

NEW MEMBERS OF DECAPOD FAUNA IN FINIKE BAY, TURKEY

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ABSTRACT *Shrimp fishing is done by trawling in the deep waters of Antalya and Finike Gulfs. The shrimp species generally caught during this fishing are *Aristaeomorpha foliacea*, *Aristeus antannatus*, *Plesionika edwardsii*, *P. martia*. Besides these species, *Pasiphea multidentata* and *P. sivado*, which have no economic value, are rarely caught. Two different shrimp species were caught during trawling in the 400-500 m deep waters of Finike Bay on February 7, 2022. Since the fishermen did not know the shrimp species they caught, they wanted the species to be identified. It has been determined that these shrimp species caught in the deep waters of*

*Finike Bay are *Oplophoridae* family members i.e. *Acantheptyra eximia* and *A. pelagica*. These caught shrimps are pelagic species. With the discovery of these species in the Finike Bay, two more species were added to the Decapod fauna of the Finike Bay.*

Keywords: *Acantheptyra pelagica, Acantheptyra eximia, deep sea, Finike Bay, first record.*

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INTRODUCTION

There have been few scientific investigations in Finike Bay, which is located in southwest Turkey near the confluence of the Mediterranean and Aegean Seas. In the Finike Bay, trawling is carried out only in a certain area, due to the presence of seamounts and being a special protection zone (Öztürk, 2022). Bottom trawl fishing in the deep waters of the Finike Bay is generally done to catch deep-water fish and shrimp. During these fishing operations, shrimp species of the Oplophoridae family are also sometimes caught. Oplophoroid shrimps are widely distributed and frequently a significant part of the pelagic and benthopelagic oceanic populations (Lunina et al. 2019). *AcanthePHYRA pelagica* Risso, 1816 and *AcanthePHYRA eximia* Smith, 1884, are two species of deep-sea Oplophoroid shrimp.

There is little information available regarding the biology of these shrimp because they live in deep water and are rarely collected. *A. pelagica* and *A. eximia* are crustacean that belong to the order Decapoda, family AcanthePHYRIDAE. These species are found widespread in the North Atlantic, from Iceland to the Canary Islands, the Azores, Madeira, and the Mediterranean Sea (Landeira and Fransen, 2012). *A. pelagica* is a deep living crustacean with a bathymetric distribution between 200–2000 m depth, but most individuals are usually found at depths between 700 and 1800

m. This shrimp species has no economic value, although its high biomass in areas of great biological productivity suggests it is of great ecological importance. Cartes and Sarda (2007) examined the dietary habits of two deep-sea species living at depths between 610 and 2261 m in the western part of the Mediterranean basin and found that there was little dietary overlap between the two species. *A. eximia*, unlike *A. pelagica*, is an active scavenger that feeds on settled planktonic substances and living organisms at the bottom. Gastoni *et al.* (2010) and Follesa *et al.* (2013) examined the gonadal development of *A. eximia* macroscopically and histologically and detected 6 developmental stages in their eggs.

MATERIAL AND METHOD

There are several trawlers engaged in commercial shrimp fishing in the deep sea waters in Finike Bay. One of these boats is the "Eren Kardeşler". This boat has 27.7m length and 502 HP engine power. The mesh size of the trawl net used is 44 mm and the outer casing net is 88 mm. Two different shrimp species were caught in the net of this trawler, which was fishing deep-water shrimp species (*Aristaeomorpha foliacea* and *Aristeus antennatus*) on February 7, 2022, at the depths of 560-580 m in Finike Bay (coordinate 36°10.221'N; 30°04.959'E) (Fig. 1).

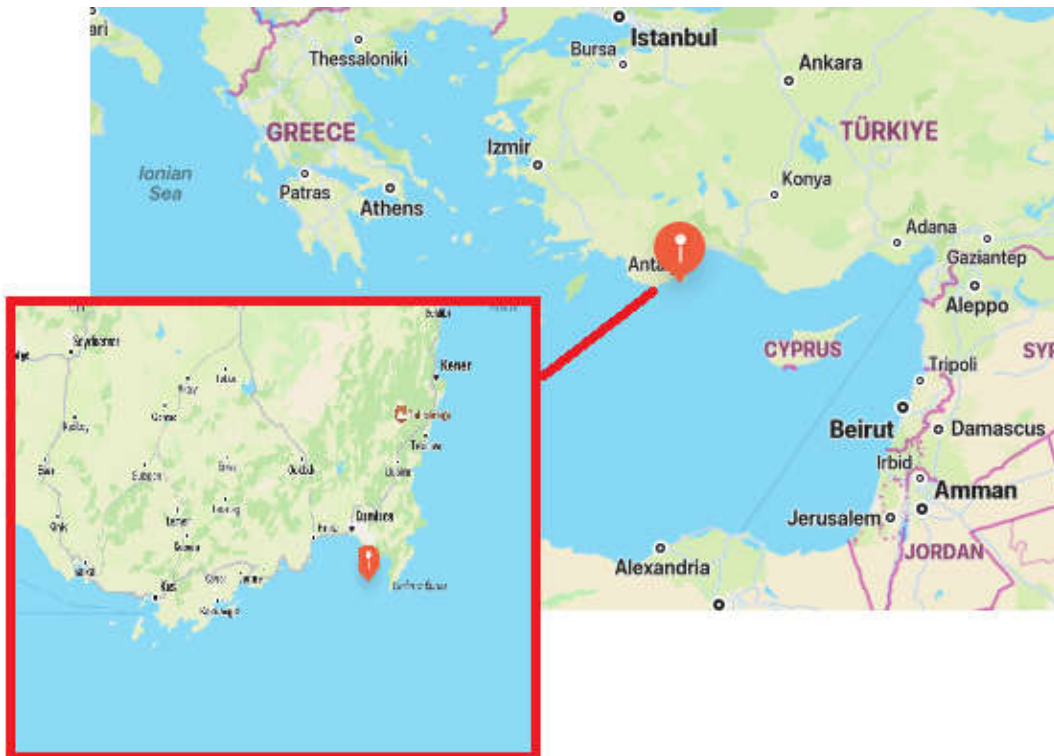


Figure 1. The map of the coordinates of trawl operations.

Trawling were operated for 2 hours at 2.5 knot. The fishermen kept these specimens in ice and brought them to the Antalya fishing port and asked us to identify the species. The specimens were brought to the laboratory of Faculty of Fisheries, Akdeniz University. The length and weight were measured. The species identification was performed according to Sivertsen and Holtius (1956), Pohle (1988), Kazmi and Kazmi (2010).

RESULT AND DISCUSSION

The new shrimp species, caught in the trawl operation at a depth of approximately 560-580 m in Finike Bay, is a deep-sea living nectobenthic shrimp

species belonging to the family Oplophoridae. These species were identified as *Acanthephyra eximia* Smith, 1884 and *Acanthephyra pelagica* Risso, 1816 according to diagnostic characters defined by Sivertsen and Holtius (1955), Takeda and Hatanaka (1984), Pohle (1988).

Acanthephyra eximia Smith, 1884 (Fig.2); The color of the shrimp identified as a species is cherry red, the rostrum is long and curved upwards, 7 teeth above the rostrum and 4 teeth below it are counted (Fig. 2-3).

Our findings for this shrimp were similar to the findings described by Sivertsen and Holtius (1955), Takeda and Hatanaka (1984), Pohle (1988), Kazmi and Kazmi (2010) for *A. eximia*.



Figure 2. *AcanthePHYRA eximia* caught in Finike Bay, Turkey



Figure 3. Rostrum and carapace of *AcanthePHYRA eximia*

AcanthePHYRA pelagica Risso, 1816; *AcanthePHYRA pelagica* is very similar to the *A. eximia* in the general shape of the carapace and colour but distinguished from it most remarkably by having 7-11 dorsolateral spines on the telson instead of 3-5. Our specimens had 8 teeth on the rostrum and 5 teeth ventral side (Fig. 4). They color were brilliant scarlet-red and telson with 9 pairs of dorsolateral spines. Carapace lengths were 2.4 and 2.3 cm; weights were 5.35

and 4.50 g, respectively. Abdominal segments 3-6 each with a mid-dorsal spine posteriorly.

Our findings for this shrimp were similar to the findings described by Sivertsen and Holtius (1956), Takeda and Hatanaka (1984), Pohle (1988), Kazmi and Kazmi (2010) for *A. pelagica*.



Figure 4: The specimen of *AcanthePHYRA pelagica*

Deep-sea shrimps (*AcanthePHYRA eximia* and *A. pelagica*) are shrimp species belonging to the Oplophoridae family, which generally lives between 200 and 4700 m depths of tropical and temperate seas. These shrimp species are mostly found in the deep waters of the central and western parts of the Mediterranean. Little is known about the biology of these species, since they are deep-water shrimps and not enough sampling. These nectobenthic species were identified in the south of Crete by Koukouras (2000), and in the Levantine Sea by Galil & Goren (1994). The juveniles of this very rare shrimp are reported to live in deeper waters than their parents. On the gonad development of *A. eximia* females caught at a depth of 500-1880 m in the Sea of Sardinia, Follesa *et al.* (2013) identified six developmental stages in their study. Cartes (1993) examined the feeding strategies of *A. eximia* between 400 and 2300 m depths. Accordingly, it has been reported that, unlike *AcanthePHYRA pelagica*, this species consumes planktonic substances settled at the bottom as food and is an active scavenger.

Bottom trawling fishing in the deep waters in Finike Bay is carried out to catch deep-water shrimps *A. folicia* and *A. an-*

tennatus. These shrimp species live between 80 m and 3300 m (Kapiris and Legaki, 2009). These shrimp species are caught from the deep waters of the Mediterranean.

CONCLUSION

Bottom trawling in the deep waters in Finike Bay is carried out to catch deep-water shrimps *A. folicia* and *A. antennatus*. Some non-target creatures are also caught during these fishing operations. *A. eximia* and *A. pelagica* were among the creatures caught off-target. With this article, two species belonging to the decapod family of Finike Bay were reported and two more species were added to the bay fauna.

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Yılmaz, M., Yıldız, A.: *collecting data,*
identifying species, writing manuscript.