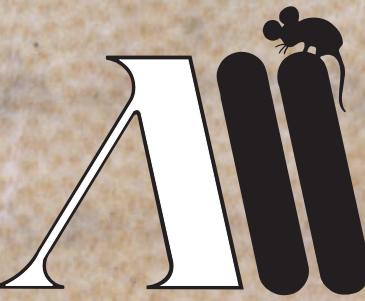


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A NEW RECORD FOR THE SHARK FAUNA OF THE MEDITERRANEAN SEA: WHALE SHARK, *RHINCODON TYPUS* (ORECTOLOBIFORMES: RHINCODONTIDAE)

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ABSTRACT

On October 18, 2021, a whale shark Rhincodon typus Smith, 1828 was sighted off the coast of Samandağ (Hatay city, Turkey, NE Mediterranean Sea), by a commercial long-liner. With the addition of R. typus, the total number of Mediterranean shark species recorded to date has increased to 51. The changing conditions of the Mediterranean will show whether this shark will become a resident or transient species in the region.

Key words: shark, biodiversity, planktivorous, filter feeding

NUOVA SEGNALAZIONE PER LA FAUNA DI SQUALI DEL MEDITERRANEO: SQUALO BALENA, *RHINCODON TYPUS* (ORECTOLOBIFORMES: RHINCODONTIDAE)

SINTESI

Il 18 ottobre 2021, uno squalo balena Rhincodon typus Smith, 1828 è stato avvistato al largo della costa di Samandağ (città di Hatay, Turchia, Mediterraneo nord-orientale), da un peschereccio commerciale. Con l'aggiunta di R. typus, il numero totale di specie di squali del Mediterraneo registrate fino ad oggi è salito a 51. Il cambiamento delle condizioni del Mediterraneo mostrerà se questo squalo diventerà una specie residente o transitoria nella regione.

Parole chiave: squalo, biodiversità, planctivoro, filtratore

INTRODUCTION

With the opening of the Suez Channel in 1869, the phenomenon termed “Lessepsian migration” brought about considerable changes in fish communities occurring in the eastern Mediterranean Sea (Arndt *et al.*, 2018). The tropicalization of Mediterranean waters is accelerating the establishment of tropical species, such as the whale shark *Rhincodon typus* Smith, 1828, in the Mediterranean Sea (Moschella, 2008; Turan *et al.* 2016).

The whale shark *Rhincodon typus* Smith, 1828 is the largest fish occurring in the tropical and warm temperate oceans of the world (Bonfil & Abdallah, 2004). According to Bonfil and Abdallah (2004), *R. typus* is a filter feeding shark, occurring singly or in schools, both in coastal and oceanic waters.

In the most recent checklist of elasmobranchs occurring in the Mediterranean Sea, Serena *et al.* (2020) did not mention the presence of *R. typus* in the region. In the present article, the authors report the first recording of whale shark in the Mediterranean Sea.

MATERIAL AND METHODS

On October 18, 2021, a whale shark *Rhincodon typus* Smith, 1828 (Fig. 1) was sighted off the coast of Samandağ, Hatay, Turkey, NE Mediterranean Sea (35.986045, 35.951286) (Fig. 2) by Mr. Erman Sertel, a commercial long-liner. Mr. Sertel recorded a short video footage (20 seconds) of the sighted individual and emailed the video to the first and the fourth authors in order to verify the identification of the species. Compagno (2001) was followed for taxonomic nomenclature and species identification. The recorded video is preserved in the personal archives of the first and the fourth authors, and available for inspection on request.

RESULTS AND DISCUSSION

The shark seen in the video footage and in Figure 2 has enabled us to examine the following characteristics from the dorsal perspective: head very broad and greatly flattened. Snout truncated. Gill slits very large, fifth gill slit well-separated from fourth and not overlapping. Body moderately



Fig. 1: Sighted whale shark *Rhincodon typus* Smith, 1828 off the coast of Samandağ (NE Mediterranean Sea, Turkey). Image captured from the video footage recorded by Mr. Erman Sertel.

Sl. 1: Opažen primerek morskega psa kitovca *Rhincodon typus* Smith, 1828 ob obali Samandağ (SV Sredozemsko morje, Turčija). Posnetek izvira iz videozapisa, ki ga je posnel Erman Sertel.

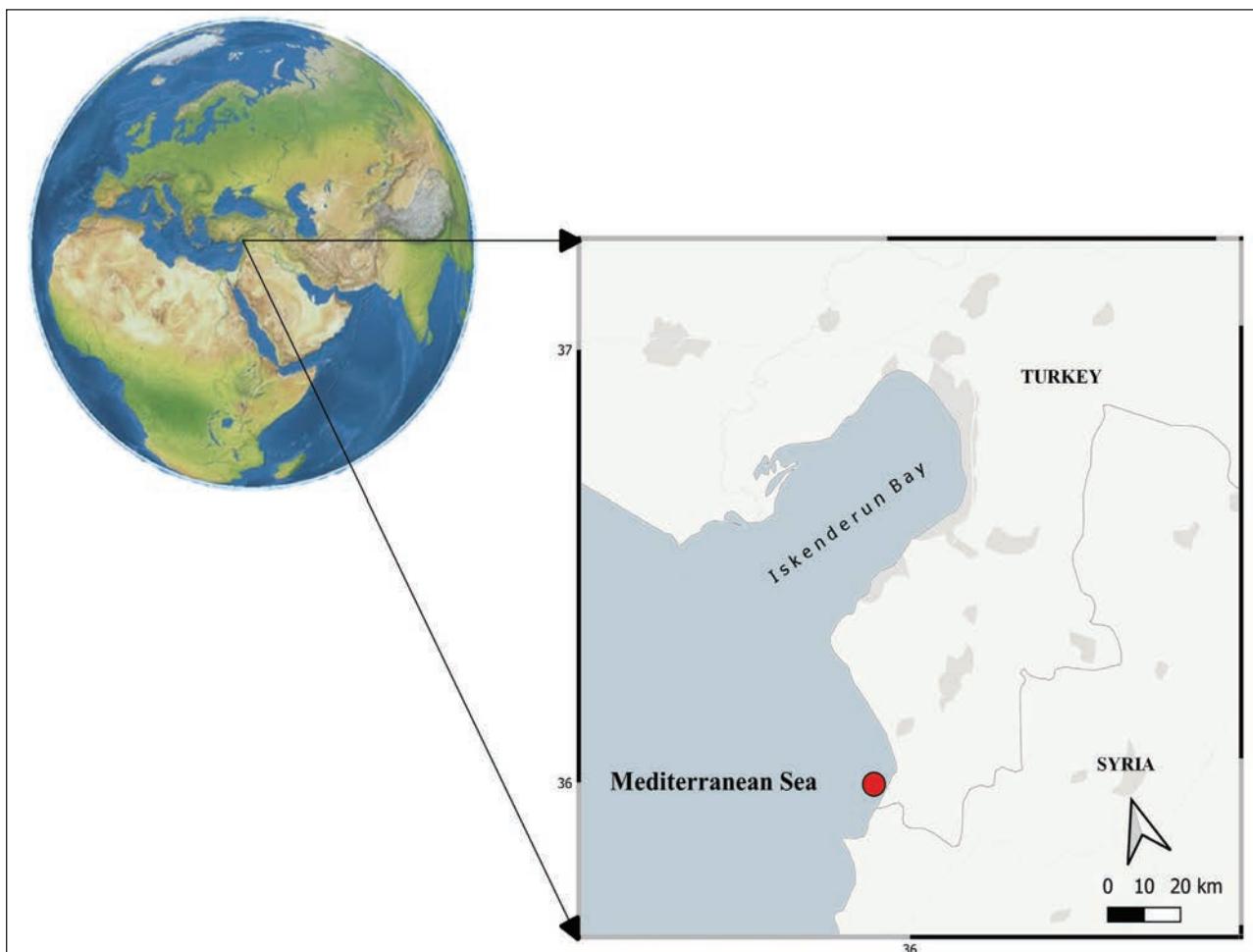


Fig. 2: The location (red circle) of the present sighting of the whale shark *Rhincodon typus* Smith, 1828 off the coast of Samandağ (NE Mediterranean Sea, Turkey).

Sl. 2: Lokacija (rdeči krogec), na kateri je bil opazovan primerek morskega psa kitovca *Rhincodon typus* Smith, 1828 ob obali Samandağ (SV Sredozemsko morje, Turčija).

depressed. Precaudal tail shorter than body. Caudal peduncle with strong lateral keels. Pectoral fins very large, relatively narrow and falcate. First dorsal fin much larger than the second. First dorsal fin origin well behind pectoral fin free rear tips. The individual exhibited the unique color pattern of *R. typus*, consisting of small to large white or yellowish spots and vertical and horizontal stripes in the form of a checkerboard on a dark background. The examined characteristics were coincident with those described by Compagno (2001); therefore, we identified the sighted shark as *Rhincodon typus* Smith, 1828.

Neither the fisherman nor the authors had a chance to measure the size of the live shark; however, based on a comparison with the fishing boat, the size of the shark was estimated by the fisherman to be roughly 300 cm.

A first mention of the possible presence of *Rhincodon typus* in the Mediterranean Sea was included in De Maddalena and Baensch (2005), who wrote: "There are unconfirmed reports of the whale shark (*Rhincodon typus*)," but the authors concluded there was no confirming evidence. And since the occurrence of *R. typus* is not mentioned in the recent checklists of marine fishes or sharks occurring in the Levantine region (Bariche, 2012; Turan et al., 2018; Giovos et al., 2021) or in the wider Mediterranean Sea (Serena et al., 2020), the sighted individual is considered as the first record of whale shark in the Mediterranean Sea.

For the moment, the authors do not attempt to speculate on the possible reasons causing the migration of the whale shark into the Mediterranean Sea; still, every arrival of a new shark species brings new opportunities of research and new

responsibilities in terms of conservation. However, judging from its occurrence in the neighboring Red Sea waters (Bonfil & Abdallah, 2004), the present individual had apparently migrated into the eastern Levant waters through the Suez Channel. According to Pierce and Norman (2016), the whale shark is an endangered species, globally threatened by fisheries and vessel strikes. With the addition of *R. typus*, the total number of Mediterranean sharks, which was reported as 50 by De Maddalena *et al.* (2015),

has increased to 51. However, the changing conditions of the Mediterranean due to climate change will show whether this shark will become a resident or transient species in the region.

ACKNOWLEDGMENTS

The Authors thank Mr. Erman Sertel, a commercial long-liner, for generously sharing the video footage of the sighted whale shark.

NOVA VRSTA V FAVNI MORSKIH PSOV SREDOZEMSKEGA MORJA: MORSKI PES
KITOVEC, *RHINCODON TYPUS* (ORECTOLOBIFORMES: RHINCODONTIDAE)

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POVZETEK

Osemnajstega oktobra 2021 so s komercialnega ribiškega plovila opazovali primerek morskega psa kitovca *Rhincodon typus* Smith, 1828 blizu obale Samandağ (Hatay, Turčija, SV Sredozemsko morje). Ob upoštevanju vrste R. typus, se je število vseh vrst morskih psov v Sredozemskem morju povečalo na 51. Spreminjajoče se razmere v Sredozemskem morju bodo pokazale ali bo ta vrsta morskih psov postala ustaljena vrsta ali pa gre le za prehodno vrsto v bazenu.

Ključne vrste: morski psi, biodiverziteta, planktivori, prehranjevanje s filtriranjem

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