

**ARAŞTIRMA MAKALESİ / RESEARCH ARTICLE**

**SPIDERS (ARANEAE) NEW TO THE FAUNA OF TURKEY. 10. TWO NEW SPECIES RECORDS OF TETRAGNATHIDAE**

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**ABSTRACT**

Two tetragnathid species: *Metellina mengei* (Blackwall, 1870) and *Tetragnatha pinicola* L. Koch, 1870 are reported from Turkey for the first time. Both species are illustrated. The occurrence of *Metellina segmentata* (Clerck, 1757) in Turkey is questioned. In total, 13 species of Tetragnathidae belonging to four genera are now known from Turkey.

**Keywords:** Anatolia, Spiders, New record.

**TÜRKİYE ÖRÜMCEK (ARANEAE) FAUNASI İÇİN YENİ KAYITLAR. 10. TETRAGNATHIDAE FAMILİYASI İÇİN İKİ YENİ TÜR KAYDI**

**ÖZ**

*Metellina mengei* (Blackwall, 1870) ve *Tetragnatha pinicola* L. Koch, 1870, iki tetragnathid türü Türkiye'den ilk kez rapor edilmektedir. Her iki türe ait resimler makale içerisinde sunulmuştur. Tetragnathidae familyası Türkiye'de ait dört cins 13 tür ile temsil edilmektedir. Bunlardan *Metellina segmentata* (Clerck, 1757)'nin varlığı ise şüphelidir.

**Anahtar Kelimeler:** Anadolu, Örümcekler, Yeni kayıt.

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## 1. INTRODUCTION

This paper is the tenth in a series on new spider records for Turkey and is devoted to the family Tetragnathidae. Eleven species of tetragnathids have previously been reported from Turkey by Bayram et al. (2010) as follows: *Meta* C.L. Koch, 1836 (*M. bourneti* Simon, 1922 and *M. menardi* (Latreille, 1804)), *Metellina* Chamberlin & Ivie, 1941 (*M. merianae* (Scopoli, 1763), *M. orientalis* (Spassky, 1932) and *M. segmentata* (Clerck, 1757)), *Pachygnatha* Sundevall, 1823 (*P. degeeri* Sundevall, 1830 and *P. listeri* Sundevall, 1830) and *Tetragnatha* Latreille, 1804 (*T. extensa* (Linnaeus, 1758), *T. montana* Simon, 1874, *T. obtusa* C.L.Koch, 1837 and *T. striata* L.Koch, 1862). Our new records from two of the previously recorded genera (*Metellina* and *Tetragnatha*) bring the new total to 13.

## MATERIAL AND METHODS

All specimens were collected during the Turkish-Russian Arachnological expedition from May 27 – June 14, 2009 and from 15-30 September, 2010. The specimens were collected by sweeping, hand picking, litter sifting and tree branch beating with the help of an aspirator, and then preserved in 70% ethanol. Specimens were photographed using an Olympus Camedia E-520 camera attached to an Olympus SZX12 stereomicroscope. The images were montaged using "CombineZM" image stacking software. Photographs were taken in dishes of different sizes with paraffin in the bottom. Different sized holes were made in the bottom to keep the specimens in the required position. Each species is supplied with the most appropriate identification references (chiefly well known identification books).

The material treated herein is deposited in the Zoological Museum of Anadolu University and in the Zoological Museum of Moscow State University.

### Species survey

#### *Metellina mengei* (Blackwall, 1870)

Figs 1-3

- M. m.*: Levi, 1980: 34, f. 105-107 (♂♀).  
*Meta m.*: Roberts, 1985: 202, f. 90b, g, 91b (♂♀).  
*Meta m.*: Roberts, 1995: 308, f. (♂♀).  
*Meta m.*: Roberts, 1998: 322, f. (♂♀).  
*M. m.*: Almquist, 2005: 113, f. 132a-h (♂♀).

**Material examined.** 1♂, Bursa Province, İnegöl District, environs of Great Oylat Cave, 39°56.601'N 29°35.492'E, 519 m, shaking ivy growing on cliff and among ivy's roots, 3.06.2009 (Y.M.Marusik & K.B.Kunt); 1♀, Bursa Province, Uludağ National Park, 40°08'21"N, 29°01'32"E, 900m, *Pinus-Quercus-Fagus* forest, litter, 24.09.2010 (Y.M.Marusik & K.B.Kunt); 1♀ [T-25/0] Bursa Province, Keles District, near Baraklı Lake, 39°57'59"N, 29°14'24"E, 1122m, oak stand with pine, 25.09.2010 (Y.M.Marusik). 1♀, Antalya Province, Alanya District, Taşatan Plateau, 36°40.244'N 32°10.210'E, 1208 m, 9.06.2009 (Y.M.Marusik & K.B.Kunt); 2♂♀, Çankırı Province, Ilgaz Mountain National Park, 41°04'41"N, 33°43'56"E, 1858m, *Abies-Pine* forest, on bark, 15.09.2010 (Y.M.Marusik); 1♀, Bilecik Province, Mezit 11, 39°55'17"N, 29°46'37"E, 731m, leaf litter in *Fagus* forest, 23.09.2010 (Y.M.Marusik).

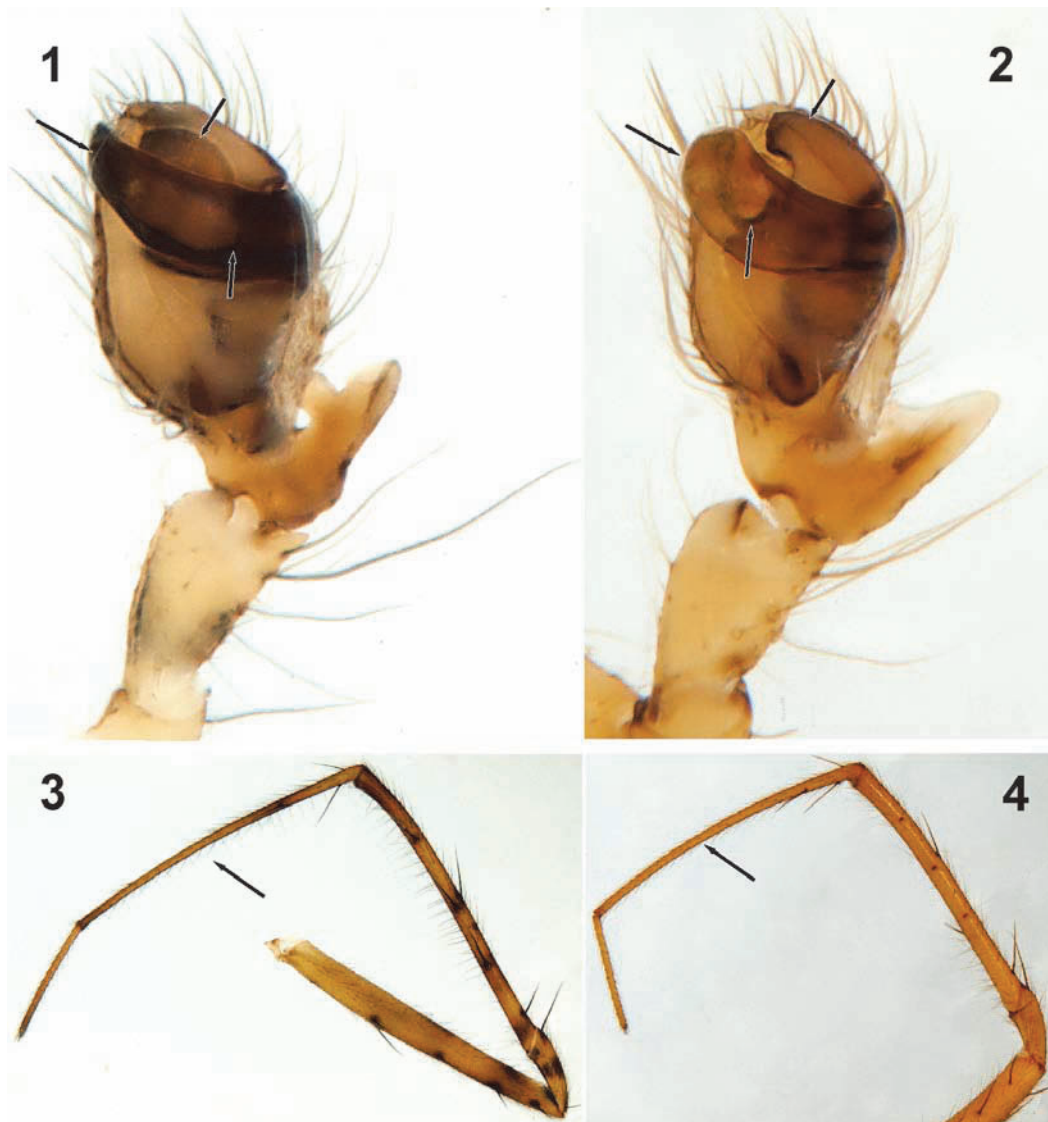
**Comments.** Until recently, 3 species of *Metellina* (*M. merianae* (Scopoli, 1763), *M. orientalis* (Spassky, 1932) and *M. segmentata* (Clerck, 1757)) were known from Turkey (Bayram et al., 2010). *M. mengei* is a close relative of *M. segmentata*. The main differences between males of these species are shown in Figs 1-4. Males of *M. mengei* have long ventral hairs on metatarsus I and II, which are absent in *M. segmentata*. The palp in males of *M. mengei* has a longer embolus and a tapering conductor (short embolus and conductor widening distally in *M. segmentata*). Distinguishing between the females of these two sibling species is much more difficult and cannot be achieved with certainty.

*M. mengei* has a European-West Siberian range and is known from most European countries and Caucasus, including Greece and Bulgaria, so the presence of this species in Turkey is not surprising. It is highly likely that some (if not all) of the records of *M. segmentata* from Turkey refer to *M. mengei*. All specimens collected in 2009 have been barcoded by Gergin Blagoev and all specimens were clustered together. Thus, the occurrence of *M. segmentata* in Turkey is questionable and requires confirmation.

#### *Tetragnatha pinicola* L. Koch, 1870

Figs 5-6

- T. p.*: Wiehle, 1963: 18, f. 20-30 (♂♀).  
*T. p.*: Roberts, 1985: 198, f. 88b, 89b (♂♀).  
*T. p.*: Roberts, 1995: 303, f. (♂♀).  
*T. p.*: Almquist, 2005: 137, f. 143a-i (♂♀).



Figures 1-4. Male of *Metellina mengei* (1, 3) from Turkey and *M. segmentata* (2, 4) from Finland. 1, 2 – left palp, ventral; 3, 4 – leg I, retrolateral. Arrows show differences between species.

**Material examined.** 1♂, Kastamonu Province, Azdavay District, 41°41.938'N 33°25.971'E, 975 m, shaking branches of *Quercus* and *Fagus*, 30.05.2009 (Y.M.Marusik).

**Comments.** Four species of *Tetragnatha*, namely *T. extensa* (Linnaeus, 1758), *T. montana* Simon, 1874, *T. obtusa* C.L. Koch, 1837 and *T. striata* L. Koch, 1862 are listed in most recent check-list of Turkish spiders (Bayram et al., 2010). During the joint Turkish-Russian expedition in Turkey in 2009 we collected a single male specimen of *T. pinicola*, representing a new species record for the fauna of Turkey.

*T. pinicola* has a trans-Palaeartic range, so its occurrence in the country is not surprising. It is

known from adjacent Azerbaijan, Georgia (Mikhailov, 1997) and Bulgaria, but is absent from Greece (Helsdingen, 2010).

In general appearance and colour pattern *T. pinicola* is very similar to the Holarctic species *T. extensa*. Both species have a distinct light mark along the midline of the sternum. *T. pinicola* is slightly smaller, and has distinct differences in the shape of the chelicera and tip of the embolus in males, and the spermathecae in females. The sibling species can be distinguished by the relative width of femur I/length of femur III (Roberts, 1995). In *T. pinicola* femur I width/femur III length ratio is 0.176, while in *T. extensa* it is 0.205.



Figures 5-6. Male of *Tetragnatha pinicola* from Turkey 5 – left palp, ventral; 6 – left chelicera, ventral.

## DISCUSSION

With these new finds the total number of tetragnathids recorded from Turkey is now 13 species. Given that 17 species of Tetragnathidae are known from adjacent Bulgaria (Helsdingen, 2010) and 16 from the Caucasus (Otto & Tramp, 2011), the occurrence of additional species of *Pachygnatha* and *Tetragnatha* in Turkey is highly likely. The known species diversity in Greece is lower than in Turkey. Only nine species have been reported from the entire country (Helsdingen, 2010).

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