

Sea Spiders (Arthropoda: Pycnogonida) from the Antalya Bay (Turkey, Eastern Mediterranean Sea)

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Research Article

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Abstract

Sampling studies in Antalya Bay revealed the presence of two species of Pycnogonida belonging to the genus *Tanystylum*. These species are identified as *T. conirostre* (Dohrn, 1881) and *T. orbiculare* Wilson, 1878. The presence of *T. conirostre* is reported herein for the first time from the Antalya Bay, also the second time from the Mediterranean coast of Turkey and the Levantine Sea. The record therefore further extends the known distribution of the species from the Mersin Bay to the Antalya Bay in the Levantine Sea. *T. orbiculare* is reported in this study the second time from the Antalya Bay and the third time from the Mediterranean coast of Turkey. Distribution map of both species in the eastern Mediterranean Sea is provided, together with photographs and line drawings of the species.

Keywords: Pycnogonida, *Tanystylum*, Antalya Bay, Turkey, eastern Mediterranean

Antalya Körfezi (Türkiye, Doğu Akdeniz)'nden deniz örümcekleri (Arthropoda: Pycnogonida)

Özet

Antalya Körfezi'nde yapılan örnekleme çalışmaları, *Tanystylum* cinsine ait iki pycnogonid türü olan *T. conirostre* (Dohrn, 1881) ve *T. orbiculare* Wilson, 1878' nin varlığını ortaya koymuştur. *T. conirostre* Antalya Körfezi'nden ilk kez, Türkiye'nin Akdeniz Kıyılarından ve Levantin Denizi'nden ise ikinci kez bu çalışmada rapor edilmiştir. *T. orbiculare* ise Antalya Körfezi'nden ikinci kez, Türkiye'nin Akdeniz kıyılarından ise üçüncü kez rapor edilmiştir. Her iki türün doğu Akdeniz'deki dağılımı, fotoğraf ve çizimi çalışmada verilmiştir.

Anahtar Kelimeler: Pycnogonida, *Tanystylum*, Antalya Körfezi, Türkiye, Doğu Akdeniz

INTRODUCTION

The only scientific report to date of the pycnogonids of the Antalya Bay in Turkey (Stock, 1962) recorded two species (*Tanystylum orbiculare* Wilson, 1878 and *Achelia* sp.). *T. orbiculare* is reported also in this study from the Bay. Until now, only these two pycnogonid species were known from the region. Additional samplings carried out in Antalya Bay revealed also the presence of *Tanystylum conirostre* (Dohrn, 1881). The present study provides a new locality for *T. conirostre* in the Mediterranean coast of Turkey and the Levantine Sea, also information about the distribution of both species in the eastern Mediterranean Sea.

MATERIALS AND METHODS

Pycnogonids were collected at two sampling stations from hydroids (Figure 1) in the upper infralittoral zone (0.5-0.7 m depth) of Antalya Bay (Figure 2). Coll. F. Durucan. Collected specimens were fixed in 5% formaldehyde in the field and later rinsed with fresh water, and were then preserved in 70% ethyl alcohol in the laboratory. The specimens sampled were examined under a stereomicroscope. Drawings were made with the aid of a drawing tube mounted on an Olympus CX31 compound microscope. All pycnogonid specimens were identified to the species level using works by Stock (1968), Child (1992), and Lehmann et al. (2014). The specimens were deposited in the Museum of the Faculty of Fisheries, Ege University, İzmir, Turkey (ESFM).

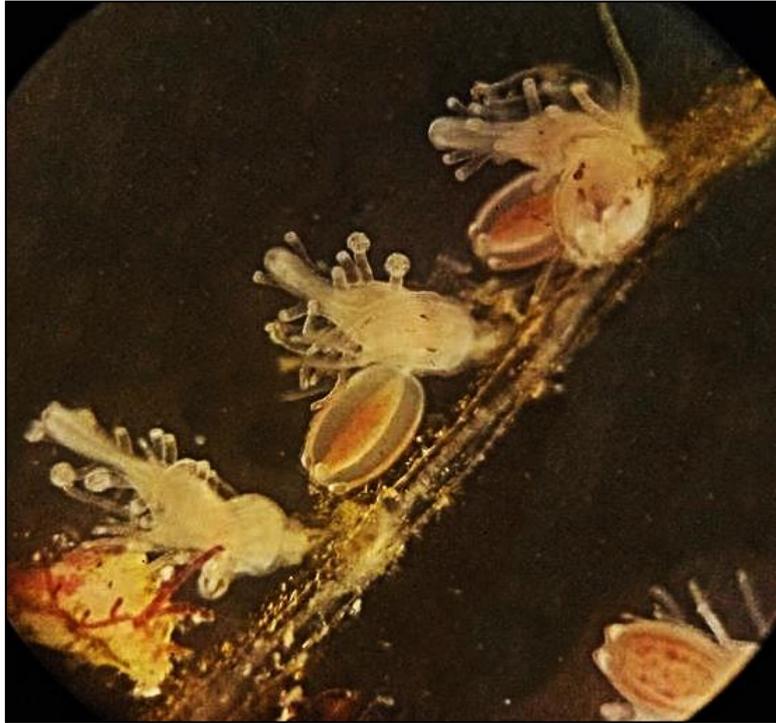


Figure 1. *Pennaria disticha* Goldfuss, 1820, where the pycnogonid specimens are collected (photographed by F. Durucan).

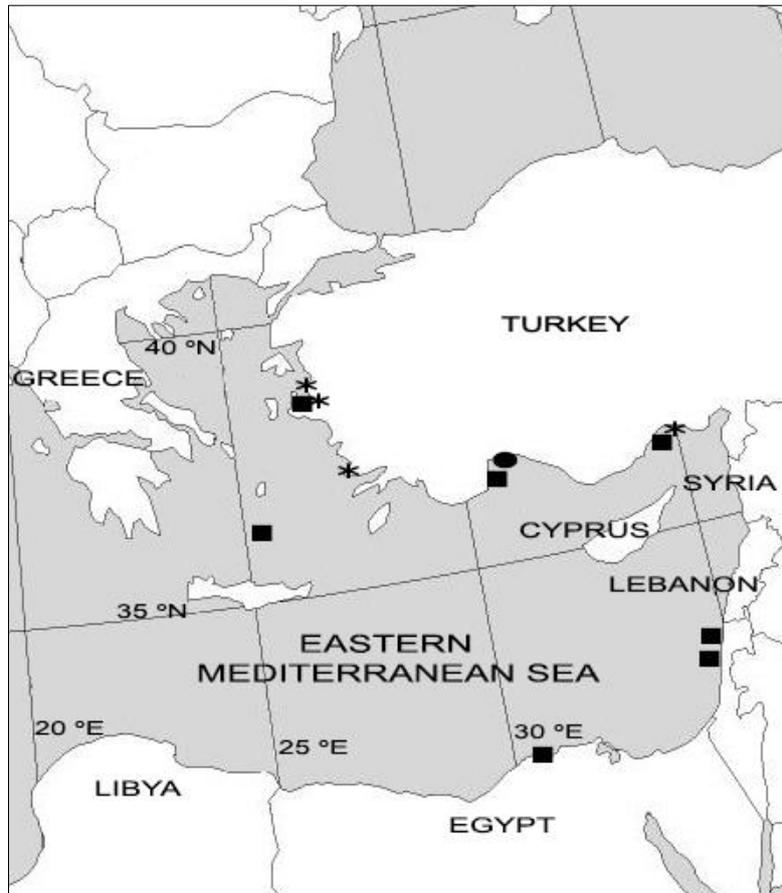


Figure 2. Known distribution of *Tanystylum orbiculare* Wilson, 1878 and *Tanystylum conirostre* (Dohrn, 1881) in the eastern Mediterranean Sea: filled rectangle, previous records of *T. orbiculare*; asterisk, previous records of *T. conirostre*; filled circle, indicating the present sampling area, i.e., Antalya Bay, as reported upon in this study

RESULTS

A total of 15 pycnogonid specimens belonging to one genus (*Tanystylum*) and 2 species (*T. orbiculare*, *T. conirostre*) were found from the Antalya Bay.

Systematics

Class PYCNOGONIDA Latreille, 1810

Order PANTOPODA Gerstaecker, 1863

Family AMMOTHEIDAE Dohrn, 1881

Genus *Tanystylum* Miers, 1879

Tanystylum orbiculare Wilson, 1878 (Figure 3)

Synonymised taxa: *Clotenia orbiculare* (Wilson, 1878)

Material examined: St. İnciraltı, (36.859913 N, 30.728615 E), *Pennaria disticha* Goldfuss, 1820, 0.7 m, 1♂, 3♀♀, 1 subadult ♂, 1 subadult ♀ (EFSM-PYC/2020-1), 03.07.2020; St. Hamitbey, (36.875957 N, 30.7068491 E), *P. disticha*, 0.5 m, 2♀♀, (EFSM-PYC/2020-2), 14.07.2020.

Previous records of *T. orbiculare* from the eastern Mediterranean Sea: ISRAEL. Haifa Bay (Stock, 1958a), Tantara (Stock, 1958b); EGYPT. Alexandria (Helfer, 1936); GREECE. Santorini Island (Arnaud, 1987); TURKEY. Aegean coast of Turkey (İzmir Bay (Arnaud, 1976; Krapp et al. 2008), Mediterranean coast of Turkey (Antalya Harbour (Stock, 1962); Mersin Bay (Koçak and Alan, 2013) (Figure 2).

Worldwide Distribution: Atlantic-Mediterranean (Soler-Membrives and Munilla, 2015).

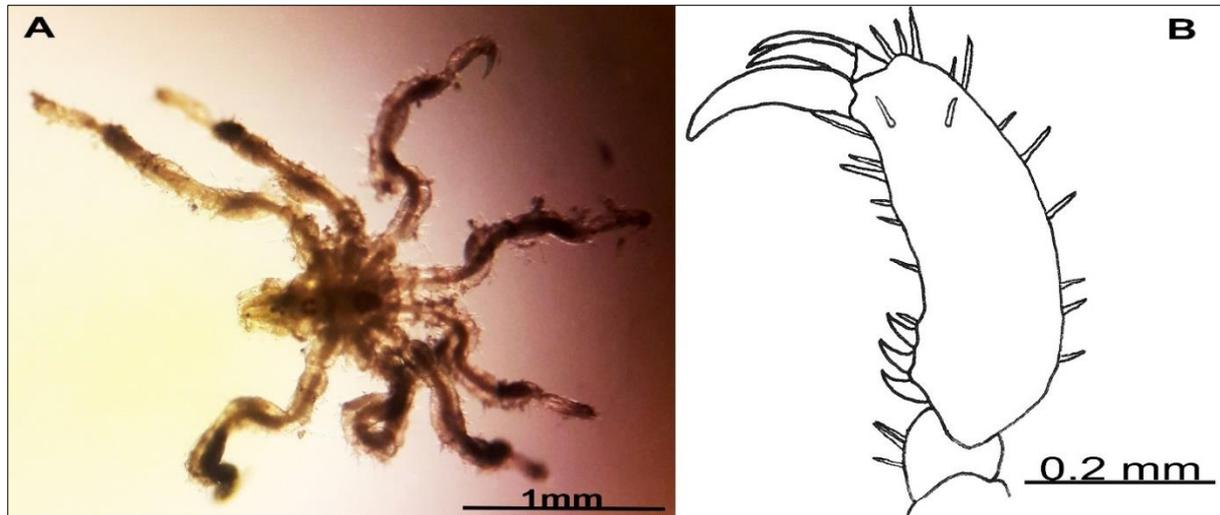


Figure 3. *Tanystylum orbiculare* Wilson, 1878, ♂, from Antalya Bay. A- Dorsal view; B-Tarsus and propodus of left leg 4.

Tanystylum conirostre (Dohrn, 1881) (Figure 4)

Synonymised taxa: *Clotenia conirostris* Dohrn, 1881

Material examined: St. İnciraltı, (36.859913 N, 30.728615 E), *P. disticha*, 0.7 m, 2♂♂, 2 subadult ♀♀, 2 juveniles (EFSM-PYC/2020-3), 03.07.2020; St. Hamitbey, (36.875957 N, 30.7068491 E), *P. disticha*, 0.5 m, 1 subadult ♀ (EFSM-PYC/2020-4), 14.07.2020.

All previous records of *T. conirostre* in the eastern Mediterranean Sea were from Turkey: Aegean coast of Turkey (İzmir Bay: Arnaud, 1976; Krapp et al. 2008; Çinar et al. 2008. Gencelli cove: Krapp et al. 2008. Torba-Bodrum: Krapp et al. 2008). Mediterranean coast of Turkey (Mersin Bay: Koçak and Alan, 2013) (Figure 2).

Worldwide Distribution: Atlantic-Mediterranean (Soler-Membrives and Munilla, 2015).

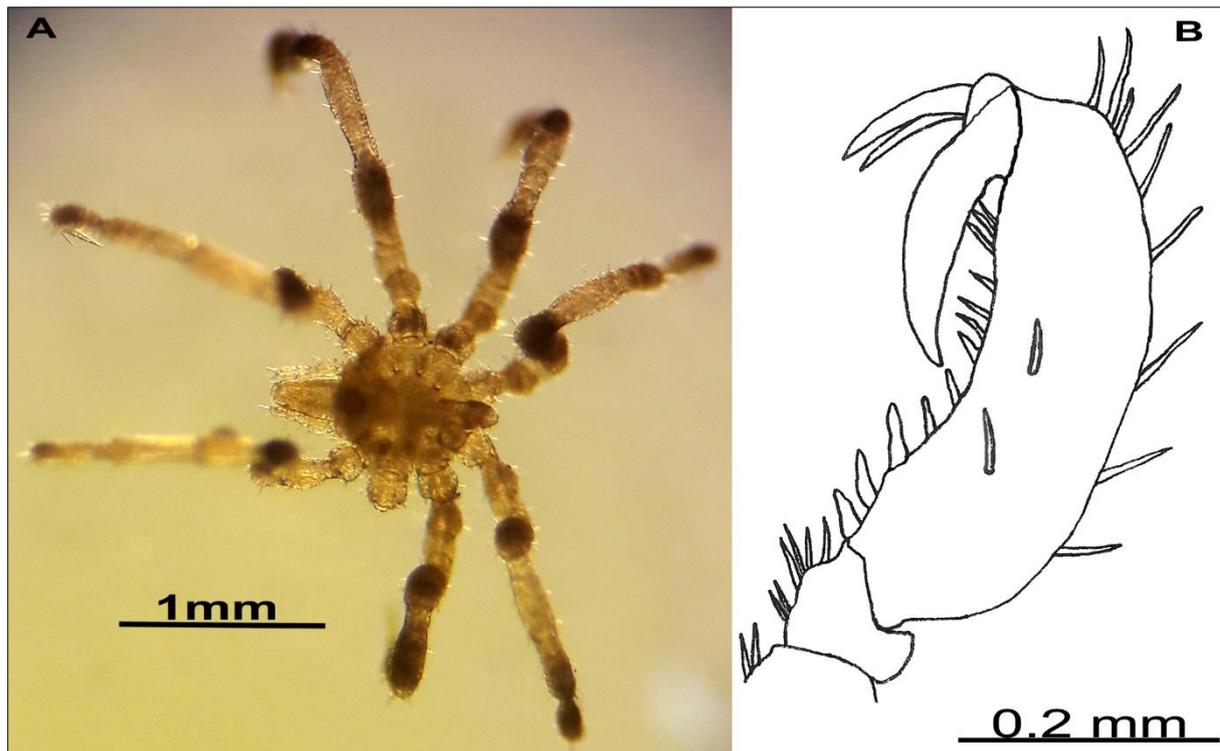


Figure 4. *Tanystylum conirostre* (Dohrn, 1881), ♂, from Antalya Bay. A-Dorsal view; B-Tarsus and propodus of left leg 4.

DISCUSSION

In this study, two pycnogonid species were identified belonging to the genus *Tanystylum* (*T. conirostre* and *T. orbiculare*) from the study area. *T. conirostre* is reported herein for the first time from the Antalya Bay, also second time from the Mediterranean coast of Turkey and the Levantine Sea. This species was reported from the Levantine Sea (Mersin Bay) by Koçak & Alan (2013). The record in the present study therefore further extend the known distribution of the species from the Mersin Bay to the Antalya Bay in the Levantine Sea. The presence of *T. orbiculare* is reported in this study the second time from Antalya Bay and third time from the Mediterranean coast of Turkey.

The earlier study by Stock (1962) reported two pycnogonid species (*T. orbiculare* and *Achelia* sp.) from the research area, *T. orbiculare* was also obtained in the present study. With the addition of *T. conirostre*, the known pycnogonid fauna of Antalya Bay rises to a total of three species. These three different species of pycnogonids, out of a total number of 29 species in Turkey (Kocak, 2019), represent 10.3% of all known pycnogonid species. To date, a total number of eight pycnogonid species were found in the Turkish Mediterranean Sea (Kocak, 2015). Thus, the reported three species in the Antalya Bay represent 37.5% of the actual Turkish Mediterranean Sea species.

The known pycnogonid species in Antalya Bay were reported in shallow water. Therefore, we believe that deep-sea samplings in Antalya Bay and more detailed examinations along the coasts of Antalya Bay will result in a more accurate count of the species of pycnogonida occurring in the region.

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