

# Unusual Records of Sailfish in the Eastern Mediterranean Sea: Evidence from Lebanese Waters

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## Short Communication

Sailfish are a type of billfish, belonging to the genus *Istiophorus* Lacepède, 1801 with only two extant species [1] The Atlantic sailfish *Istiophorus albicans* (Latreille, 1804), which is common in the Atlantic Ocean, Caribbean Sea, and Gulf of Mexico, and the Indo-Pacific sailfish *Istiophorus platypterus* (Shaw, 1792), native to the Indian and Pacific Oceans [2]. Historically, the only billfish species known to inhabit the Mediterranean Sea, including Lebanese waters [3], is *Tetrapturus belone* Rafinesque, 1810, commonly referred to as the Mediterranean spearfish [2,4,5]. However notable catches such as the Black marlin *Istiompax indica* (Cuvier, 1832) have also been reported in the eastern Mediterranean, from the Lebanese waters [6]. In this context, this note aims to report an unusual record of sailfish in the eastern Mediterranean Sea from Lebanese waters.

Two specimens of sailfish, one adult and one juvenile, were caught from the northern Lebanese waters. The adult specimen was caught by the fisherman (©Abdallah Hlayhel) on the 5th of August 2024 during a journey fishing trip to investigate the trapnet (i.e., trapnet fishing involves setting up a net structure that guides fish into a confined area from which they cannot escape, often used in shallow waters) in the waters of Qalamoun, north of Lebanon (34°22'58"N; 35°45'51"E). The specimen was suddenly observed, then evaded the installed trapnet, and was subsequently captured by spearfishing at a depth of 4 meters. It was then offered for sale in the fish market of Mina city, north Lebanon. After a couple of days, and on the 7th of August 2024, a juvenile specimen of sailfish was accidentally caught by the fisherman (©Tony AlDayaa) during a night fishing trip using the sabiki fishing lure (i.e., the sabiki lure is a rig with multiple small hooks, often adorned with attractors like beads and feathers, which are jigged in the water to simulate small prey and attract fish) at a depth of 2 meters in the waters of Enfeh, north Lebanon (34°22'10"N; 35°43'48"E). Due to its small size, the captured juvenile sailfish was released by the fisherman. Subsequently, the two fishermen were contacted by one of us (SF) to obtain more information. Accordingly, the fishermen shared all the necessary information, photos, and videos for the confirmation and identification of the species. For future genetic and molecular analysis, a small sample of the adult sailfish was collected and preserved in Palm Island Nature Reserve under the code PINR02. Based on [2], and [5], the two captured specimen were morphologically described. The captured sailfish specimens in the Lebanese waters were distinguished by their high, blue-black, sail-like dorsal fin covered with black spots (Figure 1). The dark blue coloration along the upper half of the body, which fades to a brownish-blue hue on the sides and transitions to a silver-white color on the belly (Figure 1). The specimens were also characterized by their elongated upper jaw, resembling a spear (Figure 1). The captured adult sailfish measured 190 cm in length and weighed 22 kg.

From a morphological point of view, *Istiophorus albicans* and *Istiophorus platypterus* are often difficult to differentiate due to their

similar appearance. Recent genetic research has suggested that they may indeed be the same species [7], although some debate persists (Aguilar.pers.comm.). It is well recognized that sailfish species feeds on a wide variety of prey (e.g., zooplankton, large bony fishes, crustaceans and squids) throughout their lifetimes. In addition, they work together, using their dorsal fins to create a barrier around their prey, in order to feed on smaller schooling fish, such as sardines and anchovies. Although their meat is tough and not widely consumed, giving them little economic value to commercial fisheries. However, they are considered popular targets in sport fishing [2,5]. This combination of unique feeding strategies and their popularity in sport fishing highlights the ecological significance and enduring appeal of sailfish, despite their limited commercial value. However, the introduction of sailfish into new areas, such as the Mediterranean Sea, could alter local ecosystems, potentially impacting prey populations and the balance of marine food webs.



**Figure 1:** Sailfish species captured in the Lebanese waters. **A.B.C.D.** the adult sailfish captured in Qalamoun waters, north Lebanon © Abdallah Hlayhel. **E.** The juvenile sailfish captured in Enfeh waters, north Lebanon © Tony AlDayaa.

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Recent records reveal a consistent increase in marine species within Lebanese waters, with the majority of these new records likely originating from the Indo-Pacific region via the Suez Canal [3,8]. The Lebanese coast, approximately 400 km from the Suez Canal recognized as the primary introduction pathway renders this region particularly vulnerable to such species introductions. Considering the geographical distribution and proximity to the Suez Canal, the recent capture of two sailfish specimens in Lebanese waters suggests they could be Indo-Pacific sailfish (*Istiophorus platypterus*) that have entered the Mediterranean Sea through this route. Nevertheless, conclusive species identification necessitates further genetic and molecular analyses. Irrespective of the species, continuous monitoring remains essential to assess the impact and status of these new records in the Mediterranean Sea, particularly given Lebanon's proximity to this key introduction route.

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