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# Occurrence of a Huge Meagre, *Argyrosomus regius* in İzmir Bay (Aegean Sea, Turkey)

# İzmir Körfezi'nde (Ege Denizi) Çok Büyük Bir Granyöz Balığının (*Argyrosomus regius*) Bulunuşu

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## ABSTRACT

On 16 May 2017, a specimen of *Argyrosomus regius* with a total length (TL) of 1310 mm (21.1 kg) was captured by an experimental trawl from eastern coast of Yassıcaada Island, Urla, İzmir Bay at a depth of 30 m. This ichthyologic note presents a new maximal size record of *A. regius* for İzmir Bay, Aegean Sea.

**Keywords:** Meagre, *Argyrosomus regius*, Maximal size, İzmir Bay, Aegean Sea.

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**ÖZET**

16 Mayıs 2017 tarihinde, 1310 mm total boyuyla (21,1 kg) bir *Argyrosomus regius* bireyi Urla (İzmir Körfezi) Yassıcaada'nın doğu kıyısından bir deneysel dip trolüyle 30 m derinlikte yakalanmıştır. Bu ihtiyolojik not İzmir Körfezi (Ege Denizi) için *A. regius*'un yeni bir maksimum boyut kaydını sunmaktadır.

**Anahtar sözcükler**: Granyöz, *Argyrosomus regius*, Maksimum boy, İzmir Körfezi, Ege Denizi.

## 1. INTRODUCTION

Meagre, *Argyrosomus regius* (Asso, 1801) is an Atlanto-Mediterranean migratory large fish with a total length of over 180 cm and live body weight of more than 50 kg. They occurrence inshore and shelf waters, close to bottom as well as in surface and midwater at a depth of 15-200 m, and also often penetrates into estuaries and coastal lagoons. Pursuing shoals of clupeids and mugilids, congregating inshore to spawn. Spawning season is from April to July in southern Mediterranean. They feed on fishes and swimming crustaceans. (Chao, 1986; Golani et al., 2006; Kruzic et al., 2016). Meagre is a long-lived species; estimated age was reported as 41 (186 cm TL) and 42 (189 cm TL) year classes, and length at first maturity of 61.6 cm for males, and 70-110 cm for females in the Gulf of Cadiz (Costa et al., 2008).

Meagre distributes along the Atlantic coasts northward to English Channel, North Sea and southern Norway and Sweden, a single record from Iceland; also whole Mediterranean, western Black Sea and Sea of Marmara, also in lakes of Nile delta and Bitter Lakes to Gulf of Suez. Elsewhere, southward to Congo, including the Canaries. It has migrated to the Red Sea via the Suez Canal (an anti-lessepsian migrant) (Chao, 1986; Pollard et al., 2011).

It is highly esteemed fish that was very important in local fishery, but in the last 2-3 decades, its population decreased dramatically (Golani et al., 2006). Experimental aquaculture exists for this species in the Mediterranean and total production of meagre was globally 11.770 tonnes in 2014 (FAO FishStat), especially produced by France, Italy, Greece, Turkey and Egypt (Pollard et al., 2011; Kruzic et al., 2016).

There are no biological parameters of wild meagre from the Turkish waters, therefore, this paper presents an official maximal size of a wild meagre caught from Izmir Bay, Aegean Sea for the first time.

On 16 May 2017, a specimen of *Argyrosomus regius* with a total length (TL) of 1310 mm (Figure 1) was captured by an experimental trawl (with *R/V Egesüf*) from eastern coast of Yassıcaada Island, Urla, İzmir Bay (Coordinates: 38°24'N-26°48'E) at a depth of 30 m.


**Figure 1.** *Argyrosomus regius*, caught from İzmir Bay, Aegean Sea

The specimen was measured to the nearest millimeter and weighed to the nearest gram, and morphometric measurements, percentage of total length (%TL) and counts of *Argyrosomus regius* were shown in Table 1. For ageing, sagittal otolith was immersed in liquid polyester. Then, transversal sections were obtained from the otolith nucleus. Cuts were made using a Buehler Isomet low-speed saw with a Buehler series 15 LC diamond wafering blade. Three sections between 0.70 and 1.00 mm thickness were immersed in 95% ethanol for 5 min and then placed in a petri dish to air dry. The prepared otolith sections were subsequently analysed under a binocular microscope equipped with a camera at 10× magnification under reflected light and against a dark background. Images were captured and analysed using Image Analyser 1.0 software. On the sectioned otolith, an opaque zone (mark) preceded by a translucent (hyaline) zone was assumed to be an age mark (Figure 2).

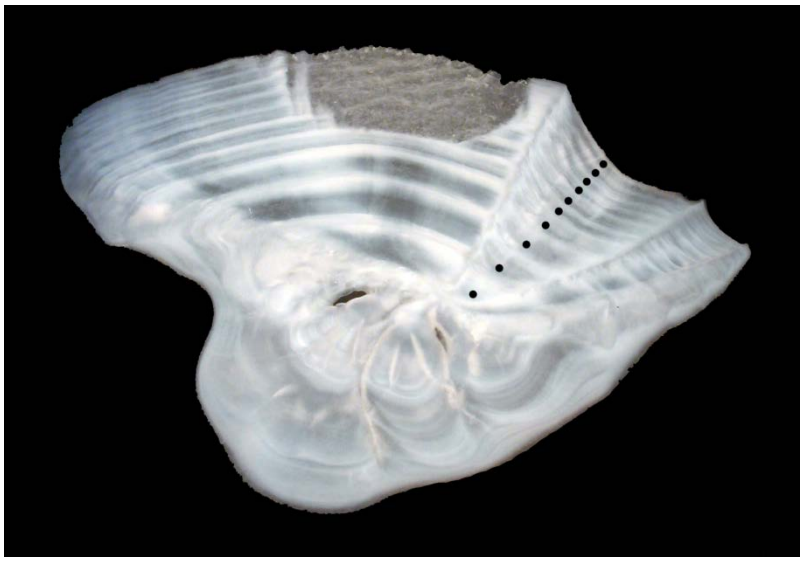

**Figure 2.** A section from sagittal otolith of *Argyrosomus regius*

**Table 1.** Morphometric measurements as percentage of total length (%TL) and counts recorded in *Argyrosomus regius*, captured from İzmir Bay, Aegean Sea.

| **Measurements** | **Size (mm)** | **Proportion (%)** |
|---|---|---|
| Total length (TL) | 1310 | 100.0 TL |
| Standard length (SL) | 1185 | 90.5 TL |
| Maximum body depth | 282 | 21.5 TL |
| Pre-dorsal fin length | 330 | 25.2 TL |
| Pre-pectoral fin length | 306 | 23.4 TL |
| Pre-anal fin length | 755 | 57.6 TL |
| Head length (HL) | 300 | 22.9 TL |
| Eye diameter | 27 | 9.0 HL |
| Pre-orbitary length | 82 | 27.3 HL |
| Meristic counts | | |
| Dorsal fin rays | IX+28 | |
| Anal fin rays | II+8 | |
| Ventral fin rays | I+5 | |
| Pectoral fin rays | 16 | |
| Weight (g) | 21130 | |

The specimen was male with ripe gonads. It might be come to reproductive activity in the area. The present *Argyrosomus regius* is the largest specimen known in the Bay of Izmir, Aegean Sea; and it is ten years old. According to FishBase, the largest specimens were recorded as 2300 mm TL in Mauritania and weighed 103 kg in the Gulf of Gascogne (Froese and Pauly, 2017). Although, four years ago, a 70 kg specimen of meagre, caught from İzmir Bay has been sold in the fish auction of Urla (İ. Temiztepe, pers. comm.), 21.1 kg specimen with 10 years old in this study is the first official record of the largest of a meagre from İzmir Bay.

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