja prvi zapis o pojavljanju te vrste v severovzhodnih sredozemskih vodah Turčije in odpravlja vrzel v seznamu morskih rib Turčije v Sredozemskem morju.

Ključne besede: Ophidiidae, prvo opazovanje, vzhodno Sredozemsko morje, zaliv Iskenderun, Turčija

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