

A new maximum length of the spotted weever, *Trachinus araneus* Cuvier, 1829 (Perciformes: Trachinidae) from Western Mediterranean (Oran Bay)

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On the 29th of October 2018, one specimen of the spotted weever, *Trachinus araneus* measuring 47.3 cm in total length and weighting 968 g was captured by trammel net operating in Oran Bay (Kristel fishery) Western Algerian coast at 100 m depth. Up to date, this length is a new record of maximum length reached for this trachinid in the Mediterranean basin.

Key words: The spotted weever, *Trachinus araneus*, maximum size, Oran Bay, Mediterranean Sea

INTRODUCTION

The maximum observed length of individuals of certain fish species is a useful information for a rapid evaluation of growth rates in the absence of basic data (LEGENDRE & ALBARET, 1991; FROESE and BINOHLAN, 2000; AKYOL *et al.*, 2007). Maximum length and maximum weight are important theoretical parameters in fisheries science. Directly or indirectly, these measurements enter in most of the models used in stock assessments. In this sense, updating the maximum size of a species that might be commercially exploited in the future, gains importance (BORGES, 2001).

The spotted weever *Trachinus araneus* is a member of Trachinidae family found in the eastern Atlantic, from Morocco to southern Angola. Its range extends north into the Mediterranean, and along the Atlantic coast of Europe

to southern Portugal (CARPENTER *et al.*, 2015). It is particularly abundant in the eastern Mediterranean. It lives in the shallow waters on sandy and sandy-muddy detrital bottoms, up to about 100 m deep, burrowing into the substrate. It feeds on small fish and crustaceans (FROESE & PAULY, 2018).

It is a venomous species that commonly reaches between 10 and 30 cm in total length, with a maximum of 45 cm in the Mediterranean and between 15 to 20 cm with a maximum of 36 cm in the Black Sea (BAUCHOT and HUREAU, 1986).

It appears to be both common and abundant, particularly in the eastern Mediterranean. This species is taken as bycatch in demersal trawl fisheries and is sometimes marketed. This species is likely found in marine protected areas throughout its range. Therefore, *T. araneus* is assessed as Least Concern (CARPENTER *et al.*, 2015).

Limited bibliography is available for *T. araneus* focusing mainly on envenomation (BEDINI *et al.*, 2003; ERYILMAZ *et al.*, 2006; SMITH and WHEELER, 2006; PORTILLO STREMPER, 2009; ALPARSLAN *et al.*, 2010, YILDIZ and KARAKULAK, 2018) or heavy metal contents (CABRERA *et al.*, 1994; LÓPEZ *et al.*, 2000 and BRAMBILLA *et al.*, 2013). Up to date, no studies were conducted on this trachinid in Algerian waters. The aim of this paper is to present the maximum total length of the spotted weever *T. araneus* documented up to now in the Mediterranean.

MATERIAL AND METHODS

On the 29th of October 2018, one specimen of *T. araneus* (Fig. 1) measuring 47.3 cm in total length (TL) was captured by trammel net in Oran Bay (Kristel fishery) (35°49'36.0"N 0°32'30.7"W), on sandy bottom at a depth of 100 m (Fig. 2). *T. araneus* specimen was measured to the nearest millimeter and weighted to the nearest g then photographed. For otoliths (Fig.3) measurements an electronic caliper (Digiroch) was used, unfortunately otoliths were too thick to be read directly under binocular microscope to determine the age of *T. araneus* specimen.

The specimen was identified using FAO species identification sheets (BAUCHOT and HUREAU, 1986; DJABALI *et al.*, 1993) on the basis of the following morphological characters: the body elongated and compressed; very small eyes located



Fig. 1. *Trachinus araneus* (♀ 47.3 cm TL) caught in Oran Bay, (Photo: Lotfi BENSAPHLA TALET)

near the dorsal profile of the head; very oblique large mouth, with maxillary extending slightly beyond the posterior edge of the eye; villiform teeth; presence of 2 strong venomous spines on the operculum, 2 spines on the anterodorsal edge of the orbit and 6 dorsal spines in the first dorsal fin, the second dorsal fin contains 29 soft rays and the anal fin counts 27; the back and flanks yellowish gray, with 9 dorsal brownish to blackish spots and, beneath the lateral line, an alignment of large, more or less rounded or quadrangular spots; black dorsal fin; caudal fin lined with black and with some dark spots.

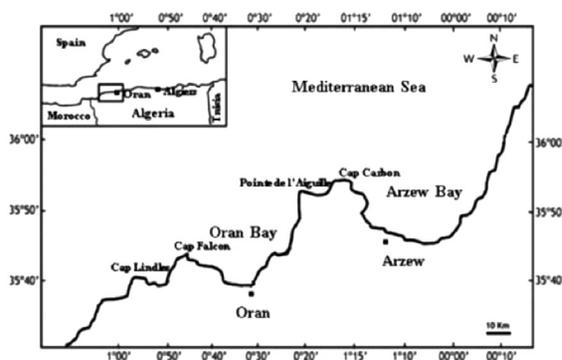


Fig. 2. Sampling location of spotted weever (*Trachinus araneus*) specimen



Fig. 3. Otoliths of *T. araneus* caught in Oran Bay

RESULTS AND DISCUSSION

Measurements and percentage of each body part and otolith measurements are reported in relation to total length and are given in Table 1.

Table 1. *Morphometric measurements as percentage of total length (%TL) of Trachinus araneus caught in Oran Bay, Western Mediterranean Sea*

Morphometric characteristic	Measurement (cm)	Proportion (%)
Total length (TL)	47.283	100.00
Fork length (FL)	45.837	96.94
Standard length (SL)	41.21	87.16
Pectoral fin length (LP)	6.992	14.79
Ventral fin length (LV)	3.585	7.580
Pre-ventral fin distance (PVD)	5.623	11.89
Cephalic length (LC)	7.258	15.35
Post-orbital distance (PO1)	5.859	12.39
Eye diameter (O)	0.705	1.490
Post-orbital distance (POD2)	3.084	6.520
Pre-pectoral distance (PPD)	9.861	20.86
Maxillary length (LM)	2.722	5.760
Anal fin length (LA)	27.08	57.27
Pre-anal fin distance (PAD)	11.38	24.07
Minimum body height (TPC)	2.650	5.600
Maximum body height (T)	9.080	19.20
Total weight (TW, g)	0.968	-
Otoliths measurements	Right	Left
Total length	1.470	1.488
Wide	0.727	0.743
Total weight (g)	0.338	0.345

Comparing our findings to those of MOUTOPOULOS and STERGIU (2002), fork length represented 95.13% from total length and standard length represented 87.33% of total length of *T. araneus* from Greek waters which is close to our results with fork length representing 96.94% from total length and standard length representing 86.16% of total length. In an unpublished observation for the same species in Philippines, REYES in FROESE and PAULY, 2018 proportions of different body parts reported to total length were the same as our findings except two parameters,

Pre-ventral distance represented 15.3% while we found 11.89%, and Head length represented 23.4% while we found only 15.35% for *T. araneus* caught in Oran Bay.

For Atlantic waters, maximum length recorded for *T. araneus* was 45 cm (SL) (ROUX, 1990 in QUÉRO *et al.*, 1990), the same length (standard length) was assumed by CARPENTER *et al.*, 2015. Central Mediterranean basin recorded a specimen in Greece (Table 2) measuring 39 cm TL and weighting 490.75 g while in Turkey one specimen was caught measuring 31 cm and weighting 230g in 2006 (KARAKULAK *et al.*, 2006). The maximum length ever recorded for Turkish and Mediterranean waters (40.8 cm TL and weighting 758 g) was reported by OZTEKIN *et al.*, 2016.

Table 2. *Maximum length records of Trachinus araneus given by several authors*

Location	TL (cm)	TW(g)	References
Aegean Sea (Greece)	39.0	490.75**	MOUTOPOULOS and STERGIU, 2002
Aegean Sea (Turkey)	31.0	230.00	KARAKULAK <i>et al.</i> , 2006
Gallipoli peninsula, Turkey	40.8	758.00	OZTEKIN <i>et al.</i> , 2016
North Eastern Atlantic	40*	-	HUREAU <i>et al.</i> , 1979
Eastern tropical Atlantic	45*	-	ROUX, 1990 in Quéro <i>et al.</i> , 1990
Oran Bay	47.3	968.00	Present study

*Standard length (SL) **calculated from LWR (Length weight relationship)

CONCLUSIONS

The maximum size found for the spotted weever *T. araneus* (47.3 cm, 968 g) caught in Oran Bay can be considered as a new maximum length for this species in Algerian and Mediterranean waters.

ACKNOWLEDGEMENTS

The author is very grateful to fishermen of Kristel Fishery and especially to Mr. Mokhtar. This paper is dedicated to the memory of Professor Ahmed BENSANHLA-TALET, my beloved father and mentor, who was an Algerian marine biologist. He worked more than 49 years and was dedicated to science. He was also Dean of Faculty of Natural sciences and life at University Oran 1 Ahmed BENBELLA (2012-2020). He passed away on 31st July 2020 (December, 1st 1946 – July, 31st 2020)

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Received: 15 November 2019

Accepted: 22 August 2020

Nova maksimalna dužina pauka crnca, *Trachinus araneus* Cuvier, 1829 (Perciformes: Trachinidae) iz zapadnog Mediterana, zaljev Oran

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SAŽETAK

Dana 29. listopada 2018. g. ulovljen je jedan primjerak pauka crnca, *Trachinus araneus* Cuvier, čija je totalna dužina iznosila 47,3 cm, a masa 968 grama. Primjerak je ulovljen na dubini od 100 m u zaljevu Oran (zapadna alžirska obala).

Ovo je dosada najveća zabilježena dužina za ovu vrstu u mediteranskom bazenu.

Ključne riječi: pauk crnac, *Trachinus araneus* Cuvier, maksimalna veličina, zaljev Oran, Sredozemno more