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New record of the bigeye thresher shark, *Alopias superciliosus* Lowe, 1841 (Family: Alopiidae) from the eastern Mediterranean Sea, Egypt

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Abstract

This work has presented the first record of a visitor shark species *Alopias superciliosus* (Lowe, 1841) bigeye thresher in the Egyptian coast of Mediterranean Sea. This species was captured by pelagic longline in a single specimen that transferred into the lab for photograph, measurements and identification purposes. The present result has introduced new comer to shark list in Egypt, particularly in Mediterranean coast and it is the first time to be recorded here encouraging the monitoring of biodiversity and migratory species.

Keywords: Mediterranean Sea, Egypt, Sharks, *Alopias superciliosus*, new record

1. Introduction

Elasmobranchs in Egypt did not receive enough attention for studies especially, in Mediterranean coast. Corals and tourism activity in Red Sea encouraged many responsables to identify shark species. These activities are not found in the Egyptian coast of Mediterranean Sea, while its fishing operation is still continuous, in spite of its fishing is prohibited. Hence, the catch of elasmobranchs was recorded every year by the general authority for fish resources development (GAFRD) in Mediterranean cost, it has been reduced from 3450 Tonnes during 2006 to 1141 Tonnes during 2015 ^[1] with no reference to sharks or other elasmobranchs and the identification to the lowest species taxa. However few authors have studied sharks and other elasmobranchs ^[2, 3]. Since, the exploration of deep Sea Water in Egypt, a lot of sharks and other elasmobranchs have been recorded for first time increasing the knowledge about such species in Egypt ^[4, 5]. So, the intensive discovery of elasmobranchs particularly sharks are needed not only from deeper water but also from other water layers as surface and water column. The Mediterranean Sea has received a lot of species that migrated from Atlantic Ocean and Red Sea since the opening of Suez Canal ^[6], and the sharks may be included in migratory species in the Egyptian water of Mediterranean Sea. So, recording of shark species is important item for biodiversity and conservation. The present work introduces new comer thresher shark, *Alopias superciliosus* as a first recorded species in the Egyptian coast, Mediterranean Sea to increase the number of sharks list and their knowledge.

2. Methodology

A single specimen of the bigeye thresher shark, *A. superciliosus* Lowe, 1841 was caught in June 2015 by pelagic longline from the Egyptian water, Mediterranean Sea in front of Sedi-Abderahman (Fig. 1). A dead specimen was purchased from the fishermen in the Alexandria landing site transferred into the lab for photographing, measurements and identification purposes. The measurements (Total length, Length of tail (upper lobe), standard length, Pre dorsal length, Post first dorsal length, Pre Pectoral length, Length of pectoral fin, Pre pelvic length, Pre anal length, Pre Orbit, Eye width, Pre Mouth, Inner orbit) were taken, then the description and identification were applied according to the keys cited in ^[7, 8, 9, 10, 11].

3. Results and Discussion

The present species *A. superciliosus* bigeye thresher shark belongs to order: Lamniformes, family: Alopiidae and genus: *Alopias*; its body has long snout with deep horizontal groove on each side of nape; eyes are large reaching the dorsal surface of head.

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The end of the dorsal fin is slightly opposite to the start of pelvic fins; long pectoral fin; the upper lobe of the caudal fin is very long and slightly equal to the body rest, while the lower lobe is short. Color: is dark grey, belly is slightly whitish to grey, posterior edges of pectoral and pelvic fins are dusky (Fig. 2), the specimen measurements are shown in table (1). The present shark is a pelagic subtropical species with circumglobal in tropical and temperate Seas [8, 12, 13, 14]. It is a large, active, strong-swimming sharks ranging in habitat from coastal to epipelagic and deep-water epibenthic and distributed worldwide [13]. It has been occurred in southwest coast of India [15], then it was observed for first time in southeast coast of India [10]. Nakano *et al.* [16] reported it as a deep-water species, found in both coastal waters and the high seas, from the surface to near the bottom at depths greater than 500m in eastern Pacific Ocean. In Mediterranean Sea, many records were reported (From Italian waters many times) [17], from Sicilian channel [18] and off Pescara, Italy [19]; from Toulon water [20]; from Catalan littoral [21]; from Adriatic Sea [22], it is extended to eastern Mediterranean where it has been recorded recently in different localities like Gokova Bay, Aegean Sea, Turkey [9] who stated that the specimen of bigeye thresher shark has been captured only a few hundred meters off the shoreline and at a depth of about 12m. Amorim *et al.* [23] reported the same shark off Israel in the Levantine basin, southern Greece, and off southern Crete in and the Aegean Sea off Turkey again. However, its records were represented in rare or scarce population [23, 24]. It has been recorded again from Adriatic Sea [11]. The only species of the genus *Alopias* known to be native in the area up till now was the common thresher shark, *A. vulpinus* (Bonnaterre 1788) [25]. Although, Egypt is located on the eastern part of Mediterranean Sea, until now the present species has not been recorded, this may due to its occasionally appearance like migration behavior in accordance with Compagno [8] and Serena [24]. So, the observation of such shark species in the Egyptian coast of Mediterranean Sea is considered as first/new record. According to De Maddalena & Baensch [26] and Serena [24], there are two species *A. superciliosus* and *A. vulpinus* (Bonnaterre 1788), have been recorded in the Mediterranean and adjacent waters. So, the present species was identified correctly to be determined well and which species is. It was in agreement with those described in [10, 11, 13, 14, 15, 27]. In fact, there are no enough studies about elasmobranchs in Egypt particularly, Mediterranean coast, however few studies have been checked to confirm its presence/absence in the Egyptian Mediterranean waters [2, 3, 4, 5, 28, 29]. These literatures indicated that the present species was never recorded from the Egyptian coast of Mediterranean Sea and this is the first report about its occurrence for first time. This result is new addition to shark list in Egypt even this species is considered migratory/visitor encouraging the more exploring of the elasmobranchs and detailed studies. In conclusion, the present result has introduced new comer to shark list in Egypt, particularly in Mediterranean coast and it is the first time to be recorded here encouraging more the monitoring of biodiversity and migratory species.

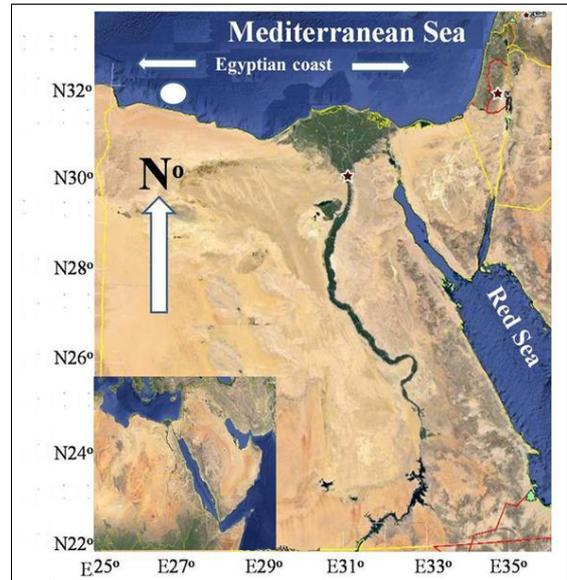


Fig 1: Map shows the collection site of *A. superciliosus* Egyptian coast, Mediterranean Sea.



Fig 2: Photo of *A. superciliosus* captured from Egyptian coast, Mediterranean Sea.

Table 1: Morphometric characteristics of *Alopias superciliosus* captured from Egyptian coast, Mediterranean Sea.

Morphometric Characters	Measurement (cm)
Total length	180
Length of tail (upper lobe)	84
Standard length	96
Pre dorsal length	57
Post first dorsal length	67
Pre Pectoral length	29
Length of pectoral fin	35
Pre pelvic length	70
Pre anal length	89
Pre Orbit	9
Eye width	(4+5)/2
Pre Mouth	10
Inner orbit	7
No. gills	5

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