



**CONFIRMED OCCURENCE OF ATLANTIC LIZARDFISH, *Synodus saurus* (L.)
(Actinopterygii: Synodontidae) IN EDREMIT BAY, (NORTHERN AEGEAN SEA)**

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Edremit Körfezi (Kuzey Ege Denizi)'nde Atlantik Kertenkele Balığı *Synodus saurus* (L.) (Actinopterygii: Synodontidae) Onaylanmış Bulunuşu

Özet

Atlantik kertenkele balığının bir bireyi Küçükkuyu (Edremit Körfezi)' dan 10 Ocak 2016 tarihinde profesyonel balıkçılar tarafından yakalanmıştır. Bu türün daha önce morfometrik ve meristik karakterleri verilmeksizin Edremit Körfezinden gözlemlendiği rapor edilmiştir. Bu makale, Atlantik kertenkele balığının aynı lokalite için ikinci bulunuşunu verir.

Abstract

One female specimen of Atlantic lizardfish was caught by professional fisherman from Küçükkuyu (Edremit Bay) on 10th January, 2016. The species is a previously reported to be observed from Edremit Bay without its morphometric and meristic characters. This paper presents the second finding of the Atlantic lizardfish for the same locality.

1. INTRODUCTION

The Atlantic lizardfish, *Synodus saurus* (L.), is an epibenthic subtropical fish belongs to the Synodontidae family, distributed in the Mediterranean Sea, the eastern Atlantic from Morocco to Cape Verde, including the Azores, and the western Atlantic from the Bahamas (Bauchot ve Hurreau 1986). This species can reach 43 cm in total length and is commonly found on sandy bottoms, primarily at depths less than 50 m (Bauchot ve Hurreau, 1986; Sulak, 1990; Golani, 1993; Tutman ve ark. 2003).

Edremit Bay is located in the northeast of the Aegean Sea between Küçükkuuyu and Ayvalık, and a place where two currents meet; upwelling in the bay also makes it rich in plankton, having a coastal bottom is suitable for trawl fishing (Toğulga, 1977). With these advantages, Edremit Bay has high seafood potential, especially fish. Artüz (2004) and Bilecenoglu ve ark. (2014) mentioned the distribution of *S. saurus* which towards northern Aegean Sea and Levantine Sea. However, they did not report any morphometric and meristic characters of the species among the populations.

This study aims to confirm its occurrence with some morphological properties from Küçükkuuyu, Edremit Bay, northern Aegean Sea of Turkey.

2. MATERIAL and METHODS

A single specimen of *Synodus saurus*, considered a rare species in shallow waters was caught by fisherman gillnets about at a depth of 30 m between Maden Island and Küçükkuuyu, Edremit Bay (39°27038"N; 26°32031"E) in January 2016. The sample was identified at species level according to Whitehead ve ark. (1986). In addition, it was photographed and some measurements and meristic properties were recorded with a dial calliper of 0.05 mm accuracy, and the weight (± 0.01 g); the sex and maturity stage of each specimen were determined according to Sousa ve ark. (2003). The specimen was later fixed in 10% buffered formaldehyde, subsequently preserved in 75% ethanol and deposited in the Hydrobiology collection of the Department of Biology, University of Balikesir, Turkey (Figure 1)



3. RESULTS AND DISCUSSION

Diagnostic characters

Some morphometric and meristic features are given in Table 1. Characteristic morphological properties are given as the presence of an elongated body shape, short head, a wide inter-orbital space, eyes in moderate size, a short anal fin base, and, scales between the lateral line.

4. DISCUSSION

One female specimen was 291 mm in total length. The morphometric measurements and meristic counts (Table 1) were in harmony with the previous literatures (Esposito ve ark. 2009; Cengiz ve Tuncer, 2015). This study was carried out on only one *S. saurus* specimen as similar as data by Artüz (2004) in Edremit Bay, the northern Aegean Sea because of burrowing in the sandy bottoms (Brito, 1991).

The Suez Canal opens fish migration from the Indo-Pacific Ocean and Red Sea to the Mediterranean Sea. The number of Lessepsian fishes has reached up 106 in the Mediterranean Sea (Golani ve ark. 2013) and over 60 of them are found along the Turkish coasts (Bilecenoglu ve ark. 2014). The colonizers like Saurida undosquamis come across this indigenous confamilial species, *S. synodus* and compete for territory. Therefore, *S. saurus* can be mentioned to migrate to the suitable regions (Golani, 1993; Esposito ve ark. 2009), and the northernward spreading of this Mediterranean species is not a single event and an ongoing process. This spread can be also contributed to the increase in sea water temperatures.

Although *S. saurus* is not a target species, taken as by-catch during commercial trawling (Abdallah, 2002), it is important for diversity of Edremit Bay ichthyofauna.

Table 1. Morphometric (mm, cm) and meristic features of *Synodus saurus* specimen captured on January 2016 about at 30 m depth, Edremit Bay.

Morphometric and meristic characters	Merella ve ark.(1997)	El-Gawad ve ark.(1998)	Morato ve ark.(2001)	Sousa ve ark.(2003)	Bauchot (1987)	Motopoulos and Stergio (2002)	Abdallah, (2002)	Çiçek ve ark. (2006)	Esposito ve ark. (2009)	Yılmaz and Hoşsucu (2008)	Cengiz and Sezginer (2014)	This study
Total length (L_T)	16.0-37.3*	11.5-39.4*	5.4-17.8 *	155-460	430.0	16.0-39.6*	12.8-25.2*	10.7-31.0*	73.0-280.0*		280.0	291.0
Fork length (L_F)	-	-	-	-	-	-	-	-	-	14.8-26.8*	250.0	257.0
Standard length (L_S)	-	-	-	-	-	-	-	-	-		240.0	252.0
Weight (g)	-	-	-	-	-	-	-	9.11-267.56	-	32.0-196.89	225	219.66
Dorsal fin length	-	-	-	-	-	-	-	-	-	-	37.25	42.0
Anal fin length	-	-	-	-	-	-	-	-	-	-	29.0	31.0
Pectoral fin length	-	-	-	-	-	-	-	-	-	-	8.76	9.5
Body depth (%L_T)	-	-	-	-	-	-	-	-	-	-	47.43	46.0
Head length, (%L_T)	-	-	-	-	-	-	-	-	-	-	40	65.0
Eye diameter (%L_H)	-	-	-	-	-	-	-	-	-	-	7.40	7.5
Dorsal fin rays	-	11-13	-	-	11-13	-	-	-	-	-	I-11	13
Pectoral fin rays	-	12-14	-	-	12-14	-	-	-	-	-	12	12
Anal fin rays	-	9-12	-	-	9-12	-	-	-	-	-	10	10
Pelvic fin rays	-	-	-	-	8	-	-	-	-	-	8	8
Lateral line	-	54-60	-	-	54-60	-	-	-	-	-	58	60

*shows measurements in cm.

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REFERENCES

- Abdallah, M., 2002. Length-weight relationship of fishes caught by trawl of Alexandria Egypt. *Naga Iclarm Q* 25 (1): 19-20.
- Artüz, L., 2004. Doğu Akdeniz faunasında yer alan *Synodus saurus* (Linnaeus, 1758) ve *Saurida undosquamis* (Richardson, 1848) balıklarının dağılımı ile ilgili gözlemler. *Zoo-Natantia Publications Scientifiques (In Turkish)*.
- Bauchot, M.L., and Hureau, J.C. 1986. *Synodontidae*. In: fishes of the north- eastern Atlantic and Mediterranean, Eds: P.J.P. Whitehead; M.L. Bauchot; J.C. Hureau; J. Nielsen; E. Tortonese, Unesco, Paris: 405-411.
- Bilecenoglu, M., Kaya, M., Cihangir, B., and Çiçek, E., 2014. An updated checklist of the marine fishes of Turkey. *Turkish Journal of Zoology* 38: 901-929.
- Brito, A., 1991. *Catalogo de los pesces de las Islas Canarias, La Laguna, Tenerife, Spain*.
- Cengiz, O., and Tuncer, S., 2015. Second Record of Atlantic Lizardfish, *Synodus saurus* (Linnaeus, 1758), from the Northern Aegean Coast of Turkey. *Acta Zoologica Bulgarica* 67 (3): 447- 450.
- Esposito, V., Battaglia, P., Castriota, L., Grazia Finioia, M., Scotti, G., and Andaloro, F., 2009. Diet of Atlantic lizardfish, *Synodus saurus* (Linnaeus, 1758) (*Pisces: Synodontidae*) in the central Mediterranean Sea. *Scientia Marina* 73 (2): 369-376.
- Golani, D., 1993. The biology of the red sea migrant, *Saurida undosquamis* in the Mediterranean and comparison with the indigenous confamilial *Synodus saurus* (*Teleostei: Synodontidae*). *Hydrobiology* 271 (2): 109-117.
- Golani, D., Orsi-Relini, L., Massuti, E., Quignard, J.P., Dulcic, J., and Azzuro, E., 2013. *CIESM-Atlas of Exotic fishes-List[WWW Document]*. URL:<http://www.ciesm.org/atlas/appendix1.html>. Accessed 12th June 2017.
- Sousa L., Barreiros, J. P., Soares, M. S. C., Hostim-Silva, M., and Santos, R. S., 2003. Preliminary notes on the reproductive biology of the lizardfish, *Synodus saurus* (*Actynopterygii: Synodontidae*) in the azores. *Cybium* 27 (1): 41-45.
- Sulak, K. J., 1990. *Synodontidae*. In J.C. Quero, J.C. Hureau, C. Karrer, A. Post and L. Saldanha (eds.) *Check-list of the fishes of the eastern tropical Atlantic (CLOFETA)*, JNICT, Lisbon; SEI, Paris; and UNESCO, I: 365-370, Paris (Ref: 4472).
- Togulga, M., 1977. The studies on population dynamics of red mullet (*Mullus barbatus* Lin. 1758) in İzmir Bay. *University of Ege Journal of Faculty of Science Serie B, I* (2): 175-194.
- Tutman, P., Glavic, N., Kozul, V., Skaramuca, B., and Glamuzina, B. 2003. Occurrence of juvenil Atlantic lizardfish *Synodus saurus* (Linnaeus, 1758) (*Pisces: Synodontidae*) in the southeastern Adriatic Sea. *Acta Adriatica* 44 (1): 21-26.
- Whitehead, P.J.P., Bauchot, M. L., Hureau, J. C., Nielsen, J., Tortonese, E., 1986 (Editors), *Fishes of the*