



Contributions to *Paederus* Fabricius, 1775, *Paederidus* Mulsant & Rey, 1878 and *Uncopaederus* Korge, 1969 (Coleoptera, Staphylinidae, Paederinae) fauna of Türkiye

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ABSTRACT

In this study, between 2009 and 2021, total of more than thousand specimens belonging to the genus *Paederus* Fabricius, 1775, *Paederidus* Mulsant & Rey, 1878 and *Uncopaederus* Korge, 1969 were collected in Türkiye. Most of the specimens examined were collected from the Marmara, Aegean, Central Anatolia, Western and Central Blacksea Regions. The specimens collected in this study were collected with aspirators and light traps. As a result of field studies, a total of eight species belonging to three genera were recorded. These are *Paederidus rubrothoracicus* (Goeze, 1777); *P. ruficollis* (Fabricius, 1777); *Paederus balcanicus* Koch, 1938, *P. fuscipes* Curtis, 1826, *P. riparius* Linnaeus, 1758, *P. littoralis* Gravenhorst, 1802, *P. mesopotamicus* Eppelsheim, 1889 and *Uncopaederus signiventris* (Smetana, 1962). Among these species, *P. rubrothoracicus* and *P. ruficollis* from the Marmara and Central Black Sea Regions, *P. fuscipes* from the Western Black Sea Region, and *P. riparius* from the Marmara Region of Turkey were reported for the first time. The presence of *P. balcanicus* in Türkiye has been confirmed. *U. signiventris* is endemic and distributed only in the Black Sea Region. In addition, *P. balcanicus* and *U. signiventris* are figured for the first time.

Entomology

Research Article

Article History

Received : 02.04.2024

Accepted : 12.05.2024

Keywords

Paederus
Paederidus
Uncopaederus
Fauna
Türkiye

Türkiye *Paederus* Fabricius, 1775, *Paederidus* Mulsant & Rey, 1878 ve *Uncopaederus* Korge, 1969 (Coleoptera, Staphylinidae, Paederinae) Faunasına Katkılar

ÖZET

Bu çalışmada, 2009-2021 yılları arasında Türkiye'den *Paederus* Fabricius, 1775, *Paederidus* Mulsant & Rey, 1878 ve *Uncopaederus* Korge, 1969 cinslerine bağlı toplam binden fazla örnek toplanmıştır. İncelenen örneklerin çoğu Marmara, Ege, İç Anadolu, Batı ve Orta Karadeniz Bölgelerinden toplanmıştır. Bu çalışmada toplanan örnekler aspiratör ve ışık tuzakları ile toplanmıştır. Arazi çalışmaları sonucunda sekiz tür kaydedilmiştir. Bunlar *Paederidus rubrothoracicus* (Goeze, 1777); *P. ruficollis* (Fabricius, 1777); *Paederus balcanicus* Koch, 1938, *P. fuscipes* Curtis, 1826, *P. riparius* Linnaeus, 1758, *P. littoralis* Gravenhorst, 1802, *P. mesopotamicus* Eppelsheim, 1889 ve *Uncopaederus signiventris* (Smetana, 1962) türleridir. Kaydedilen türlerden, *P. rubrothoracicus* ve *P. ruficollis* Marmara ve Orta Karadeniz; *P. fuscipes* Batı Karadeniz ve *P. riparius* türü ise Marmara Bölgelerinden ilk defa bildirilmiştir. Ayrıca, *P. balcanicus* türünün Türkiye'deki varlığı doğrulanmıştır. Kaydedilen türlerden *U. signiventris* endemik olup yalnızca Karadeniz Bölgesi'nde dağılım göstermektedir. Ek olarak, *P. balcanicus* ve *U. signiventris* türlerine ait resimler ilk defa verilmiştir.

Entomoloji

Araştırma Makalesi

Makale Tarihçesi

Geliş Tarihi : 02.04.2024

Kabul Tarihi : 12.05.2024

Anahtar Kelimeler

Paederus
Paederidus
Uncopaederus
Fauna
Türkiye

To Cite: Çelik, M. & Anlaş, S. (2024). Contributions to *Paederus* Fabricius, 1775, *Paederidus* Mulsant & Rey, 1878 and *Uncopaederus* Korge, 1969 (Coleoptera, Staphylinidae, Paederinae) fauna of Türkiye. *KSU J. Agric Nat* 27 (6), 1367-1375. DOI: 10.18016/ksutarimdoga.vi.1463280.

INTRODUCTION

The family Staphylinidae Latreille, 1802 is the species-rich family within the Coleoptera order, is represented by 63,657 species (Irmler et al., 2018). There are around 7,000 members of the Paederinae subfamily, which is the fourth largest subfamily of the Staphylinidae family (Herman, 2001: updated).

The genus *Paederus* Fabricius, 1775, *Paederidus* Mulsant & Rey, 1878 and *Uncopaederus* Korge, 1969 (Coleoptera: Staphylinidae: Paederinae) are remarkable with their body colors and they have agricultural and public health importance. The species are generally active at night and they can be found in many habitats, but they can be seen mostly in agricultural areas, along rivers, streams, lakes and dams. Their light-oriented behavior allows them to be observed flying in large numbers around bright and strong light sources at night. Around 600 *Paederus* species are known in the world (Frank, 1988). The most common and best-known of the *Paederus* species is *Paederus fuscipes* Curtis, 1826. This species is frequently seen in residential areas and agricultural regions and is known to be beneficial because it feeds on some insects (e. g. *Corcyra* spp. *Heliothis* spp. *Aphis* spp.) that cause significant agricultural damage (Berglund et al., 1997; Krakerb et al., 2000; Komala et al., 2003; Nasir et al., 2012).

Species belonging to the genera *Paederus*, *Paederidus*, and possibly *Uncopaederus* (endemic to the Northern Anatolia) contain a very potent toxic substance called "pederin" or its derivatives in their body fluids (Pavan & Bo, 1953).

According to a recent study by Schülke & Smetana (2015), Anlaş (2018), Willers (2011, 2018), Assing (2017, 2020, 2022), the genus *Paederus* (129 species), *Paederidus* (13 species) and *Uncopaederus* (only one species) (Staphylinidae, Paederinae) contains 143 species in the Palaearctic region. Eight species of the genus *Paederus* (five species), *Paederidus* (two species), and *Uncopaederus* (one species) are known from Türkiye. *Uncopaederus signiventris* (Smetana, 1962) is an endemic species in Northern Anatolia.

The Turkish fauna of *Paederus*, *Paederidus* and *Uncopaederus* is more poorly known than some other genera e.g. *Achenium*, *Medon*, *Leptobium* etc. (Ayan & Anlaş, 2020; Orgel et al., 2021). The aim of this study is to contribute to the current knowledge of the *Paederus* Fabricius, *Paederidus* Mulsant & Rey, and *Uncopaederus* Korge fauna of Türkiye.

MATERIAL and METHOD

The present paper is based on material obtained

during many field studies between 2009 and 2021 in Türkiye. Most of the specimens examined were collected from the Marmara, Aegean, Central Anatolia, Western, and Central Blacksea Regions, with a scope of three projects (TUBITAK: 112T907, 215Z080, and 119Z253) on the diversity and biogeography of the Paederinae in Türkiye. The specimens collected in this study were collected with aspirators and light traps by the authors and their colleagues. All specimens were identified by authors.

Specimens were studied with a Stemi 508 microscope (ZeissGermany). All photographs were taken using a Zeiss Axiocam 208 digital camera. Photographs were edited with Helicon Focus v. 8, and CorelDraw Graphics Suite 2023. All specimens are deposited in Alaşehir Zoological Museum, Manisa, Turkey (AZMM).

RESULTS

In this study, eight species of the genus *Paederus* Fabricius, 1775, *Paederidus* Mulsant & Rey, 1878 and *Uncopaederus* Korge, 1969 belonging to the subfamily Paederinae are reported from Türkiye.

Paederidus (s. str.) *rubrothoracicus* (Goeze, 1777)

Material: Aksaray: 1♂, 1♀, 22.III.2018, Melendiz Çayı, 38°12'00"N, 34°19'50"E, 1400 m, leg. Örgel & Yaman. **Ankara:** 1♂, 2♀, 28.IV.2019, Nallıhan, Cendere 2 km NW, 40°12'26"N, 31°06'08"E, 800 m, leg. Örgel & Köksal. **Balıkesir:** 1♂, 2♀, 10.VI.2018, Erdek, Kapıdağ Yarımadası, Kirazlı Manastırı Yolu, 40°27'36"N, 27°54'17"E, 375 m, leg. Sak, Yağmur & Bulut. **Eskişehir:** 2♀, 12.III.2018, Sündiken Dağları, 40°00'57"N, 30°57'14"E, 980 m, leg. Örgel & Yaman. **Kayseri:** 2♂, 16.V.2019, Develi, Yeniköy 7 km SE, 38°03'43"N, 35°43'13"E, 1740 m, leg. Örgel & Köksal. **Kırklareli:** 7♂, 8♀, 26.IV.2022, Demirköy, İğneada Longoz Ormanları Milli Parkı, Hamam Gölü, 41°49'16"N, 27°57'48"E, 42 m, leg. Kacar & Çelik. 8♂, 12♀, 26.IV.2022, Demirköy, İğneada Longoz Ormanları Milli Parkı, 41°50'59"N, 27°56'24"E, 1 m, leg. Kacar & Çelik. **Muğla:** 2♂♂, 3♀♀, 21.V.2015, Dalaman, 36°53'37"N, 28°53'37"E, 127 m, leg. Yağmur & Örgel. **Ordu:** 5♂, 7♀, 13.VI.2020, Aybastı, Uzundere 1 km N, 40°35'36"N, 37°24'56"E, 900 m, leg. Örgel & Kacar. **Tokat:** 2♂, 3♀, 07.IV.2022, Reşadiye, Yeşilyurt 2 km NE, 40°23'12"N, 37°12'56"E, 1120 m, leg. Örgel, Kacar & Çelik. **Yozgat:** 1♂, 28.VI.2016, Aydıncık, Kuşsaray, 40°05'07"N, 35°11'59"E, 1341 m, leg. Örgel & Yaman.

Distribution in Türkiye: Afyonkarahisar, Ankara, Antalya, Artvin, Aydın, Bolu, Denizli, Erzurum, Eskişehir, Elâzığ, İzmir, Konya, Manisa, Muğla, Sivas,

Trabzon, Tunceli, Uşak, Van (Anlaş, 2009, 2018; Anlaş & Rose, 2009; Sert et al., 2013; Çiftçi & Hasbenli, 2016; Özgen & Örgel, 2021; Daşdemir & Tozlu, 2022).

Remarks: This species is reported for the first time from the Marmara and Central Black Sea Region and Aksaray, Balıkesir, Kayseri, Kırklareli, Ordu, Tokat and Yozgat provinces.

Distribution in the world: This species occurs in Europe and Türkiye (Schülke & Smetana, 2015).

Paederidus (s. str.) ruficollis (Fabricius, 1777)

Material: **Ankara:** 2♂, 10.III.2018, Mamak, Kutludüğün Yaylası, 39°52'11"N, 33°06'04"E, 1436 m, leg. Örgel & Yaman. **Balıkesir:** 1♂, 2♀, 10.VI.2018, Erdek, Kapıdağ Yarımadası, Kirazlı Manastırı Yolu, 40°27'36"N, 27°54'17"E, 375 m, leg. Sak, Yağmur & Bulut. **Ordu:** 5♂, 7♀, 13.VI.2020, Aybastı, Uzundere 1 km N, 40°35'36"N, 37°24'56"E, 900 m, leg. Örgel & Kacar. **Kütahya:** 1♂, 2♀♀, 28.VI.2014, Domanıç, Ortaca 1 km B, 39°49'55"N, 29°29'40"E, 700 m, leg. Yağmur & Örgel. **Yozgat:** 2♂, 07.IV.2018, Akdağmadeni, Aktaş 3 km W, 39°35'31"N, 35°49'23"E, 1475 m, leg. Yağmur & Örgel, Yaman.

Distribution in Türkiye: Afyonkarahisar, Ağrı, Ankara, Bolu, Denizli, Erzurum, İzmir, Kastamonu, Konya, Kütahya, Manisa, Muğla, Niğde, Sivas (Anlaş, 2009, 2018).

Remarks: This species is recorded for the first time from the Marmara and Central Black Sea Regions of Türkiye.

Distribution in the world: The species is widely distributed in Europe, North Africa, Iran, and Türkiye (Schülke & Smetana, 2015).

Paederus (s. str.) balcanicus Koch, 1938 (Figure 1A-F)

Material: **Bursa:** 3♂, 11♀, 24.IV.2022, Ulubat Gölü, 40°09'15"N, 28°41'42"E, 5 m, leg. Kacar & Çelik.

Distribution in Türkiye: The species was known in only one locality from Balıkesir (Manyas Lake) province (Scheerpeltz, 1957; Horion, 1965; Coiffait, 1982).

Remarks: The species is recorded from Bursa (Ulubat Lake) in this study. The presence of *P. balcanicus* in Türkiye has been confirmed.

Distribution in the world: This species is known from southern and eastern Europe, Iran, and Türkiye (Schülke & Smetana, 2015).

Paederus (Heteropaederus) fuscipes Curtis, 1826

Material: **Amasya:** 1♂, 7♀, 27.IV.2021, Hamamözü, Yemişen 1 km N, 40°45'50"N, 35°08'11"E, 1300 m, leg. Anlaş, Kacar & Çelik. **Bartın:** 1♂, 1♀, 10.VII.2020, Ulus, Kerpiçli 3 km SW, 41°43'13"N, 32°53'57"E, 580 m, leg. Örgel & Kacar. **Çanakkale:** 4♂, 7♀, 19.V.2022, Yenice, Örencik 3 km S, 39°48'20"N, 27°07'47"E, 300 m, leg. Kacar & Çelik. **Çankırı:** 1♂, 1♀, 20.V.2018,

Korgun, Çukurören 3 km SW 1390 m, 40°38'55"N, 33°22'05"E, leg. Örgel & Yaman. **Edirne:** 2♀, 10.IV.2021, Enez, Işıklı 2 km NW, 40°43'38"N, 26°17'45"E, 37 m, leg. Örgel, Kacar & Çelik. 1♀, 28.IV.2022, Enez, Gala Gölü Milli Parkı, 40°46'16"N, 26°14'04"E, 7 m, leg. Kacar & Çelik. **İstanbul:** 2♂, 5♀, Kurtköy, Aydos Ormanı, leg. Anlaş. **Kayseri:** 1♂, 1♀, 08.IV.2018, Tuzla Gölü, 39°00'55"N, 35°47'12"E, 1170 m, leg. Yağmur & Örgel, Yaman. **Kırklareli:** 7♂, 9♀, 26.IV.2022, Demirköy, İğneada Longoz Ormanları Milli Parkı, 41°49'44"N, 27°57'28"E, 1 m, leg. Kacar & Çelik. 10♂, 7♀, 28.VII.2001, 22.VI.2022, Demirköy, İğneada Longoz Ormanları Milli Parkı, 41° 50'59"N, 27°56'24"E, 1 m, leg. Kacar & Çelik. 9♂, 14♀, 28.VII.2021, 22.VI.2022, Demirköy, İğneada Longoz Ormanları Milli Parkı, Hamam Gölü, 41°49'16"N, 27 57'48"E, 42 m, leg. Kacar & Çelik. **Konya:** 1♂, 05.III.2018, Cihanbeyli, Kırkışla, 38°32'10"N, 32°51'05"E, 1025 m, leg. Örgel & Yaman; 1♀, 02.III.2018, Ilgın, Bulcuk, 38°06'52"N, 31°59'03"E, 1436 m, leg. Örgel & Yaman; 2♂, 7♀, 01.III.2018, Ilgın, Ilgın Gölü, 38°23'25"N, 31°53'21"E, 1068 m, leg. Örgel & Yaman. **Sivas:** 6♂, 7♀, 14.IV.2019, Doğanşar, 40°08'15"N, 37°29'40"E, 1695 m, leg. Anlaş, Örgel & Köksal. **Yozgat:** 2♂, 1♀, 07.IV.2018, Akdağmadeni, Aktaş 3 km N, 39°34'34"N, 35°48'57"E, 1800 m, leg. Yağmur & Örgel, Yaman.

Distribution in Türkiye: Afyonkarahisar, Adana, Ankara, Antalya, Artvin, Aydın, Balıkesir, Batman, Denizli, Diyarbakır, Edirne, Erzurum Eskişehir, Gaziantep, İstanbul, İzmir, Karaman, Kayseri, Kırıkkale, Kırklareli, Kütahya, Manisa, Mardin, Muğla, Muş, Niğde, Rize, Siirt, Sivas, Uşak, Trabzon, Van (Anlaş 2009, 2018, Anlaş & Rose 2009, Sert et al., 2013; Örgel & Tezcan, 2020; Özgen & Örgel, 2021; Kacar & Anlaş, 2022; Daşdemir & Tozlu, 2022).

Remarks: This species is recorded for the first time from the Western Black Sea Region and also Amasya, Bartın, Çanakkale, Edirne, İstanbul, Kırklareli provinces.

Distribution in the world: This species is very common and widely distributed in Palaearctic, Australian and Oriental Regions (Schülke & Smetana, 2015).

Paederus (Poederomorphus) littoralis Gravenhorst, 1802

Material: **Aksaray:** 1♂, 1♀, 22.III.2018, Melendiz Çayı, 38°12'00"N, 34°19'50"E, 1400 m, leg. Örgel & Yaman; 1♂, 1♀, 22.III.2018, Ihlara Vadisi, 38°15'12"N, 34°18'06"E, 1300 m, leg. Örgel & Yaman. **Amasya:** 2♂, 2♀, 19.VI.2020, Merzifon, Aşağıbük 2 km SW, 40°49'56"N, 35°19'08"E, 1550 m, leg. Örgel & Kacar. **Bartın:** 16♂, 19♀, 07.IV.2021, Ulus, Uluyayla, 41°32'24"N, 32°48'16"E, 1000 m, leg. Örgel, Kacar & Çelik. 6♂, 8♀, 07.IV.2021, Ulus, Ahçlı, 41°40'58"N, 32°47'30"E, 450 m, leg. Örgel, Kacar & Çelik. 1♂, 07.IV.2021, Ulus, Kerpiçli 4 km SW, 41°42'54"N,

32°53'36"E, 570 m, leg. Örgel, Kacar & Çelik. **Bilecik:** 10♂, 12♀, 03.IV.2021, Bozhöyük, Yeşilçukurca 3 km S, 39°42'28"N, 29°49'59"E, 1425 m, leg. Örgel, Kacar & Çelik. 1♂, 03.IV.2021, Bozhöyük, Cihangazi 4 km E, 39°44'17"N, 29°52'32"E, 1376 m, leg. Örgel, Kacar & Çelik. 1♂, 11.XI.2021, Ulupınar, Selöz 3 km SW, 40°07'07"N, 29°54'26"E, 785 m, leg. Kacar & Çelik. **Bursa:** 1♂, 20.III.2021, Gemlik, Şükriye 1 km NW, 40°20'24"N, 29°16'01"E, 570 m, leg. Örgel & Kacar. 1♂, 1♀, 16.VI.2017, Bursa, Karacabey, Longoz Ormanları, leg. Yağmur. **Çanakkale:** 2♂, 2♀, 24.VI.2022, Lapseki, Çavuşköy 5 km NE, 40°19'53"N, 26°50'10"E, 190 m, leg. Anlaş, Kacar & Çelik. **Çankırı:** 1♂, 1♀, 27.IX.2017, Ilgaz Dağı, Göl kenarı, 41°00'09"N, 33°36'32"E, 1835 m, leg. Örgel & Yaman. **Edirne:** 1♀, 05.VI.2021, Enez, Hisarlı 2 km N, 40°42'18"N, 26°13'01"E, 78 m, leg. Kacar & Çelik. 1♀, 07.VI.2021, Uzunköprü, Kavacık, 41°11'14"N, 26°40'58"E, 68 m, leg. Kacar & Çelik. 1♂, 07.VI.2021, Lalapaşa, Küçünlü 3 km NW, 41°55'23"N, 26°47'26"E, 75 m, leg. Kacar & Çelik. **Eskişehir:** 3♂, 2♀, 27.IV.2019, Sarıcakaya, Beyyayla 2 km W, 40°08'04"N, 30°40'38"E, 1145 m, leg. Örgel & Köksal: 1♂, 1♀, 27.IV.2019, Sarıcakaya, Beyyayla 2 km W, 40°09'24"N, 30°42'55"E, 1320 m, leg. Örgel & Köksal: 4♂, 3♀, 29.III.2019, Tepebaşı, Sulukaraağaç 3 km N, 39°56'04"N, 30°29'28"E, 1140 m, leg. Örgel & Köksal. **Karabük:** 1♂, 2♀, 06.IV.2021, Keltepe Kayak Merkezi, 41°30'30"N, 32°27'59"E, 1474 m, leg. Örgel, Kacar & Çelik. 15♂, 20♀, 06.IV.2021, Eskipazar, Sallar 1 km SW, 40°57'41"N, 32°45'44"E, 1277 m, leg. Örgel, Kacar & Çelik. 2♂, 2♀, 06.IV.2021, Eskipazar, Tomuşlar 3 km S, 40°57'46"N, 32°39'03"E, 1237 m, leg. Örgel, Kacar & Çelik. **Karaman:** 1♂, 25.V.2016, Sarıveliler, Göktepe, Saçak Tepe, 36°38'22"N, 32°32'09"E, 1847 m, leg. Örgel & Yaman. **Kayseri:** 2♂, 1♀, 25.V.2018, Develi, Yaylacık, 1780 m, 38°03'49"N, 35°46'22"E, leg. Örgel & Yaman. **Kırklareli:** 1♂, 15.III.2021, Sarpdere 7 km NW, 41°52'07"N, 27°30'20"E, 370 m, leg. Anlaş & Kacar. **Ordu:** 1♂, 13.VI.2020, Aybastı, Uzundere 1 km N, 40°35'36"N, 37°24'56"E, 900 m, leg. Örgel & Kacar. 5♂, 7♀, 11.V.2022, Akkuş 3 km N, 40°46'13"N, 37°01'10"E, 1452 m, leg. Kacar & Çelik. **Kırşehir:** 1♀, 15.X.2018, Akçakent, Yetkili 2 km W, 39°38'18"N, 34°08'56"E, 1220 m, leg. Örgel & Yaman: 1♂, 3♀, 27.III.2019, Yağmurluarmutlu 1 km NW, 39°14'30"N, 33°57'04"E, 1300 m, leg. Örgel & Köksal: 1♂, 2♀, 01.V.2019, Akçakent, Yetkili 5 km NW, 39°40'09"N, 34°08'16"E, 988 m, leg. Örgel & Köksal: 1♂, 1♀, 27.III.2019, Kurtbeyliyeniyapan 2 km W, 39°15'34"N, 33°58'45"E, 1590 m, leg. Örgel & Köksal. **Konya:** 2♂, 6♀, 25.III.2019, Cihanbeyli, Böllük Gölü, 38°41'00"N, 32°58'52"E, 995 m, leg. Örgel & Köksal. **Neveşehir:** 1♂, 2♀, 25.III.2018, Ürgüp, Hodul Dağı, 38°30'43"N, 35°01'30"E, 1950 m, leg. Örgel & Yaman. **Sinop:** 4♂, 8♀, 02.IV.2011, 07.IV.2011, Nisi Gölü, Karakum, leg. Koç. 1♂, 17.V.2014, Sinop Merkez, 41°42'07"N, 35°10'53"E, 745 m, leg. Koç. 1♀, 31.V.2014, Sinop Merkez, 41°32'36"N, 36°09'24"E, 780 m, leg. Koç. 1♂,

2♀, 04.V.2021, Boyabat, Yeşilçam 2 km S, 41°40'38"N, 34°49'06"E, 1356 m, leg. Örgel, Kacar & Çelik. 1♂, 1♀, 02.V.2021, Durağan, Boyalıca 3 km SW, 41°30'06"N, 35°10'10"E, 1450 m, leg. Örgel, Kacar & Çelik. **Sivas:** 1♂, 18.IV.2018, İmranlı, Yürekaşı 2 km S, 39°35'31"N, 38°15'50"E, 1420 m, leg. Anlaş & Örgel, Yaman: 1♂, 16.IV.2018, Koyulhisar, 40°23'54"N, 37°58'03"E, 1930 m, leg. Anlaş & Örgel, Yaman. **Tekirdağ:** 1♂, 1♀, 09.IV.2021, Malkara, Karacahalil 4 km SW, 40°47'00"N, 26°55'02"E, 280 m, leg. Örgel, Kacar & Çelik. 1♀, 11.IV.2021, Malkara, Karacahalil, 40°48'09"N, 26°56'51"E, 185 m, leg. Örgel, Kacar & Çelik. 2♂, 3♀, 12.IV.2021, Şarköy, Güzelköy 5 km SE, 40°46'26"N, 27°15'41"E, 658 m, leg. Örgel, Kacar & Çelik. **Tokat:** 3♂, 2♀, 05.IV.2022, Çevreli 7 km N, 40°14'12"N, 36°52'08"E, 1280 m, leg. Örgel, Kacar & Çelik. 12♂, 10♀, 05.IV.2022, Almus, Teknecek 3 km N, 40°14'46"N, 36°49'44"E, 1380 m, leg. Örgel, Kacar & Çelik. 12♂, 10♀, 07.IV.2022, Reşadiye, Kuzbağı 4 km W, 40°26'19"N, 37°27'36"E, 1242 m, leg. Örgel, Kacar & Çelik. 4♂, 8♀, 14.V.2022, Reşadiye, Yağsıyah 1 km NE, 40°29'05"N, 37°33'48"E, 1416 m, leg. Kacar & Çelik. **Uşak:** 2♂♂, 02.VI.2014, Banaz, Susuz 3 km G, 928 m, 38°38'47"N, 29°43'17"E, leg. Yağmur & Örgel. **Yozgat:** 1♂, 1♀, 17.IV.2018, Çayıralan, Akdağmadeni Dağları, 1800m, 39°26'38"N, 35°49'53"E, m, leg. Yağmur & Örgel, Yaman. **Zonguldak:** 1♂, 1♀, 08.IV.2021, Ayvatlar 2 km SW, 41°17'54"N, 31°49'19"E, 364 m, leg. Örgel, Kacar & Çelik. 1♂, 05.IV.2021, Ereğli, Çevlik 2 km SW, 41°14'47"N, 31°40'45"E, 150 m, leg. Örgel, Kacar & Çelik.

Distribution in Türkiye: Adana, Afyonkarahisar, Aksaray, Amasya, Ankara, Antalya, Ardahan, Artvin, Bilecik, Denizli, Edirne, Erzurum, Eskişehir, Izmit, Kahramanmaraş, Karabük, Kars, Kastamonu, Kırşehir, Manisa, Mardin, Mersin-Karaman, Sakarya, Samsun, Sinop, Şanlıurfa, Trabzon, Uşak, Yozgat (Anlaş, 2009, 2018; Anlaş & Rose, 2009; Sert et al., 2013; Anlaş & Örgel, 2016; Çiftçi & Hasbenli, 2016; Altın & Yağmur, 2018; Kacar & Anlaş, 2022; Daşdemir & Tozlu, 2022).

Remarks: This species is recorded for the first time from Bartın, Çanakkale, Kırklareli, Ordu, Tekirdağ, Tokat and Zonguldak provinces.

Distribution in the world: This species is known from Europe, Algeria, Iran, Cyprus, Türkiye and western Siberia (Schülke & Smetana, 2015; Anlaş, 2018).

Paederus (Eopaederus) mesopotamicus Eppelsheim, 1889

Material: **Sivas:** 8♂, 5♀, 18.IV.2018, Divriği, Çayözü, 39°35'42"N, 38°10'45"E, 1350 m, leg. Anlaş & Örgel, Yaman: 2♂, 1♀, 19.IV.2018, Divriği, Mursal 5 km W, Leke Dağı, 39°09'08"N, 37°55'43"E, 2080 m, leg. Yağmur & Örgel, Yaman: 1♂, 1♀, 20.IV.2019, Kangal, Karacaören 6 km E, 39°02'17"N, 37°44'32"E, 1460 m, leg. Anlaş, Örgel & Köksal.

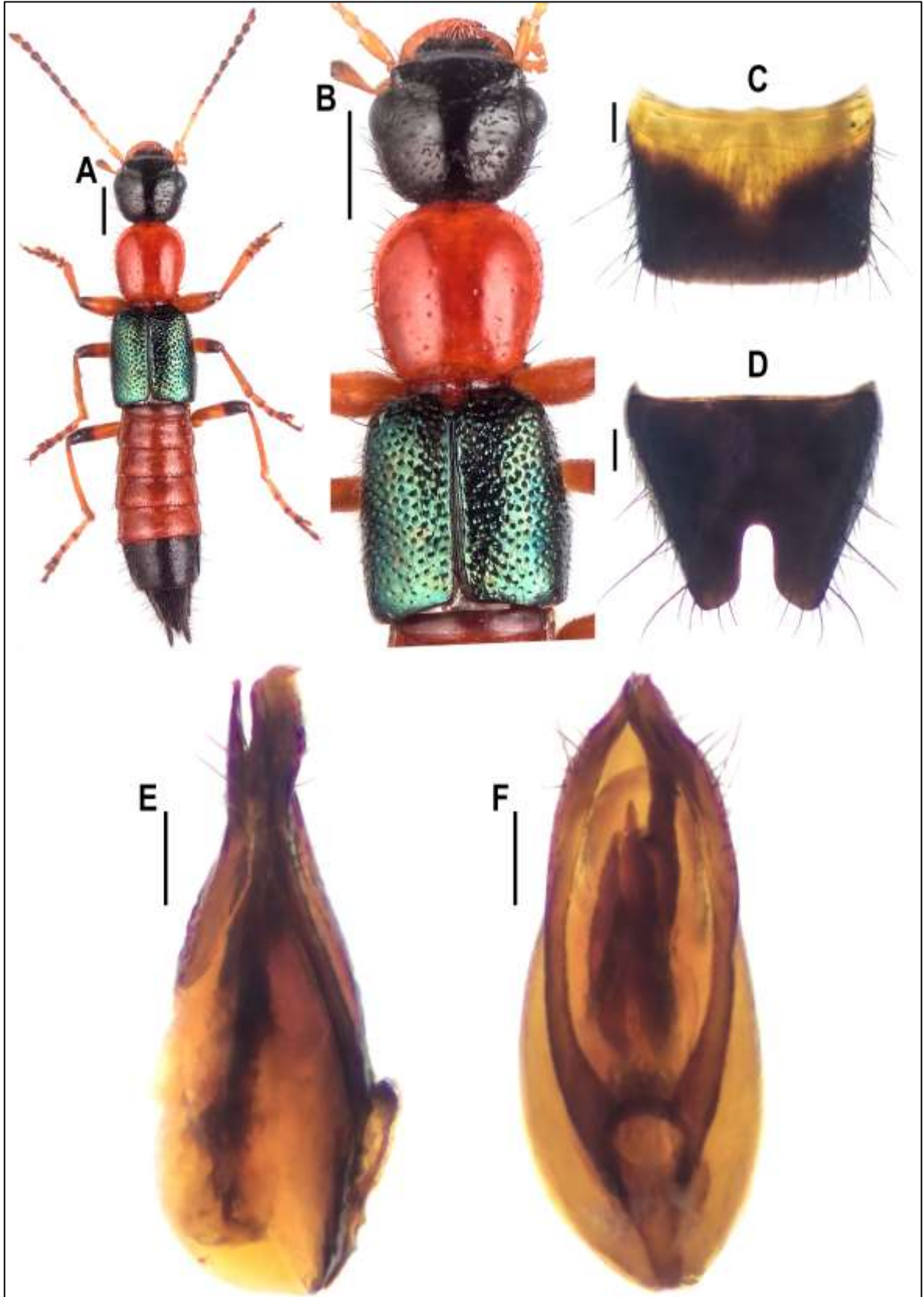


Figure 1A-F. *Paederus balcanicus* Koch. A-habitus; B-forebody; C-male sternite VII; D-male sternite VIII; E-aedeagus, lateral; F-aedeagus, ventral. Scale bars: 1 mm (A-B); 0.2 mm (C-F).

Şekil 1A-F. *Paederus balcanicus* Koch. A-genel vücut; B-ön vücut; C-erkek sternit VII; D-erkek sternit VIII; E-aedeagus, yan görünüş; F-aedeagus, ön görünüş. Ölçek çubukları: 1 mm (A-B); 0.2 mm (C-F).

Distribution in Türkiye: Elâzığ, Erzincan, Diyarbakır, Gümüşhane, Siirt, Sivas and Tunceli (Anlaş, 2009, 2018).

Distribution in the world: The species is known from Iran, Iraq, Syria and Türkiye (Schülke & Smetana, 2015).

Paederus (s. str.) riparius (Linnaeus, 1758)

Material: **Aksaray:** 1♂, 22.III.2018, Ihlara Vadisi, 38°15'12"N, 34°18'06"E, 1300 m, leg. Örgel & Yaman. **Ankara:** 1♂, 2♀, 26.IX.2017, Kızılcahamam, Aluç Dağı, göl kenarı, 40°30'30"N, 32°34'59"E, 1482 m, leg. Örgel & Yaman. **Kırklareli:** 2♂, 3♀, 02.X.2009, Demirköy, İğneada, Hamam Gölü, 41°49'43"N, 27°57'31"E, leg. Kunt. 11♂, 14♀, 29.IX.2009, 23.V.2010, Demirköy, İğneada, Longoz Mert Gölü, ca. 41°49'N, 27°57'E, leg. Kunt. **Konya:** 7♂♂, 9♀♀, 28.V.2018, Seydişehir, Erenler Dağı, 1865 m, 37°36'13"N, 32°05'25"E, leg. Örgel & Yaman. **Samsun:** 1♂, 11.IV.2022, Bafra, Şahinkaya 8 km E, 41°19'01"N, 35°44'45"E, 1146 m, leg. Kacar & Çelik.

Distribution in Türkiye: Ankara, Denizli, İzmir, Konya, Manisa, Ordu (Anlaş, 2009, 2018; Sert et al., 2013).

Remarks: This species is recorded for the first time from the Marmara Region of Turkey and Kırklareli and Samsun provinces.

Distribution in the world: This species is widely distributed in Palaearctic and Nearctic Regions (Schülke & Smetana, 2015).

Uncopaederus (s. str.) signiventris (Smetana, 1962) (Figure 2A-F)

Material: **Amasya:** 2♂, 1♀, 17.VI.2020, Taşova, Borabay Gölü 8 km NW, 40°50'17"N, 36°05'46"E, 1620 m, leg. Örgel & Kacar. 4♂, 2♀, 17.VI.2020, Taşova, Borabay Gölü 9 km E, 40°49'48"N, 36°04'42"E, 1700 m, leg. Örgel & Kacar. 1♂, 18.VI.2020, Merkez, Seyfe 3 km W, 40°49'44"N, 35°55'33"E, 1600 m, leg. Örgel & Kacar. 4♂, 4♀, 24.IV.2021, Taşova, Borabay 9 km SE, 40°49'52"N, 36°04'58"E, 1720 m, leg. Anlaş, Kacar & Çelik. 1♂, 24.IV.2021, Taşova, Borabay 8 km SE, 40°50'16"N, 36°05'36"E, 1700 m, leg. Anlaş, Kacar & Çelik. 1♂, 1♀, 24.IV.2021, Taşova, Borabay 7 km SE, 40°50'52"N, 36°06'33"E, 1382 m, leg. Anlaş, Kacar & Çelik. **Ankara:** 2♂, 3♀, 18.V.2018, Kızılcahamam, Yukarıçanlı 8 km N, 1650 m, 40°43'43"N, 32°41'15"E, leg. Örgel & Yaman. **Bolu:** 1♂, 3♀, 04.VII.2020, Topardıç 4 km E, 40°34'02"N, 31°28'44"E, 1660 m, leg. Örgel & Kacar. 1♂, 1♀, 18.VI.2022, Mudurnu, Feruz 3 km N, 40°36'26"N, 31°20'58"E, 1572 m, leg. Kacar & Çelik. **Çankırı:** 2♂, 19.V.2018, Bayramören, Yazören 2 km N, 1570 m, 40°57'36"N, 33°06'21"E, leg. Örgel & Yaman; 4♂, 3♀, 21.V.2018, Ilgaz, Ilgaz Dağları, 1926 m, 41°02'49"N, 33°42'46"E, leg. Örgel & Yaman; 3♂,

3♀, 21.V.2018, Ilgaz, Ilgaz Dağları, 1750 m, 41°00'37"N, 33°36'14"E, leg. Örgel & Yaman. **Çorum:** 2♂, 22.VI.2020, Kargı, Tepelice 3 km W, 41°12'41"N, 34°27'30"E, 1870 m, leg. Örgel & Kacar. 1♂, 03.V.2021, Kargı, Cihadiye 5 km NE, 41°13'29"N, 34°33'30"E, 1570 m, leg. Örgel, Kacar & Çelik. **Karabük:** 2♂, 4♀, 13.XI.2021, Karaağaç 2 km SW, 41°03'16"N, 32°28'16"E, 1405 m, leg. Kacar & Çelik. **Kastamonu:** 1♂, 12♀, 24.VI.2020, Taşköprü, Kayadibi 2 km NE, 41°44'22"N, 34°12'58"E, 1720 m, leg. Örgel & Kacar. 1♂, 24.VI.2020, Çatalzeytin, Mamatlar 5 km S, 41°45'20"N, 34°06'22"E, 1710 m, leg. Örgel & Kacar. 2♂, 1♀, 07.V.2021, Daday, Çamlıbel 5 km NE, 41°22'04"N, 33°15'09"E, 1486 m, leg. Örgel, Kacar & Çelik. 6♂, 8♀, 06.V.2021, Küre, Alınca 2 km S, 41°43'23"N, 33°38'29"E, 1260 m, leg. Örgel, Kacar & Çelik. 9♂, 12♀, 05.V.2021, Taşköprü, Kayadibi 3 km SW, 41°44'50"N, 34°13'16"E, 1530 m, leg. Örgel, Kacar & Çelik. 1♂, 13.VI.2022, Daday, Akılçalman 2 km S, 41°24'37"N, 33°21'51"E, 977 m, leg. Kacar & Çelik. **Ordu:** 1♂, 2♀, 08.IV.2022, Kabadüz, Çambaşı Yaylası, 40°37'08"N, 37°58'36"E, 1700 m, leg. Örgel, Kacar & Çelik. 1♂, 1♀, 14.V.2022, Mesudiye, Mahmudiye 1 km SE, 40°35'35"N, 37°39'31"E, 1252 m, leg. Kacar & Çelik. 1♂, 11.V.2022, Akkuş, Gedikli 4 km NW, 40°44'11"N, 36°59'07"E, 1280 m, leg. Kacar & Çelik. **Sinop:** 2♂, 4♀, 05.V.2021, Türkeli, Çatak 8 km NW, 41°44'53"N, 34°18'42"E, 1720m, leg. Örgel, Kacar & Çelik. 2♂, 4♀, 02.V.2021, Durağan, Boyalıca 3 km SW, 41°30'06"N, 35°10'10"E, 1450 m, leg. Örgel, Kacar & Çelik. 1♂, 1♀, 04.V.2021, Boyabat, Günpınar 2 km E, 41°39'48"N, 34°44'46"E, 1360 m, leg. Örgel, Kacar & Çelik. **Tokat:** 1♂, 1♀, 12.VI.2020, Başçiftlik 3 km N, 40°34'24"N, 37°10'45"E, 1700 m, leg. Örgel & Kacar.

Distribution in Türkiye: Çankırı, Kastamonu, Rize, Samsun, Sinop (Smetana, 1962; Anlaş, 2009, 2018).

Remarks: This species is recorded for the first time from Amasya, Bolu, Çorum, Karabük, Ordu and Tokat provinces.

Distribution in the world: This species is only known from Türkiye. Endemic.

ACKNOWLEDGEMENTS

This study is prepared from part of a master thesis approved by the Institute of Natural Sciences of Manisa Celal Bayar University in December 2023. This study was supported by the Scientific and Technological Research Council of Turkey (TÜBİTAK, Project nos: 112T907, 215Z080 and 119Z253).

Contribution of the Authors as Summary

Authors declares the contribution of the authors is equal.

Statement of Conflict of Interest

Authors have declared no conflict of interest.

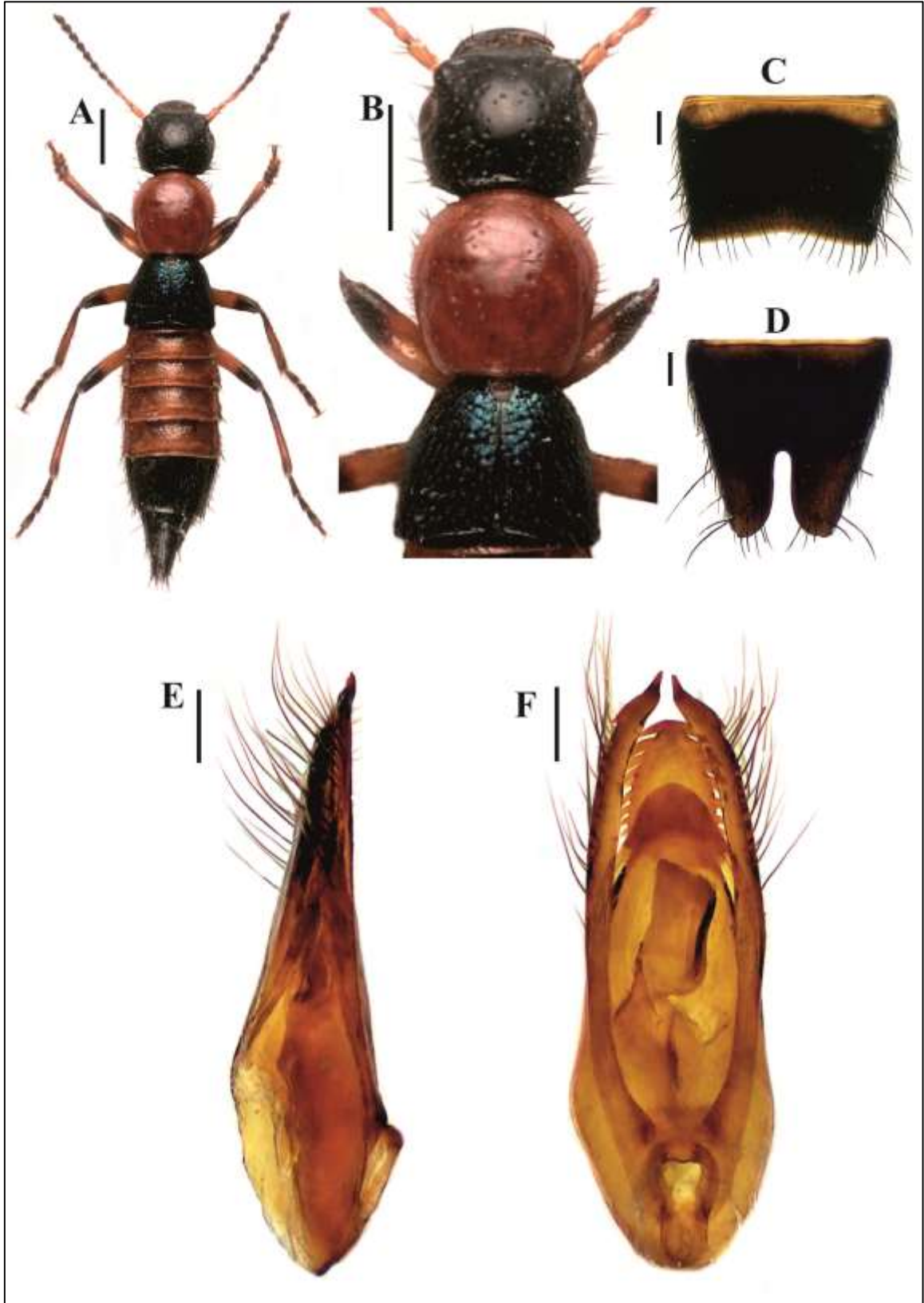


Figure 2A-F. *Uncopaederus signiventris* (Smetana). A-habitus; B-forebody; C-male sternite VII; D-male sternite VIII; E-aedeagus, lateral; F-aedeagus, ventral. Scale bars: 1 mm (A-B); 0.2 mm (C-F).

Şekil 2A-F. *Uncopaederus signiventris* (Smetana). A-genel vücut; B-ön vücut; C-erkek sternit VII; D-erkek sternit VIII; E-aedeagus, yan görünüş; F-aedeagus, ön görünüş. Ölçek çubukları: 1 mm (A-B); 0.2 mm (C-F).

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