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RESEARCH ARTICLE

Occurrence of *Sudis hyalina* Rafinesque, 1810 (Paralepididae) in Büyükceceli Coast (Mersin Bay, Northeastern Mediterranean)

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ABSTRACT

In November 2018, an individual belonging to the *Sudis hyalina* was caught in a trawling operation in the Büyükceceli Coast (Mersin Bay, NE Mediterranean). Morphological and meristic measurements of the specimen were made and recorded with the catalogue number of MEUFC-18-11-102 in the Museum of the Systematic, Faculty of Fisheries, Mersin University.

Keywords:

Büyükceceli Coast

Sudis hyalina

NE Mediterranean Sea

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Introduction

Sudis hyalina belongs to the Paralepididae family of Aulopiformes. It is known that *S. hyalina*, a deep-sea fish, has a very wide distribution area between 200–2000 m depth in the mesopelagic and bathypelagic

zone (Post, 1990). However, the reproduction of this species usually occurs in tropical and warm shallow waters (Post, 1990). The maximum length of the species reported in the literature is 100 cm for adult individuals, while the total length of young individuals is generally 40 cm (Bauchot, 1987). Their fins do not contain spines.

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Total dorsal soft rays: 12-16, total anal soft rays: 21-24. Their body color is silvery pink. The lower jaw of *S. hyalina* is markedly curled up, and its teeth are large and the number is greater than the upper jaw. Gill rakes contain tooth-like structures (Whitehead et al., 1986). The structure of the mouth and teeth reflects the diet of the species. They are carnivore predators (Post, 1990).

The records of the species were done from Levantine Basin by Golani (1996), from Taşucu and Iskenderun Bay by Mater and Kaya (1987) and Kaya and Bilecenoğlu (2000), from the shores of Turkey by Bilecenoğlu et al. (2014), from Mersin Bay by Ergüden and Bayhan (2015), from Gökova Bay, Aegean Sea by Türker et al. (2016), from the Lebanese coast by Tortonese (1970) and from the Syrian coast by Ali et al. (2014) in the Eastern Mediterranean; from the middle and western Mediterranean Sea by Psomadakis et al. (2006), D’Onghia et al. (2011), and Mytilineou et al. (2013).

The aim of this study is to report the new locality record of *S. hyalina* from Büyükeceli coast (Mersin Bay) and to determine the current status of this species in the coast of Turkey.

Material and Methods

One individual of *S. hyalina* Rafinesque, 1810 was caught by a trawl operation at a depth of 365 m on 7 November 2018 in the Büyükeceli Coast (Mersin Bay) (coordinate: 36°05’45.5”N 33°23’20.0”E). This specimen was preserved in 4% formalin and was deposited in the Museum of the Systematic, Faculty of Fisheries, Mersin University, (catalogue number: MEUFC-18-11-102). Morphometric and meristic characters of this specimen are given in Table 1 and sampling point of the species in the Mediterranean Sea is presented in map (Figure 1). Photographs of caught specimen are shown in Figures 2.

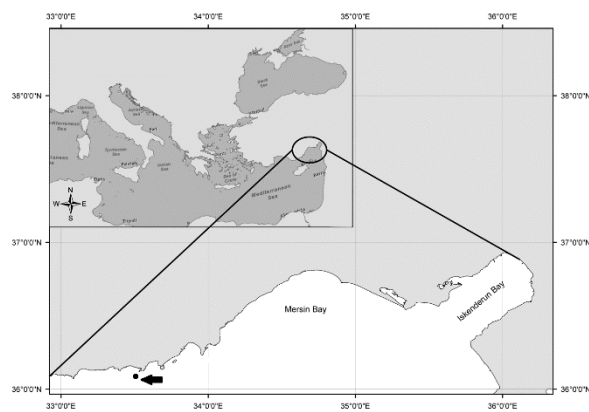


Figure 1. Map showing the capture site off Büyükeceli, Mersin Bay (NE Mediterranean Sea)

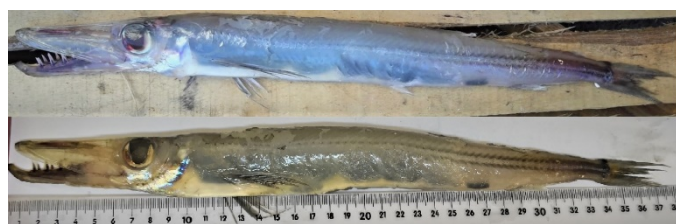


Figure 2. Photographs of *S. hyalina* caught from Büyükeceli Coast

Results

In this study, a young individual (total size of 38.1 cm) of *S. hyalina* was caught from the Büyükeceli coast in November 2018. Some morphometric and meristic measurements of this individual were made and presented in Table 1.

Table 1. Comparison of *S. hyalina* individuals in terms of morphometric and meristic measurements

Measurements (mm)	Present study (n=1)	Ali et al., 2014 (n=2)	
		1st Ind.	2nd Ind.
Morphometric Characters			
Total length	381	358	322
Fork length	344	346	296
Standard length	339	328	282
Head length	105	96	83
Interorbital space	11	11	9
Eye diameter	19	21	16
Preorbital length	69	-	-
Postorbital length	25	-	-
Snout length	46	34	27
Upper jaw length	62	58	52
Lower jaw length	69	64	56
Pectoral fin length	59	62	53
Pectoral fin base	13	12	11
Dorsal fin length	23	26	27
Dorsal fin base	25	23	24
Pelvic fin length	20	24	17
Pelvic fin base	6	4	5
Anal fin length	22	26	22
Anal fin base	43	42	38
Body height	36	36	31
Body depth	22	21	14
Pre-pectoral length	119	119	94
Pre-dorsal length	236	227	193
Pre-pelvic length	117	213	174
Pre-anal length	281	272	234
Pre-adipose fin	287	309	267
Caudal peduncle length	21	-	-
Caudal peduncle depth	12	-	-
Caudal peduncle height	41	-	-
Meristic Characters			
Dorsal fin soft rays	13	13	13
Pelvic fin soft rays	8	8	10
Anal fin soft rays	21	21	20
Pectoral fin soft rays	13	13	15
Caudal fin soft rays	20	16	18
Left and right upper jaw teeth	3+3	2+2	3+3
Left and right lower jaw teeth	8+12	6+8	7+5

Discussion

Morphometric and meristic measurements of the captured individual were compared with the measurements of two individuals of *S. hyalina* that were caught in the coast of Syria by Ali et al. (2014) (Table 1).

The measurements of two individuals caught in Syrian waters were found to be compatible with an individual caught from Mersin Bay. This may be because individuals in both studies had similar size. The

individuals in both studies were also young. The fact that the young individuals belonging to the species are rarely caught in coastal waters during fishing activities may indicate the existence of a population in the Mediterranean, but also the fact that mature individuals only come to the shallow waters for spawning. The reproduction of this species usually occurs in tropical and warm shallow waters (Post, 1990).

S. hyalina has been reported from all over the Mediterranean (Tortonese, 1970; Mater and Kaya, 1987; Golani, 1996; Kaya and Bilecenoğlu, 2000; Psomadakis et al., 2006; D'Onghia et al., 2011; Mytilineou et al., 2013; Ali et al., 2014; Bilecenoğlu et al., 2014; Ergüden and Bayhan, 2015). However, the number of individuals of the species reported in these records is limited. *S. hyalina* is a carnivore predator species and has been continually reported in the Mediterranean over the past 50 years; this may be indicating that the species is not under pressure of predator, fishing, or any other non-indigenous species, and maintains its presence in the Mediterranean. It was thought that the capture of a small number of individuals of *S. hyalina* may be due to the fact that it is a deep sea fish and the adults are present in the bathypelagic zone, except for spawning period.

Conclusion

According to the literature records, *S. hyalina* is a circumglobal species and has been recorded in the Mediterranean Sea for the last 50 years. Therefore, it can be said that the species is permanently found in the Mediterranean fish species list. The Mediterranean Sea is an ecosystem that dynamically changes species diversity due to the Lessepsian migration. Although the earlier records of the species have been reported, additional records are important biodiversity data in terms of the current status of the species in the region, the state of population formation, the examination of the relations between species.

Conflict of Interest

The authors declare that there is no conflict of interest.

Acknowledgements

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