

On the First Record of *Syngnathus phlegon* Risso, 1827 from the Sea of Marmara, Turkey

M. Levent Artüz

Sevinç-Erdal İnönü Foundation, Department of Marine Sciences, Anadoluhisarı Toplarönü No: 8, 34810, Istanbul, Turkey

Abstract: The first record of the *Syngnathus phlegon* in the West part of the Sea of Marmara was reported based on 1 landed specimen 182 mm standard length. Specimen was captured by Beam-Trawl from coastline of Aksaz in the Sea of Marmara. This is considered as the first reliable record of *S. phlegon* from the Sea of Marmara. Morphometric and meristic data of the landed specimen is submitted. This study adds a new record of *Syngnathus phlegon* in Sea of Marmara, Turkey.

Keywords: *Syngnathus phlegon*, Sea of Marmara, Morphometric, Meristic

1. Introduction

Early ichthyofauna studies in Turkish Seas including Sea of Marmara were reported by Deveciyan (1915); Erazi (1941) and Akşiray (1987).

Since then, the fish fauna has been studied extensively (Kocataş et al. 1987; Bilecenoğlu and Taşkavak 1999; Bilecenoğlu et al. 2002; Mater et al. 2002; Eryılmaz 2003; Artüz 2004; Can and Demirci 2012). Species is widespread in the western basin of the Mediterranean and in the adjacent Eastern Atlantic (Dawson in Whitehead et al. 1984-1986).

In the eastern basin of the Mediterranean is cited by Akşiray (1987) for fauna of Turkey and tentatively to the coast of Lebanon. From Aegean coasts of Turkey (Dawson in Whitehead et al. 1984-1986; Mater and Meriç 1996; Bilecenoğlu et al. 2002). Also from Black Sea coasts (Slastenenko 1955; Rass 1987; Prodanov et al. 1998; Salekhova et al. 2007; Klimova et al. 2010).

The Biological parameters of the *Syngnathus phlegon* for North-eastern Atlantic and the Mediterranean Sea Waters were given by Dawson (1986). The food habits of the *Syngnathus phlegon* in the Mediterranean waters were given by Bini (1967). However, there is no information about the record of the *Syngnathus phlegon* from the Sea of Marmara, Turkey.

I report the occurrence of *S. phlegon* off Aksaz (on the line 40° 27.800'N / 027° 07.183'E - 40° 27.017'N / 027° 05.917'E) in the West part of the Sea of Marmara, Turkey (Figure 1), regarding to the project investigation on MAREM (Marmara Environmental Monitoring Project) on the period July-August 2012 which was supported by Sevinç-Erdal İnönü Foundation, Istanbul.

The capture of a specimen of *Syngnathus phlegon* Risso, 1827 was not recorded previously in the Sea of Marmara, which is reported off the Aksaz (South-west Sea of Marmara). The morphometric and meristic details of the cached species were recorded and given in Table 1.



Figure 1. Location map of point of capture of the specimen of a *Syngnathus phlegon* in the Sea of Marmara, Turkey.

2. Materials and Methods

Total of 1 specimen of *Syngnathus phlegon* Risso, 1827 (SL 182 mm-14.7g) was caught on 29/07/2012 in the south-west shore line, off the Aksaz in the Sea of Marmara, between the release 40° 27.800'N / 027° 07.183'E and landing 40° 27.017'N / 027° 05.917'E points, depth 49m. The ship 'Oktay 4' (length overall, 28 m; gross register tonnage 142 GRT; main engine, 735 kW) was used by the study. The vessel was rigged for 3.75 m beam trawl with 18 mm stretched mesh sizes at the cod-ends. Haul was realized on the station line with a half-hour duration and with boat speed of 2 mph (trawled line length 229m). The specimen was identified and measured with an ichthyometer and a digital calliper. It was later fixed in 10% formalin buffered with seawater and later preserved for deposit in the collection of the SEI Foundation, MAREM (Marmara Environmental Monitoring) Project with Bar-code nr. BEN-009-011 (Figure 2).

3. Results and Discussion

Syngnathus phlegon is spread in the Eastern Atlantic, throughout the Mediterranean Sea and adjacent Atlantic coasts. Typically inhabits offshore. Ovoviviparous, the male carries the eggs in a brood pouch, which is found under the tail. Brooding throughout year, mostly April-October; males with 300-400 brood pouch-eggs (1.3-1.4 mm diameter); females with ovipositor.

Early free-living young about 18 mm TL. (Dawson 1986)
 Feeds with planktonic copepods, fish larvae and other marine invertebrates.

Regarding to the identical and general description after Bini (1967); Body elongated and very slender, tapering gradually verso the tail, covered with bony rings, very rough skin with protruding ridges with retro curved peaks ranging between 66-67. The brood pouch of males is very long and is extended on 32/36 rings. The length of the head ranges about 7 to 8 times in total length.

The muzzle compressed, very thin and low, and with the dorsal profile that rises abruptly before the eyes and minimum height more than 3 times in the post-orbital, from 8 to 12 the pre-orbital length and is less than the diameter of the eye. Noticeably large eyes, small nostril pores shaped forward. The anterior border of the orbit is small, mouth without teeth; the apex of the snout is with almost vertical slit. Dorsal fin is always longer than the head in adult specimens, sometimes equal to or slightly lower than those in juveniles. Anal fin is small, spatulated, with relatively large queues. Pectoral fins are also relatively large, but do not reach to twice their length. It reaches out at about 20 cm in total length (Figure 3).

It is fished as by-catch with pelagic nets and occasionally with bottom trawl fishing vessels offshore. This species is not considered as endangered (IUCN, 2013). This is the first documentation of its occurrence in the study area, indicating a significant range extension of its previously known distribution. It is premature to assess whether the present population is represented by only a few visitors exploring the new area or it is a well-established population hitherto undetected, probably due to the lack of ichthyological expeditions and fishery surveys. Thus, there is a need to investigate further the frequency of occurrence and to study the biological characteristics of this species in order to determine whether it has established a sustainable population in its new surroundings.



Figure 2: *Syngnathus phlegon* Risso, 1827 (a) whole fish, (b) head

Table 1: Morphometric and meristic characters of the immature male specimen of *Syngnathus phlegon* Risso, 1827 caught in the west part of Sea of Marmara (HL, Head length; SL, Standard length)

| | |
|--------------|----------|
| Total weight | 16,2 g |
| Total length | 183,2 mm |

| Morphometric Characters | length (mm) | percentage (% in SL) | percentage (% in HL) |
|-------------------------|-------------|----------------------|----------------------|
| Standard length | 182 | - | - |
| Head length | 25,2 | 13,8 | - |
| Preorbital | 15,1 | - | 59,9 |
| Orbit diameter | 2,9 | - | 11,5 |
| Predorsal fin | 58,8 | 32,3 | - |
| Preanal fin | 62,9 | 34,6 | - |
| Pectoral fin | 4,2 | 2,3 | - |
| Dorsal fin | 30,5 | 16,7 | - |
| Anal fin | 1,9 | 1,0 | - |
| Maximum | 5,6 | 3,1 | - |
| Minimum | 1,9 | 1,0 | - |

| Meristic | Characters |
|-----------------------|------------|
| Dorsal soft rays | 41 |
| Anal soft rays | 3 |
| Pectoral fin rays | 15 |
| Caudal fin rays | 10 |
| Total rings | 67 |
| Total subdorsal rings | 13 |



Figure 3: *Syngnathus phlegon* (drawing obtained from Bini G. 1965)

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Author Profile

M. Levent Artüz led the MAREM (*Marmara Environmental Monitoring*) project in 1993 with I.T.U. Faculty of Naval Architecture and Ocean Engineering along with the measurements of Istanbul University. In the following years, MAREM project continued with the efforts of M. Levent Artüz and it has been proceeded by the Foundation of Sevinç-Erdal İnönü since 2006. The main project "**Changing Oceanographic Conditions of the Sea Of Marmara**" is the longest monitoring project that has ever been done for any of the seas. From 1954 to these days, at the Sea of Marmara and the Turkish straits, horizontally at 50 stations, there were about 25 parameters observed at the convenient depth cutaways. He is now the project leader of the multidisciplinary MAREM project.