

New records of pelagic fauna from the Turkish waters

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Received: 29.05.2017 • Accepted/Published Online: 13.04.2018 • Final Version: 04.05.2018

Abstract: In this work, three pelagic species have been recorded in the Northern Aegean Sea. The species were collected from depths between 500 and 800 m from 5 stations in summer 2016. While *Euphausia krohnii* is first recorded from the Turkish coast of the Aegean Sea, *Allosergestes sargassi* and *Flaccisagitta hexaptera* are reported for the first time from the Turkish seas. The results of the current study will contribute to the knowledge on the deep-water pelagic fauna of the Northern Aegean Sea.

Key words: *Allosergestes sargassi*, *Flaccisagitta hexaptera*, *Euphausia krohnii*, pelagic fauna, deep sea

The pelagic ecosystems are the largest by volume on the planet and harbor an extraordinary amount of organisms, which interact with each other and with the environment (Etnoyer et al., 2004). Neritic and oceanic ecosystems have very high biodiversity (Angel, 1993). Understanding the relationships between organisms and their environment helps us to assess the ecosystem's health status. There is a lack of detailed studies on the pelagic fauna of the Turkish seas. The aim of this paper is to make a contribution to the knowledge of the deep-water pelagic fauna of the Northern Aegean Sea.

Surveys were carried out with a fishing boat (12 m in length, 120 hp) on the pelagic waters of the Northern Aegean Sea in summer 2016. All samples were collected between depths of 500 and 800 m from 5 stations (Figure 1). A simple conical net with a mouth aperture of 3.2 m fitted with a net of 5-mm mesh at the cod end was designed for the sampling. The duration of each haul was 2 h and towing speed was on average 2.2 nautical miles. Collected species were deposited in formol (5%) at the Gökçeada Marine Research Department on Gökçeada Island.

Phylum: Arthropoda

Subphylum: Crustacea

Superclass: Multicrustacea

Class: Malacostraca

Subclass: Eumalacostraca

Order: Euphausiacea

Family: Euphausiidae

Euphausia krohnii (Brandt, 1851) (Figure 2)

Material examined: Eight specimens (6 ♂♂, 2 ♀♀); 8–14 mm TL; Stations 1 (40.236°N, 25.402°E), 3 (40.257°N, 25.749°E), and 4 (40.312°N, 25.804°E).

Description: *E. krohnii* was identified by the following diagnostic characters according to Mauchline (1980): rostrum is long and sharply pointed. It reaches the anterior limit of the eyes. The gastric region is convex. Carapace has two pairs of lateral denticles. *Euphausia* species can be distinguished by the number of denticles in the lappet. Peduncle of 1st antenna has a pectinate lappet with 9 teeth (the outer one being distally trifurcate) projecting anteriorly over the 2nd segment. The dorsal margin of the 2nd segment has two short but prominent spine-like tubercles, one on the outer edge and one on the inner edge. The 3rd segment has a keel.

Distribution: *E. krohnii* occurs in the North and tropical Atlantic. It is reported from Norway's waters (Wiborg, 1968) to equatorial African waters (Boden and Day, 1954). It also found throughout the Mediterranean Sea (Wiebe and D'Abrahamo, 1972; Guglielmo, 1979; Mauchline, 1980). Its presence was previously confirmed in the Turkish seas from the Levantine basin (Gücü et al., 2000).

Although a total of 9 species belonging to the order Euphausiacea have been found off the coasts of Turkey, they have not been reported from the Turkish coast of the Aegean Sea so far (Bakır et al., 2014). The current study reports the first *E. krohnii* specimens from the Turkish coast of the Aegean Sea.

Phylum: Arthropoda

Subphylum: Crustacea

Superclass: Multicrustacea

Class: Malacostraca

Order: Decapoda

Suborder: Dendrobranchiata

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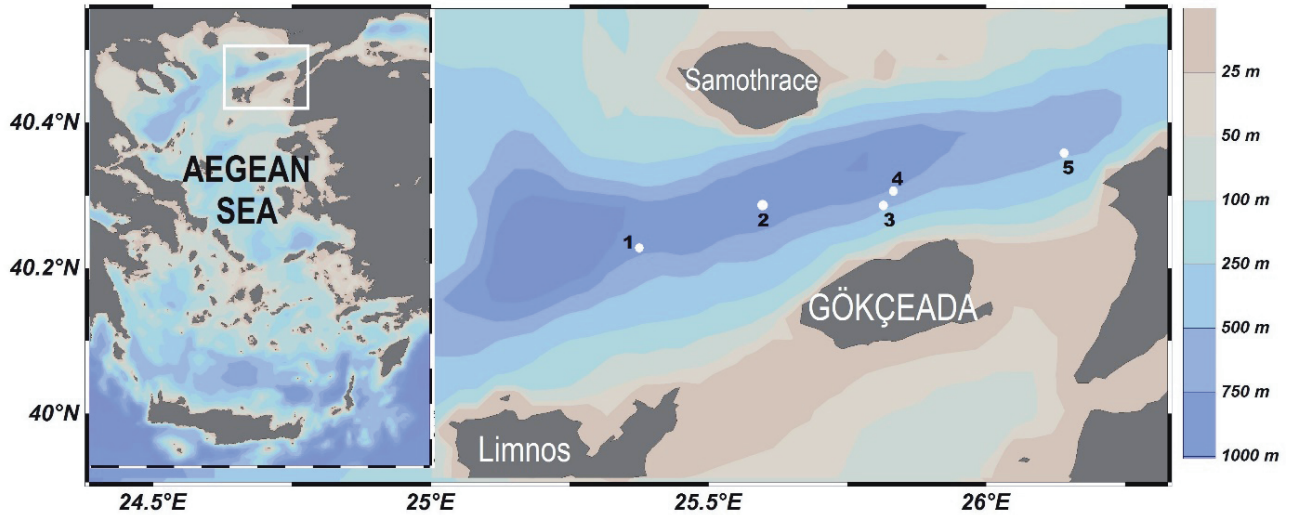


Figure 1. Sampling stations.

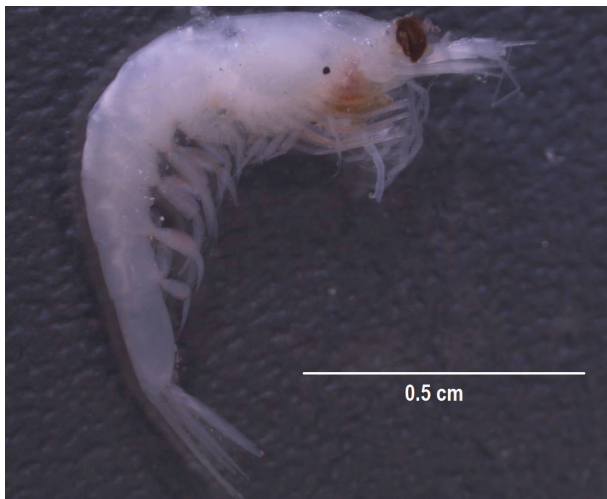


Figure 2. *Euphausia krohnii* (Brandt, 1851), ♀.

Family: Sergestidae

***Allosergestes sargassi* (Ortmann, 1893) (Figure 3)**

Material examined: Six specimens (1 ♂, 5 ♀♀); 21–31 mm TL; Stations 1 (40.236°N, 25.402°E), 2 (40.276°N, 25.606°E), and 5 (40.366°N, 26.108°E).

Description: *A. sargassi* was identified by the following diagnostic characters according to Farfante and Kensley (1997): carapace has red chromatophores. Rostrum is short and triangular. Supraorbital spine, dermal photophore, and organ of Pesta are absent. Maxilliped 3 is longer than pereopod 3. Comb-like spinations are absent on the dactyl and distal half of propodus of maxilliped 3.

Distribution: *A. sargassi* is a cosmopolitan species living in the Mediterranean sea and Atlantic from 45°N to 34°S (Crosnier and Forest, 1973; Farfante and Kensley, 1997). This species is also recorded from South Africa (Kensley, 2006). The only record from the Aegean Sea

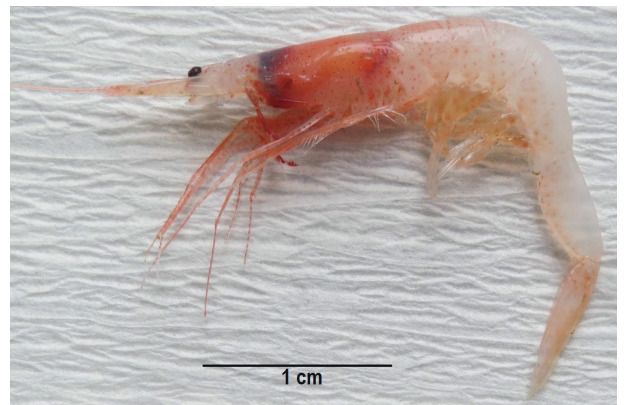


Figure 3. *Allosergestes sargassi* (Ortmann, 1893), ♀.

was documented by Koukouras (2000). The current study reports the species for the first time from the Turkish seas.

Phylum: Chaetognatha

Class: Sagittoidea

Order: Aphragmophora

Family: Sagittidae

***Flaccisagitta hexaptera* (d'Orbigny, 1836) (Figure 4)**

Material examined: Eight specimens; 38–42 mm TL; Stations 2 (40.276°N, 25.606°E), 4 (40.312°N, 25.804°E), and 5 (40.366°N, 26.108°E).

Description: *F. hexaptera* was identified by the following diagnostic characters according to Kassatkina (2007) and Michael (1908): its body is flaccid and transparent (Figure 4a). It has two pairs of lateral fins on its trunk. All fins are saclike gelatinous structures at their bases. Anterior fins are well posterior of the ventral ganglion. They are very small, round, and partially rayed. The posterior fin is

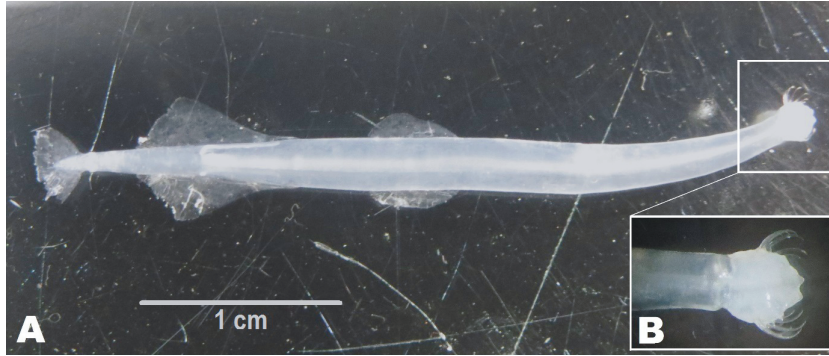


Figure 4. a) *Flaccisagitta hexaptera* (d'Orbigny, 1836); b) jaw of the species.

angular and longer than the anterior fin. There are thick rays in the fins. Teeth are in two rows. While number of front row teeth is 2, posterior row is 6 (Figure 4b).

Distribution: *F. hexaptera* is a cosmopolitan epipelagic species inhabiting the temperate and warm regions of all oceans. The species was documented in the Aegean Sea, Adriatic Sea (Batistic et al., 2003), and Eastern Mediterranean (Kehayias et al., 1994) and also its distribution reaches up to the Gulf of Aden, Red Sea, and North Sea. Until now, it was known only from the north

of Crete and the island of Arki for the Aegean Sea. The current study documented the first report of the species from the Turkish seas.

Acknowledgments

This work was supported by the Scientific Research Projects Coordination Unit of İstanbul University, Project Number 32622. The authors are grateful to George Kehayias for documents and identification of the chaetognath.

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