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CONFIRMED OCCURRENCE OF THE MEDITERRANEAN SPEARFISH
TETRAPTURUS BELONE (OSTEICHTHYES: ISTIOPHORIDAE)
FROM THE ALGERIAN COAST (SOUTHWESTERN MEDITERRANEAN SEA)

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ABSTRACT

*The paper reports on the capture of two specimens of the Mediterranean spearfish *Tetrapturus belone* Rafinesque, 1810. Each specimen measured about 1110 mm in total length and weighed 20 kg. They were captured off Annaba, on the eastern Algerian coast. The specimens were described in detail and constitute the first well-documented *T. belone* in this area, confirming the presence of the species and supporting its inclusion in the local ichthyofauna.*

Key words: *Tetrapturus belone*, records, Algerian coast, description, local status

PRESENZA CONFERMATA DELL'AGUGLIA IMPERIALE *TETRAPTURUS BELONE*
(OSTEICHTHYES: ISTIOPHORIDAE) LUNGO LA COSTA ALGERINA
(MEDITERRANEO SUD-OCCIDENTALE)

SINTESI

*L'articolo riporta la cattura di due esemplari dell'aguglia imperiale *Tetrapturus belone* Rafinesque, 1810. Ciascun esemplare misurava circa 1110 mm di lunghezza totale e pesava 20 kg. Sono stati catturati al largo di Annaba, lungo la costa orientale dell'Algeria. Gli esemplari sono stati descritti in dettaglio e costituiscono i primi esemplari ben documentati di *T. belone* provenienti da questa zona, confermando la presenza della specie e sostenendone l'inclusione nell'ittiofauna locale.*

Parole chiave: *Tetrapturus belone*, segnalazioni, costa algerina, descrizione, stato locale

INTRODUCTION

The Mediterranean spearfish *Tetrapturus belone* Rafinesque, 1810, is, as its name suggests, a species endemic to the Mediterranean Sea, where it occurs in relatively high abundance, particularly in the central basin (Nakamura, 1986; Quignard & Tomasini, 2000). *T. belone* is commonly caught in Italian waters (Tinti *et al.*, 2019; Di Natale, 2020) but is considered a rare species in the Adriatic Sea (Dulčić & Soldo, 2004). To the east, the species is reported from parts of the north-eastern Aegean Sea (Akyol, 2020) and throughout Turkish marine waters but remains unrecorded in the Black Sea (Bilecenoğlu *et al.*, 2014). While the distribution range of *T. belone* seems to have expanded to include the Levant Basin—with the species documented in Israel (Golani, 2005), Lebanon (Bariche & Fricke, 2020), and Syria (Saad *et al.*, 2023)—this may either be attributable to the warming of Mediterranean waters (Francour *et al.*, 1994) or, possibly, to previous regional underreporting.

In the central Mediterranean Sea, historical records of *T. belone* are sporadic. A mounted skeleton of an individual collected in the Strait of Messina by Gabriel Bibron around year 1824, which is deposited in the National Museum of Natural History of Paris, constitutes the only representative specimen of the species in the ichthyological collection of that museum (Chagnoux, 2025). While Tortonese (1975) documented captures of large individuals in the Straits of Messina and Malara *et al.* (2020) reported a predation event involving a tagged spearfish in that area more recently, the species was absent from several other regional checklists. It was not reported

from the Tunisian (Bradai *et al.*, 2004) nor Algerian coast (Dieuzeide *et al.*, 1954; Derbal & Kara, 2001; Refes *et al.*, 2010). While Bourjot (1870) did not report any occurrence of *T. belone* along the Algerian coast either, he suggested that the species could be captured in the western region, a pattern that should be taken into consideration by future researchers. However, the recent inclusion of *T. belone* in the ichthyofauna of Malta and the surrounding waters (Borg *et al.*, 2023) and a new report of the species' occurrence from the Algerian coast (Alkhalili *et al.*, 2025) suggest a changing distribution. The capture of individuals off eastern Algeria provided an opportunity to observe and describe *T. belone* and perhaps reassess its status in the region.

MATERIAL AND METHODS

The two specimens of *Tetrapturus belone* were observed at the main fish market of Algiers, which receives landings from across the Algerian coast, from the Moroccan to the Tunisian border. On August 25, 2008, two specimens were captured by drift nets off Annaba, in the eastern region, at 35°42'35" N and 1°22'17" W (Fig. 1). The examined specimens of *T. belone* were captured within the boundaries of the GFCM Geographical Subarea 4 (FAO, 2019). They were carefully examined and identified using field guides and ichthyological references (see below). The specimens were photographed and selected morphometric measurements, and meristic counts were recorded. Total body weight was kindly provided by the fishmongers, as the specimens were rapidly sliced and sold, primarily for local consumption.

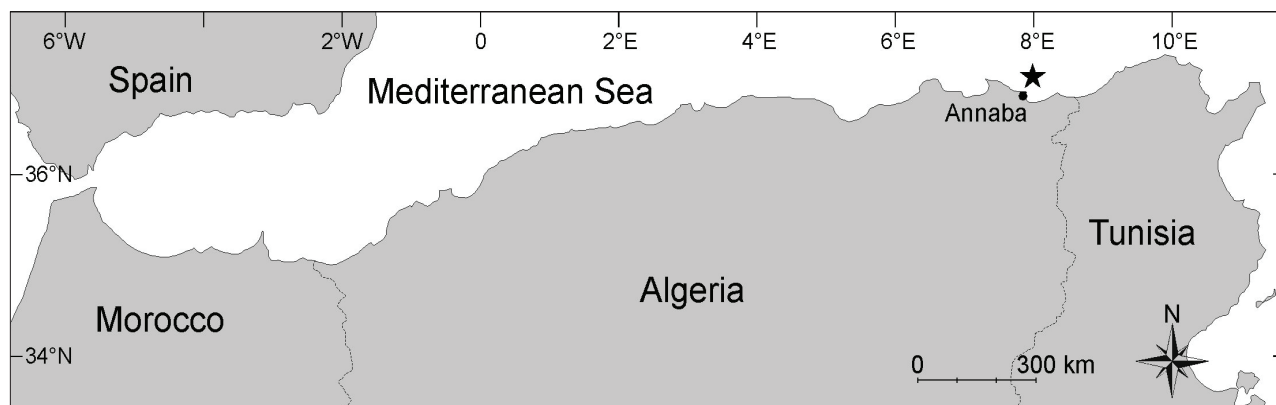


Fig. 1: Map of the Algerian coast showing the capture site (black star) of *Tetrapturus belone* off Annaba.

Sl. 1: Zemljevid alžirske obale z označeno lokaliteto ulova (črna zvezdica) primerkov vrste *Tetrapturus belone* blizu Annabe.

RESULTS AND DISCUSSION

According to information provided by the fishmongers, each specimen of *T. belone* measured 1100 mm TL and weighed 20 kg. Given that the species can reach a maximum size of 2.4 m (Nakamura, 1986), the specimens were likely juveniles. They were identified as *Tetrapturus belone* based on a combination of key morphological characters (Fig. 2): body elongate and fairly compressed, bill rather short and slender, round in cross-section; nape almost straight; both jaws and palatines (roof of mouth) with small, file-like teeth; two dorsal fins, base of first long, extending from above posterior margin of preopercle to just anterior to the origin of second, first fin exhibiting 43 rays, second 6 rays; two anal fins, first with 11 rays, second with 7, the latter fin very similar in size and shape to second dorsal fin; pectoral fins short with curved upper margins, nearly straight lower margins and pointed tips; pelvic fins long and slender, slightly less than twice the pectoral fin length and depressible into deep ventral grooves; caudal peduncle prominently compressed laterally and slightly depressed dorsoventrally, with strong double keels on each side and a shallow notch on both (Fig. 3); anus located far anterior to first

anal fin origin; lateral line single and visible; body color dark bluish grey to nearly black dorsally and silvery white ventrally (Fig. 2).

The general morphology, meristic counts, and coloration of both specimens are consistent with previous descriptions of the species provided by Tortonese (1975), Nakamura (1985, 1986), Soldo & Dulčić (2004), Collette & Graves (2019), Saad *et al.* (2023), thereby confirming their identification as *T. belone*.

General knowledge on the species' biology and ecology remains limited (Collette & Heessen, 2015), but specific aspects have been documented, such as its piscivorous diet (Romeo *et al.*, 2009).

While the observations on the species' presence in Algerian waters made by Alkhalili *et al.* (2025), whether obtained directly or from the local fishermen, should not be doubted, it appears that no specimen was described or was available for confirmation. The specimens presented herein therefore constitute the first well-documented records of *T. belone* from the Algerian coast. The scarcity of records likely reflects a low population density in the area, as modern fishing methods would otherwise facilitate more frequent captures. These efficient fishing techniques could potentially result in a further decrease of local stocks, threatening the Mediterranean spearfish, a



Fig. 2: *Tetrapturus belone* captured off Annaba. The two specimens measured 1100 mm in total length. Scale bar = 200 mm (Photo by F. Hemida).

Sl. 2: Vrsta *Tetrapturus belone* ujeta pri Annabi. Primerka sta merila približno 1100 mm celotne dolžine. Merilo = 200 mm (Foto: F. Hemida).

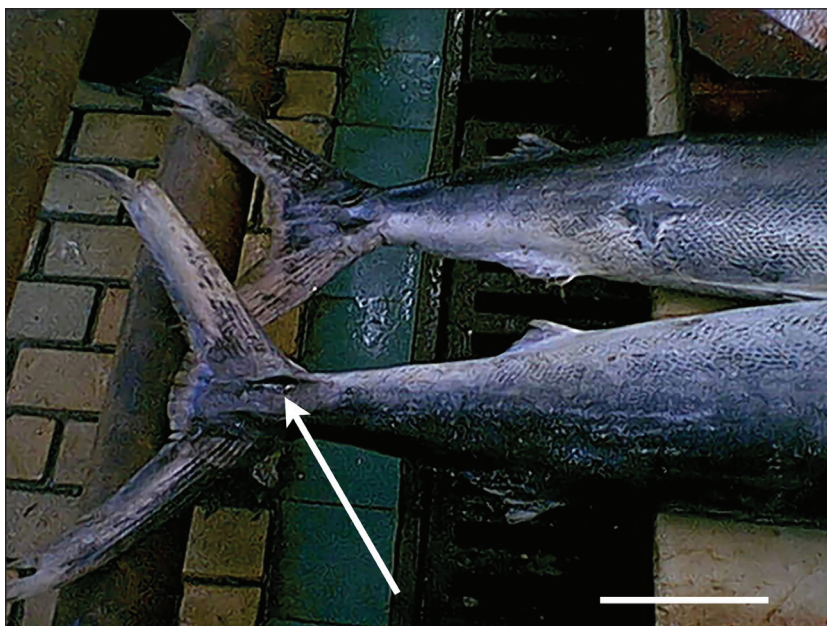


Fig. 3: Tail of a *Tetrapturus belone* specimen, with the white arrow indicating a pronounced double keel on each side and a shallow notch on both. Scale bar = 200 mm (Photo by F. Hemida).

Sl. 3: Rep primerka vrste *Tetrapturus belone* z označeno belo puščico, ki kaže izrazit dvojni greben na obeh straneh in plitko zajedo. Merilo = 200 mm (Foto: F. Hemida).

species highly valued by local consumers. Given this scarcity, the species may also be vagrant in the area, a hypothesis that remains plausible.

Although the IUCN classifies *T. belone* as a species of Least Concern (LC) globally, its population in Algerian waters warrants a management and preservation plan within the local fisheries framework that will engage the assistance of fishermen

to help protect any potentially viable population of this species in Algerian waters.

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POTRJENO POJAVLJANJE SREDOZEMSKJE JADROVNICE, *TETRAPTURUS BELONE*
(OSTEICHTHYES: ISTIOPHORIDAE) IZ ALŽIRSKE OBALE
(JUGOVZHODNO SREDOZEMSKO MORJE)

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POVZETEK

*Prispevek poroča o ulovu dveh primerkov sredozemske jadrovnice, *Tetrapturus belone* Rafinesque, 1810. Vsak primerek je meril okoli 1110 mm celotne dolžine in tehtal 20 kg. Ujeta sta bila v vodah pri Annabi na vzhodni alžirski obali. Primerka sta bila natančno opisana in predstavljata prvi potrjeni zapisi o pojavljanju *T. belone* v tem predelu, ki dokazuje da je bila vrsta na obravnavanem območju prisotna in dopolnjuje seznam lokalne ihtiofavne.*

Ključne besede: *Tetrapturus belone*, zapisi o pojavljanju, alžirska obala, opis, lokalni status

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