www.trjfas.org
ISSN 1303-2712
Turkish Journal of Fisheries and Aquatic Sciences 16: 739-741 (2016) DOI: 10.4194/1303-2712-v16_3_10

SHORT PAPER

Callipallene tiberi (Dohrn, 1881) (Arthropoda, Pycnogonida): A Pycnogonid New for the Eastern Mediterranean

Cengiz Koçak[1,*]

[1] Department of Hydrobiology, Fisheries Faculty, Ege University, TR 35100, Bornova-Izmir, Turkey.

* Corresponding Author: Tel.: +90.232 3112415 ; Fax: +90.232 3883685 ;
E-mail: kocakcengiz@gmail.com

Received 02 March 2016
Accepted 04 May 2016

Abstract

Two male specimens of *Callipallene tiberi* (Dohrn, 1881) were found at Urla (Izmir Bay, Turkish Aegean Sea). The species was hit her to known in the Mediterranean Sea only in the western and central Mediterranean. Morphological features of the species are illustrate dandits distribution in the Mediterranean Sea is shown.

Keywords:Pycnogonida, *Callipallene tiberi* , Mediterranean Sea, eastern Mediterranean.

***Callipallene tiberi* (Dohrn, 1881) (Arthropoda, Pycnogonida): Doğu Akdeniz İçin Yeni Bir Pycnogonid Türü**

Özet

Callipallene tiberi (Dohrn, 1881) türünün 2 erkek bireyi Urla (İzmir Körfezi, Türk Ege Denizi)'dan rapor edilmiştir. Bu tür bugüne kadar Akdeniz'de sadece batı ve merkez Akdeniz'den bilinmektedir. Türün morfolojik özellikleri ve Akdeniz'deki dağılımı gösterilmiştir.

Keywords:Pycnogonida, *Callipallene tiberi*, Akdeniz, doğu Akdeniz.

Introduction

Previously records of *Callipallene tiberi* (Dohrn, 1881) from the Mediterranean Sea are from the western and central basins (Dohrn, 1881; Krapp, 1973; Krapp-Schickel and Krapp, 1975; Schüller, 1989; Munilla, 1991,1994; Munilla and Nieto, 1999; Munilla and San Vincente, 2000:2005; Vignoli *et al*., 2006; Lehman *et al*., 2014). There is no record of *C. tiberi* from the eastern Mediterranean as yet. Samples fromUrla (İzmir Bay, Turkish Aegean Sea) retrieved in 2012 yielded two specimens of the genus *Callipallene*. This is identified herein as *Callipallene tiberi*.

To date, 3 species of *Callipallene* have been recorded from the eastern Mediterranean Sea: *C. emaciata* (Dohrn, 1881); Egypt (Helfer, 1936), Grece (Arnaud, 1987), Turkey (Arnaud, 1976; Krapp *et al*., 2008). *C. phantoma* (Dohrn, 1881); Greece (Arnaud, 1987), Turkey (Arnaud, 1976; Krapp *et al*., 2008). *C. spectrum* (Dohrn, 1881); Egypt (Helfer, 1936), Turkey (Krapp *et al*., 2008).

In the present study, *C. tiberi* is reported for the first time from the eastern Mediterranean.

Materials and Methods

Two specimens of *Callipallene tiberi* were collected by snorkelling from *Cystoseira mediterranea* facies at one station in the upper infralittoral zone (0.5 m depth) of Urla, İzmir Bay (Figure 1). The samples were fixed in 5% formaldehyde and later rinsed with fresh water and then preserved in 70% ethanol. The specimens sampled were examined and dissected under a stereomicroscope, and slide mounts were examined under a compound microscope. Drawings were made with the aid of a drawing tube mounted on an Olympus CX31 compound microscope. The following papers were used for the species identification: Stock (1952) and Munilla and Soler-Membrives (2014). The specimens were deposited in the ESFM (Museum of the Faculty of Fisheries, Ege University, İzmir).

Figure 1. Known localities of *Callipallene tiberi* (Dohrn, 1881) in the Mediterranean Sea (filled circle), including the sampling area (asteriks).

Results

Systematics
Order PANTOPODA Gerstäcker, 1863
Family CALLIPALLENIDAE Hilton, 1942
Genus CALLIPALLENE Flynn, 1929
***Callipallene tiberi* (Dohrn, 1881)**
Synonyms: *Pallene tiberii* Dohrn, 1881, *Callipallene emaciata tiberii* (Dohrn, 1881)
Material examined: 2 ♂♂ (1 ovigerous) (EFSM-PYC/2012-1), Urla (İzmir Bay, Turkish Aegean Sea), 38°22'27"N, 26°47'13"E, *Cystoseira mediterranea* Sauvageau, 1912, 0.5 m, 15.01.2012.
Diagnosis: ♂ (ovigerous). Trunk length (from frontal margin of first trunk segment to tip of fourth lateral process) 1.0 mm, fully segmented, cephalon with very short neck, chelifores well developed, scapes one segmented. Proboscis short, with a distinctly angulate outline (Figure 2 A). Oviger with 10 segments; the 5th segment longest, with laterodistal knob bearing one seta, strigilis with row of denticulate spines, without terminal claw; row of spines arranged according to the formula 6:5:5:6 (Figure 2D). Legs slender, with few setae (Figure 2B). Propodus well curved, with 4 heel spines; auxiliary claws about half as long as claw (Figure 2C). (Stock, 1952; Munilla and Soler-Membrives, 2014).
Worldwide Distribution: Eastern Atlantic Ocean, western and central Mediterranean Sea.

Discussion

All earlier records of *Callipallene tiberi* (Dohrn, 1881) from the Mediterranean Sea are from the western and central regions (Figure 1). Spanish coast: Malaga, Alboran Sea (Munilla, 1991); Chafarinas Islands, Alboran Sea (Munilla and Nieto, 1999); Ceuta (Tarragona (Munilla and San Vicente, 2000:2005). Italian coast: Naples (Dohrn,1881; Munilla, 1994); Catania, Sicily Island (Krapp, 1973); Costa d'Argento-Southern Tuscany (Vignoli *et al*., 2006); Giglio Island (Lehmann *et al*., 2014). Croatian coast: Islet of Banjole, Adriatic Sea (Krapp-Schickel and Krapp, 1975); Rovinj, Adriatic Sea (Schüller, 1989).

The new record of *C. tiberi* reported in this study further extends the known distribution of this species to the east in the Mediterranean Sea. Therefore, *C. tiberi* now has an established distribution ranging from the eastern Atlantic Ocean (Bay of Biscay (Soler-Membrives and Munilla, 2015); England (Munilla and Soler-Membrives, 2014), Canary Islands-La palma, Strait of Dover (Stock, 1990)) to the eastern Mediterranean. With this species, the total number of species is raised to 29 in the eastern Mediterranean, as follows:

Ammothella longipes (Hodge, 1864); *A.uniunguiculata* (Dohrn, 1881). *A. longioculata* (Faraggiana, 1940); *A. biunguiculata* (Dohrn, 1881); *A. appendiculata* (Dohrn, 1881). *Achelia langi* (Dohrn, 1881); *A. vulgaris* (Costa, 1861); *A. echinata Hodge, 1864. Tanystylum orbiculare* Wilson, 1878; *T. conirostre* (Dohrn, 1881). *Trygaeus communis. Ascorhynchus castelli* (Dohrn, 1881). *Anoplodactylus petiolatus* (Kroyer, 1844); *A. pygmaeus* (Hodge, 1864); *A. virescens* (Hodge, 1864); *A. digitatus* (Böhm, 1879); *A. californicus* Hall, 1912; *A. angulatus* (Dohrn, 1881); *A. nanus* Krapp, Kocak & Katagan, 2008. *Rhynchothorax mediterraneus* Costa, 1861. *Callipallene emaciata* (Dohrn, 1881); *C. phantoma* (Dohrn, 1881); *C. spectrum* (Dohrn, 1881). *C. tiberi* (Dohrn, 1881). *Pigrogromitus timsanus*, Calman, 1927. *Pycnogonum nodulosum* Dohrn, 1881. *Endeis charybdaea* (Dohrn, 1881); *E. spinosa* (Montagu, 1808). *Nymphon gracile* Leach, 1814.

These 29 species of pycnogonids, out of a total number of species worldwide of 1330 (Munilla and Soler-Membrives, 2014). They thus represent 2.1% of

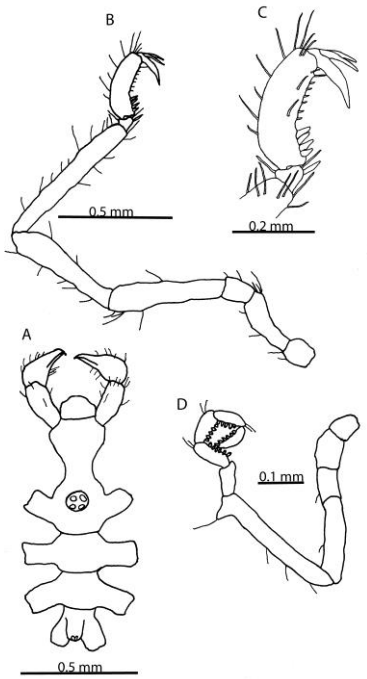

Figure 2. *Callipallene tiberi* (Dohrn, 1881), ♂ (ovigerous) from Urla, İzmir Bay (Aegean Sea): A. Dorsal view; B. Right leg 3; C. Propodus and tarsus of the same leg D. Right oviger.

the actual world species. To date, 56 the total number of pycnogonid species found in the Mediterranean Sea (Kocak, 2015). Thus, the reported 29 species in the eastern basin of Mediterraanean Sea repsesent 51.7% of the actual Mediterranean Sea species.

References

Arnaud, F. 1976. Sur quelques pycnogonides de Turquie et de la mer Egée (Méditerranée orientale). Acta ecologica Iranica, 1(1): 68–71.

Arnaud, F. 1987. Les pycnogonides (Chelicerata) de Méditerranée: Distribution écologique, batyhmétrique et biogéographie. Mésogée, 47: 37–58.

Dohrn, A. 1881. Die Pantopoden des Golfes von Neapel und der angrenzenden Meeres-Abschnitte. W. Engelmann, Leipzig, 252 pp.

Helfer, H. 1936. The fishery grounds near Alexandria (Egypt), VII. Pantopoda. Notes and memoirs, Ministry of Commerce and Industry, Fisheries Research Directorate Egypt, 16: 1–6.

Kocak, C. 2015. A checklist of the Pycnogonids (Arthropoda) from Turkish waters. Acta Adriatica, 56 (2): 189 – 198.

Krapp, F. 1973. Pycnogonida from Pantellaria and Ctania, Sicily. Beaufortia, 21: 55-74.

Krapp-Schickel, G and Krapp, F. 1975. Quelques traits de l'écologie d'amphipodes et de pycnogonides provenant d'un ilot nord-Adriatique. Vie et Milieu, 25 (1-B): 1-32.

Krapp, F., Kocak, C. and Katagan, T. 2008. Pycnogonida (Arthropoda) from the eastern Mediterranean Sea with description of a new species of *Anoplodactylus*. Zootaxa, 1686: 57–68.

Lehmann, T., Heß, M. and Melzer, R.R. 2014. Common littoral pycnogonids of the Mediterranean Sea. Zoosystematics and Evolution, 90 (2): 163–224. doi: 10.3897/zse.90.7520

Munilla, T. 1991. Picnogónidos litorales recogidos sobre el alga Mesophyllum lichenoides en Nerja (Málaga, Mar de Alborán). Orsis, 6: 95-99.

Munilla, T. 1994. Picnogónidos existentes en el Museo Nacional de Ciencias Naturales de Madrid. Orsis, 9: 109-111.

Munilla, T. and Nieto, D. 1999. Littoral pycnogonids from the Chafarinas Islands (Alboran Sea, western Mediterranean). Vie et Milieu, 49: 155–161.

Munilla, T. and San Vicente, C. 2000. Suprabenthic pycnogonids from Creixell Beach (Tarragona, West Mediterranean). Cahiers de Biologie Marine, 41 (3): 321-328.

Munilla T, San Vicente C (2005). Suprabenthic biodiversity of Catalan beaches (NW Mediterranean). Acta Oecologica, 27: 81-91. doi:10.1016/j.actao.2004.09.006

Munilla, T. and Soler-Membrives, A. 2014. Pycnogonida. Serie Fauna Ibérica. Museo Nacional de Ciencias Naturales, CSIC, Madrid, 296 pp.

Schüller, S. 1989. Die pantopodenfauna von Rovinj (Nördliche Adria) und der Jahreszyklus einiger Arten. Bonner Zoologische Beiträge, 40 (3-4): 285-295.

Soler-Membrives, A. and Munilla, T. 2015. PYCNOIB: Biodiversity and Biogeography of Iberian Pycnogonids. PLoS ONE, 10 (3): e0120818. doi:10.1371/journal.pone.0120818.

Stock, J. H. 1952. Revision of the European representatives of the genus Callipallene Flynn, 1929 (Pycnogonida). Beaufortia, 13: 1–15.

Stock, J.H. 1990. Macaronesian Pycnogonida. CANCAP-project. Contribution 78. Zoologische Mededelingen, 63 (16): 205-233.

Vignoli, V., Magari, V. and Bernini, F. 2006. Preliminary study on the pycnogonids associated to photophilous algae from the "Costa d'Argento" (Southern Tuscany) (Arthropoda: Pycnogonida). Bollettino della Societa Entomologica Italiana, 138: 3–8.