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SHORT COMMUNICATION

The maximum size and age of *Umbrina cirrosa* (Linnaeus, 1758) in the World

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ABSTRACT

On April 17, 2020, one male specimen of the shi drum, *Umbrina cirrosa* (Linnaeus, 1758) was measured as 104 cm in total length, weighed 11080 g, and 18 years old. The *U. cirrosa* were sampled at 2 m depth by using trammel net in Ordu at the southern Black Sea. Up to date, this length, weight and age are a new record for the maximum size of *U. cirrosa*. These measurements make it the largest individual in the world.

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Introduction

The shi drum, *Umbrina cirrosa* (Linnaeus 1758), is a member of the Sciaenidae family (Fischer et al., 1987). It is a demersal fish largely spread from Eastern Atlantic to the Mediterranean and the Black Sea living within a depth range of 0 to 200 m (Fischer et al., 1987; Bizsel et al., 2020).

Fischer et al., (1987) stated that they are usually between 30 and 80 cm, but they can grow up to 100 cm. Chao & Trewavas (1990) measured a 40 cm of average length with a maximum size of 73 cm. According to FishBase (2020), this species can grow up to a maximum size of 73 cm and 3.1 kg. Aydın & Sözer (2020) reported the maximum sizes given for all Turkish coastal waters that the total length and weight of shi drum were 94 cm and 7051.1 g respectively and 5 years old. The maximum observed length is a useful tool for a rapid evaluation of growth rates in the absence of basic data (Legendre & Albaret, 1991; Froese & Binohlan, 2000). In this study, the maximum total length, maximum weight and maximum age are given as a new record data for *U. cirrosa* in the world.

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Material and Methods

Sampling was carried out on April 17, 2020 in the Fatsa district of Ordu province of the southern Black Sea Region (41° 02' 11.80" N–37° 29' 48.85" E) (Figure 1). *U. cirrosa* individual was caught by a trammel net (mesh size: 70 mm inner panel-240 mm outer panels) that was installed for commercial purposes at a depth of 2 m. Total length (TL) and weight (W) were measured to the nearest 0.1 cm and 0.1 g, respectively. Fischer et al. (1987) catalog book was used for identifying of the species. Right sagitta otolith was used for the age determination and otolith dimension. Sagittal otolith dimension was measured to the nearest 0.01 mm with digital caliper. The otolith was sectioned, sanded, and polished to enhance the visibility of growth zones. It was embedded into polyester moulds and then sectioned using an ISOMET Low Speed Saw. Age was read by a stereoscopic zoom microscope under reflected light against a black background (Morales-Nin, 1987; Jenke, 2002).

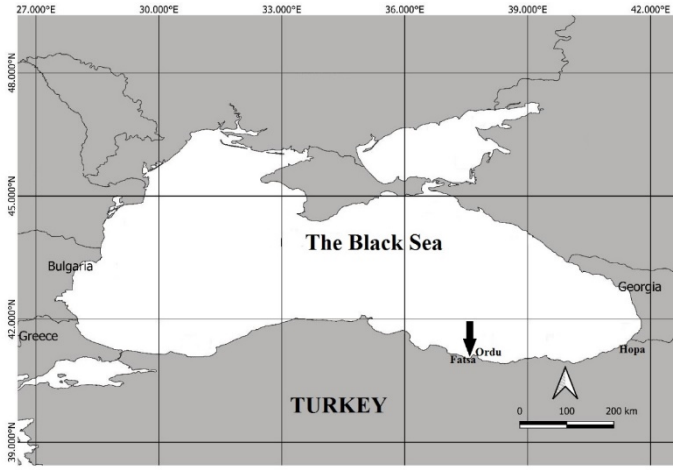

Figure 1. Sampling location of *Umbrina cirrosa* specimen

Results and Discussion

A male specimen of *U. cirrosa* was measured as 104 cm in total length (TL), weighed 11080 g. (gonad weight: 60 g) (Figure 2) and found to be 18 years old (Figure 3).

Figure 2. The largest and oldest individual sampled in the world

Right sagitta otolith dimensions were 25.10 mm length, 14.49 mm width and 9.7 mm thickness.

The maximum size for *U. cirrosa* was reported as 100 cm by Fischer et al., (1987), as 73 cm by FishBase (2020) and in the latest study this value was given as 94 cm by Aydın & Sözer (2020). The new maximum length (104 cm) and weight (11080 g) recorded in this study are the largest length and weight for this species in the World. The maximum length and weight of *Umbrina cirrosa* from different studies are given in Table 1

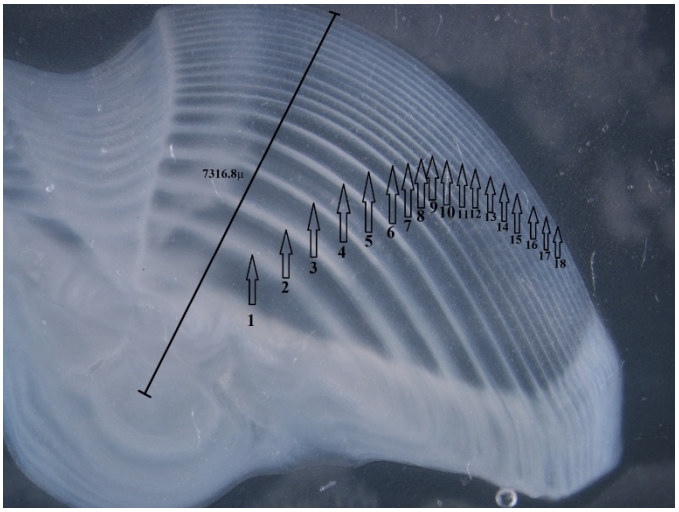

Figure 3. A thin stained otolith section of *Umbrina cirrosa* (total length 104 cm, weight 11080 g) aged 18 years old.

The age was determined to be 18 years old. The age was reported as 3 years old for 67 cm total fish length by Arneri et al. (1998), 5 years old for 97cm by Aydın & Sözer (2020). In this study, the largest size and oldest individual recorded in the world up to date.

Table 1. The maximum length and weight of *Umbrina cirrosa* from different studies

L_{max} (cm)	W_{max} (g)	Region	References
66.5	2915.0	Eastern Adriatic Sea	Dulčić & Kraljević (1996)
24.7	-	Porto-Lagos Northern Aegean (Greece)	Koutrakis & Tsikliras (2003)
47.0	-	Northern Adriatic	Dulcic & Glamuniza (2006)
49.5	1281.0	Adriatic Sea	Bolognini et al. (2013)
42	817.0	Sinop (Black Sea)	Bat et al. (2018)
26.8	214.04	Mersin Bay (Mediterranean)	Başusta et al. (2019)
68.8	2600.0	Aegean Sea	Cengiz & Paruğ (2020).
94	7051.1	Southern Black Sea (Hopa)	Aydın & Sözer (2020)
104	11080.0	Southern Black Sea (Fatsa)	**Present study**

In fisheries science maximum length and maximum age are important parameters that are applied directly or indirectly in most of the stock assessment models (Pauly, 1980; Welcomme, 1999; Froese & Binohlan, 2000; Borges, 2001; Cengiz et al., 2019; Özdemir et al., 2019). Therefore, it is important to regularly update the maximum size of commercially important species (Navarro et al., 2012; Özdemir et al., 2019). In this study, new maximum data (length, weight, age) is introduced to the literature for *U. cirrosa* species.

Compliance with Ethical Standards

Conflict of Interest

The author declares that they have no conflict of interest.

Ethical Approval

All applicable international, national and/or institutional guidelines for the care and use of animals were followed by the author.

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