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Additional Notes on the Genus *Carpelimus* Leach, 1819 (Staphylinidae: Oxytelinae) Fauna of Turkey

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ABSTRACT

In this study, 117 specimens of the genus *Carpelimus* Leach (Coleoptera: Staphylinidae: Oxytelinae) were collected from different provinces and regions of Turkey between 2005 and 2019. As a result of the field studies, a totally 12 species of the genus were recorded. Among them, *Carpelimus (Trogophloeus) fiorii* Gildenkov is the first record from Turkey. In addition, *C. (s.str.) fuliginosus* (Gravenhorst) from Aegean and Southeast Anatolia Regions, *C. (s.str.) gusarovi* Gildenkov from Aegean and Mediterranean Regions, *C. (s.str.) pusillus* (Gravenhorst) from Eastern Anatolia Region, *C. (Paratrogophloeus) rivularis* (Motschulsky) from Aegean Region, *C. (Troginus) exiguus* (Erichson) from Eastern Anatolia Region and *C. (Troginus) impressus* (Lacordaire) from Marmara Region are the first recorded for the area.

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Türkiye *Carpelimus* Leach, 1819 (Staphylinidae: Oxytelinae) Faunası Üzerine Ek Notlar

ÖZET

Bu çalışmada, 2005-2019 yılları arasında Türkiye'nin farklı il ve bölgelerinden *Carpelimus* Leach (Coleoptera: Staphylinidae: Oxytelinae) cinsine bağlı 117 örnek toplanmıştır. Arazi çalışmaları sonucunda toplam 12 tür rapor edilmiştir. Bunların arasında, *Carpelimus (Trogophloeus) fiorii* Gildenkov türü Türkiye için ilk kayıt niteliğindedir. Ayrıca, *C. (s. str.) fuliginosus* (Gravenhorst) türü Ege ve Güneydoğu Anadolu Bölgeleri'nden, *C. (s. str.) gusarovi* Gildenkov türü Ege ve Akdeniz Bölgeleri'nden *C. (s. str.) pusillus* (Gravenhorst) türü Doğu Anadolu Bölgesi'nden *C. (Paratrogophloeus) rivularis* (Motschulsky) türü Ege Bölgesi'nden, *C. (Troginus) exiguus* (Erichson) türü Doğu Anadolu Bölgesi'nden ve *C. (Troginus) impressus* (Lacordaire) türü ise Marmara Bölgesi'nden ilk defa bildirilmiştir.

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INTRODUCTION

According to Newton (2019), the Oxytelinae genus *Carpelimus* Leach, 1819 includes 384 species in worldwide. In the meantime, fifteen species and one subspecies have been described by Gildenkov (2019a, b, 2020a, b, c), Gildenkov and Tronquet (2019) and Lee and Ahn (2019). In the Palaearctic region, the genus is represented by 127 species and subspecies in five subgenera, with four species listed as incertae sedis (Schülke and Smetana, 2015).

Twenty-nine species and two subspecies belonging to the genus were listed from Turkey (Anlaş, 2009: updated). The Turkish species belong to four subgenera: the nominal subgenus (seven species and

one subspecies); *Paratrogophloeus* Hatch, 1957 (five species); *Troginus* Mulsant and Rey, 1878 (three species); *Trogophloeus* Mannerheim, 1830 (14 species and one subspecies). Seven of these species are exclusively known from Turkey.

The main purpose of the present paper is to supplement the knowledge of the *Carpelimus* fauna of Turkey based on the material of different parts of Turkey.

MATERIAL and METHODS

Field studies were conducted from different provinces and regions of Turkey between 2005 and 2019. Most of the specimens were found from under the stone. Also,

some specimens were collected by hibernation trap bands. The material referred to in this study is stored in the Alaşehir Zoological Museum Manisa (AZMM). Classification and nomenclature of the genus *Carpelimus* listed by Schülke and Smetana (2015) have been followed in this study.

RESULT

In the study, a total of 12 species belonging to genus *Carpelimus* have been recorded from Turkey. Among them, *Carpelimus fiorii* Gildenkov, 2004 is the first records for the Turkish Fauna. In addition, first records have been given for many regions and provinces of Turkey.

Oxytelinae Fleming 1821

Tribe Thinobiini J. Sahlberg, 1876

Carpelimus (s.str.) fuliginosus (Gravenhorst, 1802)

Material examined: **Manisa:** 1♂, 06.III.2006, Turgutlu, Ovacık, hibernation trap band, leg. Anlaş. **Siirt:** 3♂♂, 11♀♀, 10. VI. 2009, leg. Yağmur.

Distribution in Turkey: Adana, Ankara Antalya, İstanbul (Anlaş, 2009; Anlaş and Rose, 2009; Assing, 2014). This species is recorded from Aegean and Southeast Anatolia Regions for the first time.

Distribution in the world: *C. fuliginosus* is distributed in Europe, Algeria, Libya, and Turkey, in the Palaearctic Region. . It is also known from Afrotropical Region (Schülke and Smetana, 2015).

Carpelimus (s.str.) gusarovi Gildenkov, 1997

Material examined: **Kahramanmaraş:** 1♂, 1♀, 09.III.2008, Türkoğlu, 37°22'11"N, 36°48'54"E, leg. Yağmur. **Manisa:** 1♂, 15.IV.2006, Demirci, Hanımkaşa, leg. Anlaş.

Distribution in Turkey: Amasya, Samsun, Tokat (Assing, 2009, 2010). This species is recorded from Aegean and Mediterranean Regions for the first time.

Distribution in the world: *C. gusarovi* is distributed in Azerbaijan, Austria, Bulgaria, France, Hungary, Italy, Moldavia, The Netherlands, Romania, South European Territory of Russia, Ukraine, Iraq, and Turkey (Schülke and Smetana, 2015).

Carpelimus (s.str.) insularis (Kraatz, 1858)

Material examined: **Diyarbakır:** 2♂♂, 04.VII.2010, Silvan, leg. Yağmur. **Hatay:** 1♂, 14.IV.2007, Reyhanlı 10 km W, leg. Yağmur. **Kahramanmaraş:** 6♂♂, 4♀♀, 23.VI.2007, Andırın, 37°31'48"N, 36°22'49"E, 720 m, leg. Anlaş.

Distribution in Turkey: Adana Ankara, Antalya, Aydın, Hatay, İzmir, Kilis, Manisa and Mersin (Anlaş, 2009; Tezcan and Anlaş, 2009). This species is recorded from Diyarbakır and Kahramanmaraş Provinces for the first time.

Distribution in the world: *C. insularis* is widely distributed in the Palaearctic Region. It is also known

from the Afrotropical, Neotropical, and Oriental Regions (Schülke and Smetana, 2015).

Carpelimus (s.str.) pusillus (Gravenhorst, 1802)

Material examined: **Elazığ:** 1♂, 3♀♀, 10.VII.2016, central province, leg. Yağmur.

Distribution in Turkey: Ankara (Anlaş, 2009). This species is recorded from Eastern Anatolia Region for the first time.

Distribution in the world: *C. pusillus* is widely distributed in the Palaearctic Region. It is also known from Afrotropical, Nearctic, Australian Regions (Schülke and Smetana, 2015).

Carpelimus (Paratrogophloeus) bilineatus Stephens, 1834

Material examined: **Diyarbakır:** 1♂, 1♀, 30.VI.2010, Silvan 20 km SW, Köprübaşı, leg. Yağmur; 1♂, 06.VI.2010, Silvan, Köprübaşı, Ambarçay, leg. Özgen. **Elazığ:** 1♂, 12.VI.2010, Doğukent. leg. Özgen. **Mardin:** 1♂, 1♀, 23.IV.2010, Karasu, leg. Özgen; 1♂, 2♀♀, 10.VIII.2006, Yeşilli leg. Anlaş. **Trabzon:** 2♂♂, 06.VI.2006, Sümela 7 km N, leg. Anlaş.

Distribution in Turkey: Adana, Ankara, Antalya, Aydın, Diyarbakır, İzmir, Manisa, Mardin, Mersin, Niğde, Osmaniye, Siirt, Sinop, Van, Yalova (Anlaş, 2009; Anlaş and Rose, 2009; Tezcan and Anlaş, 2009; Özgen et al., 2010). This species is recorded from Eastern Black Sea Region and Elazığ Province for the first time.

Distribution in the world: This is a cosmopolitan species. *C. bilineatus* is known from Europe, North Africa, Middle Asia, China, Russia, Mongolia, Cyprus, Iran, and Turkey in the Palaearctic Region (Schülke and Smetana, 2015).

Carpelimus (Paratrogophloeus) rivularis (Motschulsky, 1860)

Material examined: **Manisa:** 1♂, 06.III.2006, Turgutlu, Ovacık, hibernation trap band, leg. Anlaş.

Distribution in Turkey: Adana, Amasya, Ankara, İstanbul, Kars, Ordu (Anlaş, 2009; Gildenkov, 2009a). This species is recorded from Aegean Region for the first time.

Distribution in the world: According to Schülke and Smetana (2015), *C. rivularis* is widely distributed in the Palaearctic Region. It is also known from the Nearctic Region.

Carpelimus (Paratrogophloeus) similis (Smetana, 1967)

Material examined: **Ankara:** 1♂, 25.VI.2016, Kızılcahamam, 40°35'33"N, 32°39'30"E, leg. Örgel. **Elazığ:** 1♂, 19.V.2010, Doğukent, leg. Özgen. **Giresun:** 1♂, 2♀♀, 24.IV.2013, Tirebolu, leg. Örgel. **Kahramanmaraş:** 1♂, 17.V.2019, Göksun, 38°14'21"N, 36°35'12"E, 1570 m, leg. Örgel. **Kayseri:** 1♂, 1♀, 16.V.2019, Develi, 38°05'43"N, 35°43'13"E, 1740 m,

leg. Örgel. **Trabzon:** 1♂, 06.VI.2006, Maçka, leg. Anlaş. **Distribution in Turkey:** Ankara, Amasya, Çanakkale, Erzurum, Gümüşhane, Manisa, Muğla, Niğde, Osmaniye, Samsun, Sinop, Van (Anlaş, 2009; Gildenkova, 2009a). This species is recorded from Elazığ, Giresun, Kahramanmaraş, Kayseri and Trabzon for the first time.

Distribution in the world: *C. similis* is known from in Belgium, Bosnia, Bulgaria, Central European Territory, Czech Republic, France, Great Britain, Georgia, Hungary, Italy, The Netherlands, Slovakia, Spain, Switzerland and Turkey (Schülke and Smetana, 2015).

***Carpelimus (Trogophloeus) coiffaiti* Gildenkova, 2001**

Material examined: **Kahramanmaraş:** 2♂♂, 2♀♀, 23.VIII.2007, Andırın, 37°31'48"N, 36°22'49"E, 720 m, leg. Anlaş.

Distribution in Turkey: Antalya, Erzurum, Hatay (Anlaş, 2009; Anlaş and Rose 2009; Gildenkova, 2009b).

Distribution in the world: This is an Anatolian endemic species and recorded from Kahramanmaraş Province for the first time.

***Carpelimus (Trogophloeus) corticinus* (Gravenhorst, 1806)**

Material examined: **Balıkesir:** 1♂, 10.X.2017, Erdek, 40°27'61"N, 27°54'60"E, 202 m, leg. Sak & Bulut. **Denizli:** 1♂, 11.IV.2015, Tavas, 37°39'36"N, 28°52'06"E, 1131 m, leg. Örgel. **Diyarbakır:** 1♂, 1♀, 17.VI.2007, Karacadag, 37°52'16"N, 39°52'39"E, 975 m, leg. Yağmur; 3♂♂, 6♀♀, 16.VI.2006, Eğil, Aşağıdöşemeler 3 km W, 38°13'44"N, 40°05'12"E, 675 m, leg. Özgen; 1♂, 1♀, 04.VI.2010, Eğil 3 km W, leg. Özgen; 1♂, 05.VI.2010, Dicle River banks, leg. Özgen. **Elazığ:** 1♂, 19.III.2010, Doğukent, leg. Özgen. **Kırklareli:** 2♂♂, 25.V.2010, İğneada, 41°51'27"N, 27°57'32"E, leg. Bekchiev; 1♂, 1♀, Hamam Lake, leg. Kunt. **Muğla:** 2♂♂, 3♀♀, 21.V.2015, Dalaman, 36°53'37"N, 28°53'25"E, 127 m, leg. Örgel.

Distribution in Turkey: Adana, Amasya, Ankara, Antalya, Ardahan, Artvin, Balıkesir, Bitlis, Diyarbakır, Erzurum, Hakkari, İzmir, Kilis (Anlaş, 2009; Anlaş and Rose, 2009; Gildenkova, 2009b; Özgen et al., 2010; Assing, 2013, 2014; Sert et al., 2014). This species is recorded from the European part of Turkey, and also Denizli, Elazığ and Muğla Provinces for the first time.

Distribution in the world: *C. corticinus* is known in the Palaearctic Region from Europe and North Africa, South and Middle Asia, Middle East, Eastern, and Western Siberia, China, Cyprus, Israel, and Turkey in addition to Nearctic, Australian, and Neotropical Region (Schülke and Smetana, 2015).

***Carpelimus (Trogophloeus) fiorii* Gildenkova, 2004**

Material examined: **Ardahan:** 1♂, 12.VII.2012, Hanak,

41°18'05"N, 42°49'52"E, 2160 m leg. Altın. **Elazığ:** 1♂, 27.V.2010, Doğukent, leg. Özgen. **Muğla:** 1♂, 2♀♀, 21.V.2015, Dalaman, 36°53'37"N, 28°53'25"E, 127 m, leg. Örgel. **Diyarbakır:** 2♂♂, 9♀♀, 06.VI.2010, Silvan, Ambarköy, Köprübaşı, leg. Özgen.

Distribution in Turkey: This species is recorded from Turkey for the first time.

Distribution in the world: This species is known from Georgia and Italy (Schülke and Smetana, 2015).

***Carpelimus (Troginus) exiguus* (Erichson, 1839)**

Material examined: **Elazığ:** 1♂, 2♀♀, 10.VII.2016, central province, leg. Yağmur. **Muğla:** 1♂, 6♀♀, 21.V.2015, Dalaman, 36°53'37"N, 28°53'25"E, 127 m, leg. Örgel.

Distribution in Turkey: Adana, Afyonkarahisar, Ankara, Antalya, Çanakkale, Gaziantep, Kahramanmaraş, Kilis, Mersin, Karaman, Şanlıurfa (Anlaş, 2009; Anlaş and Rose, 2009; Gildenkova, 2009b, 2014). This species is recorded from Eastern Anatolia Region and Muğla province for the first time.

Distribution in the world: According to Schülke and Smetana (2015), *C. exiguus* is widely distributed in the Palaearctic Region. It is also known from the Afrotropical and Oriental Regions.

***Carpelimus (Troginus) impressus* (Lacordaire, 1835)**

Material examined: **Kırklareli:** 2♂♂, 25.V.2010, İğneada, Demirköy, 41°51'27"N 27°57'32"E, 5 m, leg. Kunt.

Distribution in Turkey: This species was known from Amasya (Heyden, 1890). This species is recorded from Marmara Region for the first time.

Distribution in the world: *C. imperessus* is known from Europe, Algeria, Morocco, Russia, Syria and Turkey in the Palaearctic Region.

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Araştırmacıların Katkı Oranı Beyan Özeti

Yazarlar makaleye eşit oranda katkı sağlamış olduklarını beyan eder.

Çıkar Çatışması Beyanı

Makale yazarları aralarında herhangi bir çıkar çatışması olmadığını beyan ederler.

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