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## THE MEDITERRANEAN SPEARFISH, *TETRAPTURUS BELONE* RAFINESQUE, 1810, IN THE ADRIATIC WATERS: NEW RECORD AND A REVIEW OF ADRIATIC RECORDS

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### ABSTRACT

*Two specimens of the Mediterranean spearfish, *Tetrapturus belone* Rafinesque, 1810, were caught in June 2004 in the eastern central Adriatic. The data on their total length and weight are given. In spite of a number of scientific records (21) regarding this species, it could be treated as a rare species in the Adriatic.*

**Key words:** Mediterranean spearfish, records, Adriatic Sea

## AGUGLIA IMPERIALE MEDITERRANEA, *TETRAPTURUS BELONE* RAFINESQUE, 1810, NELLE ACQUE DELL'ADRIATICO: UN NUOVO DATO E RASSEGNA DELLE ANNOTAZIONI PRECEDENTI

### SINTESI

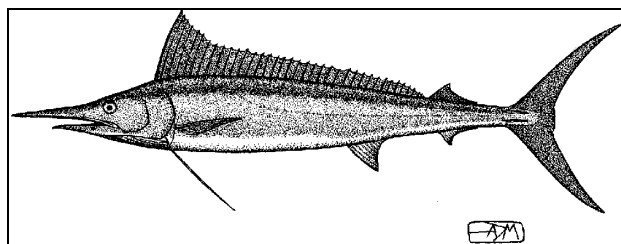
*Nel giugno del 2004, nelle acque dell'Adriatico centro-orientale, sono stati catturati due esemplari di aguglia imperiale mediterranea, *Tetrapturus belone* Rafinesque, 1810. L'autore ne riporta la lunghezza ed il peso. Anche se non mancano appunti scientifici sulla presenza della specie nel Mare Adriatico (21), possiamo considerarla una specie adriatica rara.*

**Parole chiave:** aguglia imperiale mediterranea, annotazioni, Mare Adriatico

## INTRODUCTION

The Mediterranean spearfish, *Tetrapturus belone* Rafinesque, 1810 (Fig. 1), is a marine and bathypelagic species living in the Mediterranean (considerably abundant around Italy) (Nakamura, 1986). No confirmed report from the Black Sea and no adults have been reported east of the Ionian Sea (Nakamura, 1986). The data on biology and ecology of this species are very scarce (Nakamura, 1985, 1986). This highly migratory species is the most common istiophorid in the central basin of the Mediterranean and completes its life cycle inside this sea as far as known to date. It probably swims in the upper 200 m water layer, generally above or within the thermocline. It travels in pairs, possibly corresponding to the feeding behaviour. It feeds on fishes (Nakamura, 1985, 1986). This species is very rare in the Adriatic Sea (Jardas, 1985, 1996).

The data on biology and ecology of this species are very scarce. The aim of this paper is to provide new additional data on their capture and distribution in the Adriatic Sea.



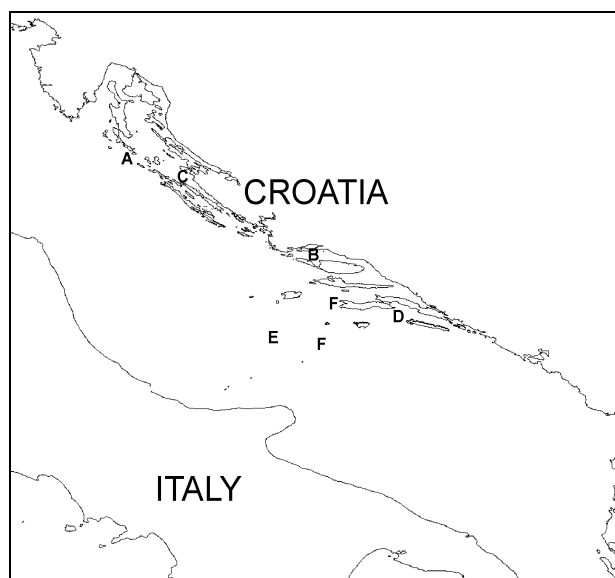
**Fig. 1 / Sl. 1:** *Tetrapturus belone* Rafinesque, 1810. (Drawing / Risba: A. De Maddalena)

## MATERIAL AND METHODS

Two specimens of the Mediterranean spearfish were caught in the eastern central Adriatic (specimen 1: Vela Luka harbour, Korčula Island, on 20 June 2004; specimen 2: near Sušac Island, on 27 June 2004) (Fig. 2, location F). Both specimens were harpooned at the surface, subsequently measured to the nearest cm, and weighed to the nearest g. The specimens were identified according to Jardas (1996). We were not in position to take morphometric data, as fishermen prepared the specimens for the market immediately after their capture.

## RESULTS AND DISCUSSION

Total length of specimen 1 (Fig. 3) was TL = 186.0 cm, weight W = 2300 g. Total length of specimen 2 (Fig. 4) was TL = 180.0 cm, weight W = 1850 g. It could reach 240 cm (Nakamura, 1986) or 250 cm in total



**Fig. 2:** Some localities where Mediterranean spearfish have been caught in the Adriatic: A – Lošinj Island, B – Kaštela Bay, C – Vrgada Island, D – Lumbarda (island of Korčula), E – open waters in the central Adriatic, F – Sušac Island and Vela Luka harbour (island of Korčula).  
**Sl. 2:** Nekaj jadranskih lokacij, na katerih je bila ujeta sredozemska suličica: A – Lošinj, B – Kaštelanski zaliv, C – otok Vrgada, D – Lumbarda (Korčula), E – odprto morje v srednjem Jadranu, F – otok Sušac in pristanišče Vela Luka (Korčula).

length (Jardas, 1996). Maximal published weight is 70 kg (Nakamura, 1985), while Milišić (1994) reported the weight of 80 kg.

The first record of this species in the Adriatic was made by Nardo (1827), the second in 1846 (Trois, 1880). Gridelli (1931) noted that this species was rare



**Fig. 3:** *Tetrapturus belone* caught in Vela Luka harbour, island of Korčula (TL = 186 cm, W = 2300 g).  
**Sl. 3:** Primerek vrste *Tetrapturus belone*, ujet v pristanišču Vela Luka na Korčuli (TL = 186 cm, W = 2300 g).

and he described a specimen caught near the island of Lošinj (northern Adriatic, Croatian coast) in 1930 (Fig. 2, location A). Kolombatović (1881) reported on a female specimen caught in Kaštela Bay (central Adriatic, Croatian coast) in 1879 with TL = 195 cm (Fig. 2, location B). Kolombatović (1886) also reported (as a *Histiophorus belone* Günther, 1860) on four specimens caught near Supetar (island of Brač), and five specimens caught near Jelsa (island of Hvar), but without any data on their size and weight. Katuriĉ (1887) described a single specimen (TL = 186 cm) captured near the island of Vrgada (central Adriatic, Croatian coast) (Fig. 2, location C). Katuriĉ (1887) also caught a specimen in 1886, describing it in details. Two specimens were caught in high sea (central Adriatic) in 1957 (Fig. 2, location E): the first specimen TL = 190 cm, W = 19 kg (without its stomach); the second specimen TL  $\approx$  185 cm (no data for weight) (Morović, 1984). Milišić (1994) reported on the catch of two adult specimens near the Neretva estuary in 1958. Kršiniĉ (1970) reported on a specimen captured near the village of Lumbarda (Korčula Island) (southern Adriatic, Croatian coast) (Fig. 2, location D), with TL = 210 cm and W = 35 kg. Milišić (1994) reported on the catch of one specimen (TL = 185.0 cm, W = 49 kg) in Žukova Cove (island of Hvar). It is obvious that most of the records (14) have been made in the eastern central Adriatic. According to Morović (1973), the rarity of certain fish species could be evaluated from the records in scientific literature. The same author has pointed out that if the species is recorded less than five times, it should be treated as a very rare species, and as a rare species if recorded between six and twenty times. According to this suggestion we could still treat the Mediterranean spearfish as a rare species (21 records in scientific literature to date).



**Fig. 4:** *Tetrapturus belone* caught near island of Sušac (TL = 180 cm, W = 1850 g).

**Sl. 4:** Primerek vrste *Tetrapturus belone*, ujet v bližini otoka Sušac (TL = 180 cm, W = 1850 g).

## SREDOZEMSKA SULIČICA, *TETRAPTURUS BELONE* RAFINESQUE, 1810, V JADRANSKIH VODAH: NOV PODATEK IN PREGLED PREJŠNJIH ZAPISOV O TEJ VRSTI IZ JADRANSKEGA MORJA

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### POVZETEK

Junija 2004 sta bili v vzhodnem srednjem Jadranu ujeti dve sredozemski suličici, *Tetrapturus belone* Rafinesque, 1810. V članku avtorja navajata podatke o celotni dolžini in teži ujetih sredozemskih sulčic. Čeprav obstaja kar nekaj znanstvenih zapisov o pojavljanju te vrste v Jadranskem morju (21), bi jo lahko šteli za redko jadransko vrsto.

**Ključne besede:** sredozemska suličica, zapisi, Jadransko morje

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