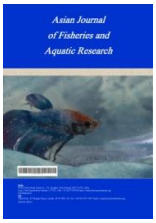

Asian Journal of Fisheries and Aquatic Research

11(5): 17-20, 2021; Article no.AJFAR.64016
ISSN: 2582-3760

First Record of *Pseudotolithus senegallus* (Cuvier, 1830) in the Mediterranean Sea

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Author's contributions

The sole author designed, analysed, interpreted and prepared the manuscript.

Article Information

DOI: 10.9734/AJFAR/2021/v11i530215
Editor(s):
(1) Dr. Luis Enrique Ibarra Morales, State University of Sonora, Mexico.
(2) Dr. Matheus Ramalho de Lima, Federal University of South of Bahia, Brazil.
Reviewers:
(1) YanYan Wu, South China Sea Fisheries Research Institute, China.
(2) Diego Junqueira Stevanato, Federal University of Parana, Brazil.
Complete Peer review History: http://www.sdiarticle4.com/review-history/64016

Short Research Article

Received 02 January 2021
Accepted 04 March 2021
Published 16 March 2021

ABSTRACT

This article firstly records *Pseudotolithus senegallus* (Cuvier, 1830) species in the Mediterranean Sea. juvenile specimen of *Pseudotolithus senegallus* (Cuvier, 1830) with total length 15.5 cm and total weight 37 g, was obtained by experimental bottom trawling using commercial bottom trawler (stretched mesh size: 15 mm; duration time: four hours; location: east of Suez Canal main stream in the Mediterranean, off Port Said). Opercle lining jet black, showing through a dark blotch externally. Axils of pectoral-fin base dark, distal portion of caudal fin darkish whereas anal and pelvic fins are yellowish. Gas bladder with a pair of arborescent appendages, dividing into short anterior branches and a dozen or so long tubular posterior appendages along sides of bladder beyond its tip. I suggest the method of introduction to the Mediterranean waters is ballast water of ships as it is recorded only from Mauritania to Angola on the western coast of Africa.

Keywords: Pseudotolithus senegallus; gas bladder; ballast water; east Atlantic; Suez Canal.

1. INTRODUCTION

The biodiversity of the East Mediterranean has been considerably altered since the opening of the Suez Canal in 1869. In the Mediterranean, salinity exhibits an eastward increase, from approximately 37.5% in the west to 39.5% in the east [1]. The opening of the Suez Canal, however, combined with climate change induced a temperature rise in the Mediterranean Sea that

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could be as high as approximately 1°C/decade [2]. The marine ichthyofauna of the Mediterranean comprises >700 species [3]. From the Egyptian marine waters (956 fish species), 263 species are present only in the Mediterranean coast [4]. Family Sciaenidae comprises 67 genera and 286 species [5]. *Pseudotolithus senegallus* is characterized by disappearance of upper pores on tip of snout and the gas bladder with a pair of anterior appendages, each divided into numerous long and thin tubular branches running along the bladder [6]. The main known pathway / vector of species introduction into the Mediterranean Sea are the Suez Canal followed by shipping (ballast water and sediments, anchoring, fouling and aquaculture [7] and [8].

1.1 Description of Species

One juvenile specimen of *Pseudotolithus senegallus* (Cuvier, 1830) Fig. 1. with total length 15.5 cm and total weight 37 g, was obtained by experimental bottom trawling using commercial bottom trawler (stretched mesh size: 15 mm; duration time: four hours; location: east of Suez Canal main stream in the Mediterranean, off Port Said – Fig. 2. This operation was processed by the author at a depth of 25 m on 10/8/2017 (31.29916°N, 32.37262°E). The specimen was examined and identified according to [6] who recorded this species in the eastern central Atlantic. The specimen was preserved in 5% formalin and deposited in the Fishery Biology Lab. Morphometric and meristic characters Table 1 twenty- six Morphometric characters and five meristic counts were measured and compared, and found most of them are in agreement with the values given by [6] and those in FishBase [3].

1.2 Description of *Pseudotolithus senegallus*

A juvenile specimen was caught as the length ranges between 20 and 230 cm large. Elongate and moderately compressed fish. Eye moderately large 4.1 to 6.1 times in head length. Mouth large, oblique, lower jaw slightly projecting; maxilla reaching beyond eye. Operculum margin with three stronger spines at the edge. Caudal fin S-shaped. Scales ctenoid except on top of head and suborbital region. First dorsal spine is short followed by 9 spines. Colour: silvery grey to yellowish, back with distinct dark oblique wavy lines along scale rows, extending to head and becoming horizontal posteriorly. Opercle lining jet black, showing through a dark blotch externally. Axils of pectoral-fin base dark, distal portion of caudal fin darkish whereas anal and pelvic fins are yellowish. Gas bladder with a pair of arborescent appendages, dividing into short anterior branches and a dozen or so long tubular posterior appendages along sides of bladder beyond its tip.

I suggest the method of introduction to the Mediterranean waters is ballast water of ships as it is recorded only from Mauritania to Angola on the western coast of Africa.

Fig. 1. *Pseudotolithus senegallus* caught from Suez Canal outlet, (Photo: Akel)

Fig. 2. A map showing the fishing location at port said (Suez Canal outlet)

Table 1. Morphometric and meristic characters of *Pseudotolithus senegallus* obtained from Suez Canal outlet, on 10/8/2017. (TL: Total length, HL: Head length)

Morphometric and meristic characters	Present study, Egypt, Port Said 2017	Fish base
Morphometric characters		
Wet weight (g)	37 g	
Total length (cm)	15.5 cm	552 pixels
Standard length (in T.L.)	82.3%	82.6%
Pre 1 st dorsal fin length (in T.L.)	30.40%	25.2%
Post 1 st dorsal fin length(in T.L.)	46.20%	
1 st dorsal fin length(in T.L.)	15.90%	
Pre 2 nd dorsal fin length(in T.L.)	46.20%	
Post 2 nd dorsal fin length(in T.L.)	75.20%	
2 nd dorsal fin length(in T.L.)	29.00%	
Pre pectoral length(in T.L.)	22.8%	22.6%
Pectoral length(in T.L.)	8.30%	
Pre ventral fin length (in T.L.)	24.80%	24.3%
Ventral fin length (in T.L.)	12.40%	
Pre anal fin length (in T.L.)	55.9%	58.9%
Post anal fin length (in T.L.)	62.10%	
Anal fin length (in T.L.)	7.3%	
Body depth (in T.L.)	23.50%	23%
Body width (in T.L.)	8.9%	
Caudal peduncle length (in T.L.)	8.10%	
Caudal peduncle depth (in T.L.)	6.2%	
Head length (in T.L.)	23.50%	21.6%
Pre Orbital length (in H.L.)	20 .4%	20.2%
Post Orbital length (in H.L.)	58.3%	
Eye diameter (in H.L.)	20.60%	20.2%
Inter Orbital length (in H.L.)	20.8 0%	
Upper Jaw length (in H.L.)	32.40%	
Lower Jaw length (in H.L.)	26.5%	
Meristic counts		
1 st dorsal fin spines	X	X
2 nd dorsal fin spine and rays	I + 27	I+ (25-27)
Pectoral fin rays	8	-
Ventral fin spine and rays	I + 5	I +5
Anal fin spines and rays	II +7	II +7

2. CONCLUSION

Waiting for the species to establish a larger population, which may take years. This may result in a less accurate estimation of the early stages of introduction and the dynamics of settlements in the area. This specimen is the first recorded case for this species in the Mediterranean Sea.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sdiarticle4.com/review-history/64016