

Contributions to *Achenium* Leach, 1819 (Coleoptera, Staphylinidae, Paederinae) fauna of Turkey

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ABSTRACT

In this study, total of 388 specimens of the genus *Achenium* Leach, 1819 (Coleoptera: Staphylinidae) were collected by aspirator and sifter methods from different provinces of Aegean and Central Anatolia Regions of Turkey between 2014 and 2019. As a result of the field studies, five species of the genus were recorded. These species were *Achenium anatolicum* Jarrige, 1952; *A. humile* (Nicolai, 1822); *A. propontiacum* Bordoni, 2009; *A. scimbalioides* Koch, 1937 and *A. turcicum* Coiffait, 1971. Of the recorded species; *A. humile* from the Aegean Region and *A. turcicum* from Central Anatolia Region were the first recorded for the area. *A. turcicum* was reported for the first time outside the type locality and its distribution was found to be much wider than previously known. *A. turcicum* and *A. anatolicum* were the endemic species for Anatolia.

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Türkiye *Achenium* Leach, 1819 (Coleoptera, Staphylinidae, Paederinae) Faunasına Katkılar

ÖZET

Bu çalışmada, 2014-2019 yılları arasında aspiratör ve eleme yöntemleri ile Ege ve İç Anadolu Bölgelerinden *Achenium* Leach, 1819 (Coleoptera: Staphylinidae) cinsine bağlı toplam 388 örnek toplanmıştır. Arazi çalışmaları sonucunda beş tür kaydedilmiştir. Bunlar *Achenium anatolicum* Jarrige, 1952; *A. humile* (Nicolai, 1822); *A. propontiacum* Bordoni, 2009; *A. scimbalioides* Koch, 1937 and *A. turcicum* Coiffait, 1971 türleridir. Kaydedilen türlerden, *A. humile* türü Ege Bölgesi'nden ve *A. turcicum* türü de İç Anadolu Bölgesi'nden ilk defa bildirilmiştir. *A. turcicum* türü tip lokalitesi dışından ilk kez rapor edilmiş olup yayılışının bilinenden çok daha geniş olduğu bulunmuştur. Ayrıca, *A. turcicum* ve *A. anatolicum* türleri, Anadolu endemiği türleridir.

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INTRODUCTION

According to a recent comprehensive revision by Assing (2010), the genus *Achenium* Leach, 1819 (Staphylinidae, Paederinae) contains 53 species worldwide. In the meantime, a new species were described from Russia (Solodovnikov & Li, 2013). The biodiversity center of *Achenium* is the Mediterranean countries. Up to date, 11 species of the genus *Achenium* were recorded from Turkey, two of them are known from only this country (Assing, 2010; Anlaş et al., 2011; Schülke & Smetana, 2015).

Despite many recent contributions, the current knowledge of the *Achenium* fauna of Turkey is far from complete. The main purpose of this study was to make a contribution to fauna of *Achenium* of Turkey.

MATERIAL and METHODS

The material has been obtained by aspirator and sifter methods in different field studies between 2014-2019 in Aegean and Central Anatolia Regions. Specimens were examined using a Stemi 508 microscope (Zeiss, Oberkochen, Germany). Photographs of the habitus, forebody and aedeagus were taken with a digital camera (Zeiss Axiocam ERC5s) All photographs were edited with the Helicon Focus v. 6, and Corel Draw v. X5 software.

The material referred to in the paper was stored in the collection of the Alaşehir Zoological Museum, of Manisa Celal Bayar University (AZMM). Classification and nomenclature of the genus *Achenium* suggested by Assing (2010) and Schülke and Smetana (2015) have been followed in the study.

RESULTS

In this study, five species of the genus *Achenium* belonging to the subfamily Paederinae were reported from Aegean and Central Anatolia regions of Turkey. Amongst them, *A. humile* from the Aegean Region and *A. turcicum* from Central Anatolia Region were recorded for the first time. *A. turcicum* was reported for the first time outside the type locality and its distribution was found to be much wider than previously known.

Achenium anatolicum Jarrige, 1952 (Figure 1)

Material examined: **Afyonkarahisar:** 2♂♂, 02.V.2015, Ahır Mountains, Büyükhacat Hill, 38°39'42"N, 30°06'05"E, 1925 m, leg. Yağmur & Örgel. **Aksaray:** 8♂♂, 8♀♀, 21.III.2018, Güzelyurt, Şahinkalesi Hill, 38°17'16"N, 34°25'50"E, 1910 m, leg. Örgel & Yaman; 5♂♂, 5♀♀, 21.III.2018, Güzelyurt, Şahinkalesi Hill, 38°16'16"N, 34°24'37"E, 1860 m, leg. Örgel & Yaman. **Denizli:** 3♂♂, 24.IV.2014, Honaz Mountain, 37°39'50"N, 29°17'36"E, 2077 m, leg. Anlaş & Örgel. **Karaman:** 1♂, 3♀♀, 25.V.2016, Sarıveliler, Göktepe, Saçak Hill, 36°38'22"N, 32°32'09"E, 1847 m, leg. Örgel & Yaman. **Kayseri:** 2♂♂, 2♀♀, 08.IV.2018, Tuzla Lake, 39°00'55"N, 35°47'12"E, 1170 m, leg. Yağmur, Örgel & Yaman. **Konya:** 3♂♂, 1♀, 18.V.2016, Beyşehir Lake, 37°35'54"N, 31°26'41"E, leg. Örgel & Yaman; 2♂♂, 3♀♀, 24.V.2016, Sarıveliler 25 km W, 36°52'08"N, 32°25'19"E, 1976 m, leg. Örgel & Yaman; 8♂♂, 15♀♀, 23.V.2016, Bozkır, Tanrıdağı Hill, 36°56'29"N, 32°11'12"E, 2085 m, leg. Örgel & Yaman; 2♂♂, 4♀♀, 24.V.2016, Hadim, Beyreli road, 36°53'01"N, 32°25'10"E, 1933 m, leg. Örgel & Yaman; 7♂♂, 10♀♀, 24.V.2016, Hadim, Beyreli Wold, 36°53'06"N, 32°22'31"E, 2016 m, leg. Örgel & Yaman; 1♂, 23.V.2016, Bozkır, Tanrıdağı Hill, 36°56'25"N, 32°09'18"E, 2071 m, leg. Örgel & Yaman; 1♂, 1♀, 20.V.2016, Seydişehir, Erenler Mountain, 37°34'40"N, 32°00'21"E, 1954 m, leg. Örgel & Yaman; 5♂♂, 8♀♀, 04.III.2018, Karapınar, Yeşilyurt, Ovacık Wold, 37°45'57"N, 33°46'08"E, 1600 m, leg. Örgel & Yaman; 3♂♂, 5♀♀, 30.IV.2018, Bozkır, Geyik Mountains, 1875 m, 36°58'39"N, 32°04'56"E, leg. Örgel & Yaman; 2♂♂, 3♀♀, 23.III.2019, Derebucak, Tepearası 2 km E, 37°29'23"N, 31°40'47"E, 1530 m, leg. Örgel & Köksal. **Kütahya:** 1♂, 03.V.2015, Murat Mountain, 38°56'15"N, 29°35'45"E, 1754 m, leg. Yağmur & Örgel; 3♂♂, 2♀♀, 03.V.2015, Murat Mountain, 38°55'04"N, 29°36'47"E, 1756 m, leg. Yağmur & Örgel. **Nevşehir:** 1♂, 26.III.2018, Hacıbektaş, 38°56'22"N, 34°37'40"E, 1210 m, leg. Örgel & Yaman. **Sivas:** 4♂♂, 5♀♀, 16.IV.2018, Koyulhisar, Subaşı 3 km E, 40°20'39"N, 37°49'37"E, 1790 m, leg. Anlaş & Örgel, Yaman; 2♂♂, 2♀♀, 18.V.2019, Gürün, İncesu 3 km E, 38°45'17"N, 37°08'49"E, 1690 m, leg. Örgel & Köksal. **Yozgat:** 1♂, 2♀♀, 11.IV.2019, Kadışehri, Ovacık 4 km N, 40°04'58"N, 35°53'58"E, 1670 m, leg.

Yağmur & Örgel, Yaman. **Totally:** 136 specimens.

Distribution in Turkey: *A. anatolicum* was known from Ankara, Antalya, Bayburt, Burdur, Çanakkale, Çankırı, Çorum, Eskişehir, Isparta, İzmir, Karaman, Kırşehir, Konya, Kütahya, Manisa, Muğla and Uşak (Jarrige, 1952; Anlaş, 2009; Assing, 2010, 2013; Anlaş et al., 2011; Örgel & Anlaş, 2016). This species is recorded from Afyonkarahisar, Aksaray, Denizli, Kayseri, Nevşehir ve Sivas provinces for the first time.

Distribution in the world: This species only occurs in Turkey (Schülke & Smetana, 2015). Endemic.

Achenium humile (Nicolai, 1822) (Figure 2)

Material examined: **Afyonkarahisar:** 1♂, 02.V.2015, Ahır Mountains, Büyükkavşak Hill, 38°43'08"N, 30°03'48"E, 1810 m, leg. Yağmur & Örgel. **Aksaray:** 1♂, 1♀, 23.III.2018, Ekecik Mountain, Radar road, 38°38'36"N, 34°01'30"E, 1700 m, leg. Örgel & Yaman; 7♂♂, 10♀♀, 21.III.2018, Güzelyurt, Şahinkalesi, Hill, 38°17'16"N, 34°25'50"E, 1910 m, leg. Örgel & Yaman; 8♂♂, 9♀♀, 21.III.2018, Güzelyurt, Şahinkalesi Tepesi, 38°16'16"N, 34°24'37"E, 1860 m, leg. Örgel & Yaman. **Ankara:** 3♂♂, 6♀♀, 18.V.2018, Kızılcahamam, Yukarıçanlı 8 km N, 1650 m, 40°43'43"N, 32°41'15"E, leg. Örgel & Yaman. **Çankırı:** 1♂, 21.V.2018, Ilgaz, Ilgaz Mountains, 1860 m, 41°00'33"N, 33°37'11"E, leg. Örgel & Yaman; 2♂♂, 7♀♀, 20.V.2018, Kurşunlu 5 km E, Taşkaracalar, 1647 m, 40°42'11"N, 33°19'43"E, leg. Örgel & Yaman; 1♂, 1♀, 19.V.2018, Atkaracalar, Ilıpınar 5 km SE, 1750 m, 40°46'10"N, 33°09'32"E, leg. Örgel & Yaman; 1♂, 4♀♀, 20.V.2018, Korgun, Çukurören 3 km SW, 1390 m, 40°38'55"N, 33°22'05"E, leg. Örgel & Yaman; 1♂, 1♀, 21.V.2018, Ilgaz, Kuyupınar 2 km E, 1414 m, 40°51'06"N, 33°37'37"E, leg. Örgel & Yaman. **Eskişehir:** 1♂, 27.III.2018, Türkmen Mountain, 39°26'22"N, 30°22'22"E, 1660 m, leg. Örgel & Yaman. **Kayseri:** 3♂♂, 3♀♀, 09.IV.2018, Pınarbaşı, Malakköy 2 km SW, Hınzır Mountains, 39°02'33"N, 36°20'47"E, 1745 m, leg. Yağmur & Örgel, Yaman; 5♂♂, 7♀♀, 09.VI.2016, Pınarbaşı, Eşkiyassıpınar, Gövdeli Mountain, 38°44'03"N, 36°38'21"E, 1921 m, leg. Yağmur, Örgel & Yaman; 1♂, 1♀, 09.VI.2016, Pınarbaşı, Yağlıpınar, 38°49'10"N, 36°22'17"E, leg. Yağmur, Örgel & Yaman; 3♂♂, 3♀♀, 09.VI.2016, Pınarbaşı, Yağlıpınar, 38°50'16"N, 36°20'46"E, leg. Yağmur, Örgel & Yaman. **Kütahya:** 1♀, 1♂, 10.V.2015, Şaphane Mountain, 39°02'48"N, 29°18'17"E, 1658 m, leg. Yağmur & Örgel. **Niğde:** 1♂, 2♀♀, 03.VI.2016, Çamardı, Demirkazık, 2259 m, leg. Örgel & Yaman. **Sivas:** 1♂, 18.IV.2018, İmranlı, Yüreктаşı 2 km güney, 39°35'31"N, 38°15'50"E, 1420 m, leg. Anlaş & Örgel, Yaman; 2♂♂, 13.IV.2019, Yıldız Mountains ski resort, 40°08'18"N, 36°56'18"E,

1730 m, leg. Anlaş, Örgel & Köksal; 2♂♂, 3♀♀, 16.IV.2019, İmranlı, Sivas-Erzincan road, Kızıldağ Pass, 39°51'19"N, 38°24'57"E, 2125 m, leg. Anlaş, Örgel & Köksal. **Yozgat:** 4♂♂, 2♀♀, 11.IV.2019,

Kadıışehri, Ovacık 4 km N, 40°04'58"N, 35°53'58"E, 1670 m, leg. Yağmur & Örgel, Yaman. **Totally:** 110 specimens.

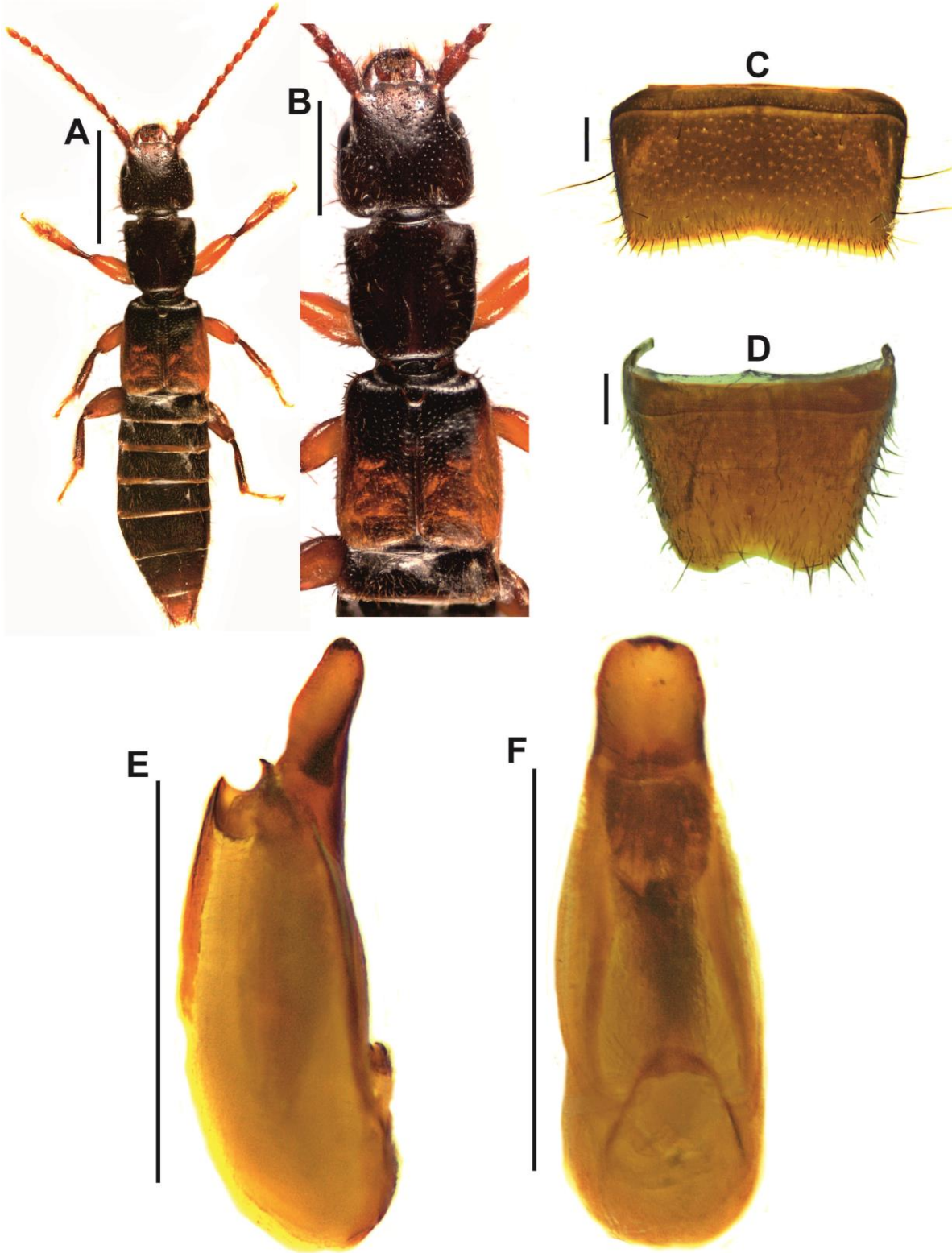


Figure 1. *Achenium anatolicum* Jarrige. A-habitus; B-forebody; C-male sternite VII; D-male sternite VIII; E-aedeagus, lateral; F-aedeagus, ventral. Scale bars: 1 mm (A-B); 0.2 mm (C-D); 0.5 mm (E-F).

Şekil 1. *Achenium anatolicum* Jarrige. 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-D); 0.5 mm (E-F).

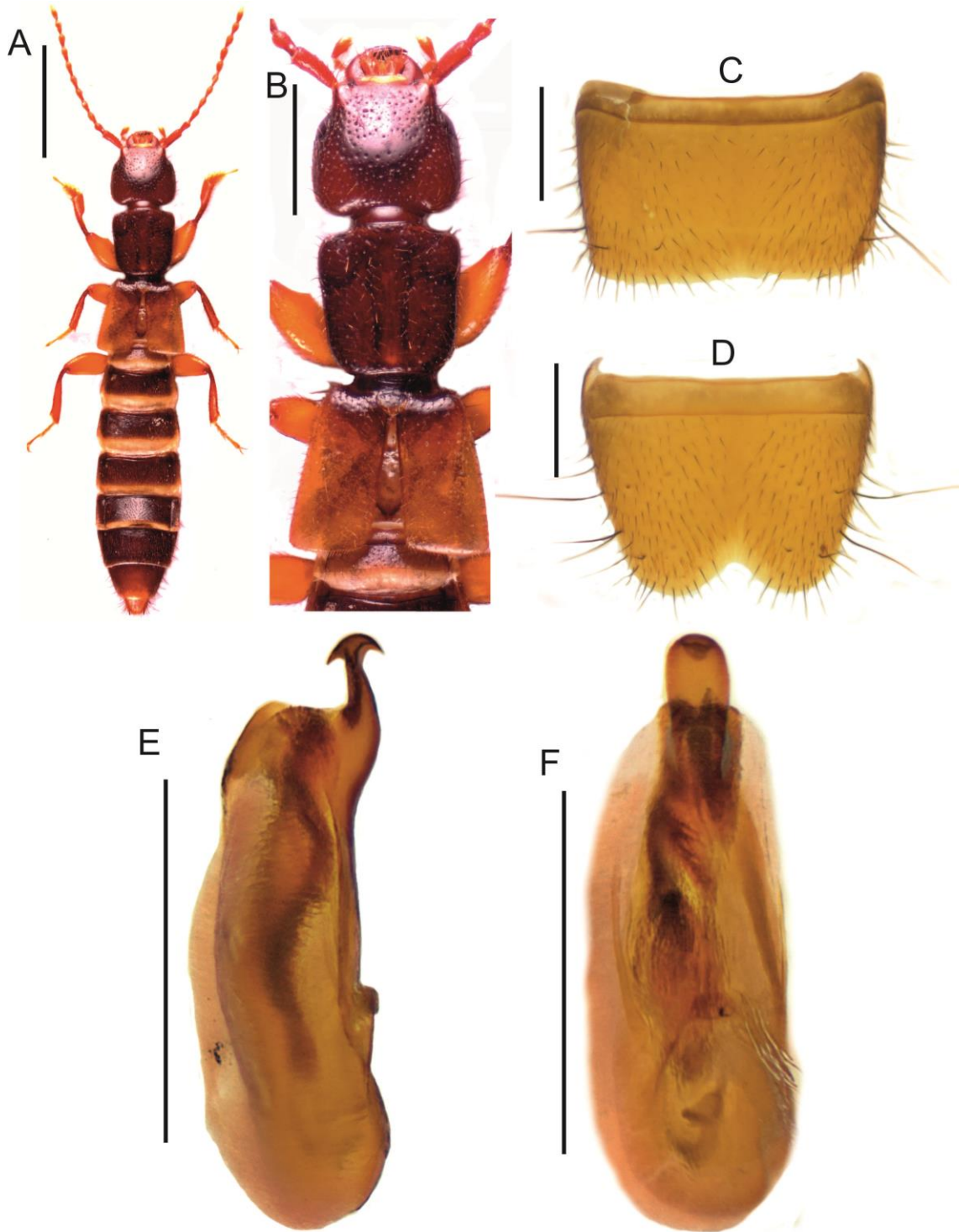


Figure 2. *Achenium humile* (Nikolai). A-habitus; B-forebody; C-male sternite VII; D-male sternite VIII; E-aedeagus, lateral; F-aedeagus, ventral. Scale bars: 1 mm (A-B); 0.2 mm (C-D); 0.5 mm (E-F).

Şekil 2. *Achenium humile* (Nikolai). 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-D); 0.5 mm (E-F).

Distribution in Turkey: Ankara, Erzincan, Eskişehir, Gümüşhane, Isparta, Kars, Kastamonu, Muş, Niğde, Tunceli, Van (Anlaş, 2009; Anlaş et al., 2011; Assing 2010, Sert et al., 2013; Altın & Yağmur, 2018; Özgen et al., 2018). *A. humile* is recorded for the first time from Aegean Region of Turkey.

Distribution in the world: This species is widely

distributed in Europe and also known from Middle Asia and Turkey (Schülke & Smetana, 2015).

Achenium propontiacum Bordoni, 2009 (Figure 3)

Material examined: **Ankara:** 3♂♂, 5♀♀, 11.IV.2017, Beypazarı, Üreğil, 40°17'07"N, 32°04'11"E, 1375 m, leg. Örgel & Yaman; 1♀, 25.IX.2017, Beypazarı,

Kıbrısçık road 40°19'09"N, 31°55'40"E, 1574 m, leg. Örgel & Yaman; 1♂, 10.III.2018, Mamak, Kutludüğün Wold, 39°52'11"N, 33°06'04"E, 1436 m, leg. Örgel & Yaman; 2♂♂, 18.V.2018, Kızılcahamam, Yukarıçanlı 8 km N, 1650 m, 40°43'43"N, 32°41'15"E, leg. Örgel & Yaman. **Çankırı:** 4♂♂, 3♀♀, 20.V.2018, Kursunlu, Taşkaracalar 2 km E, 1510 m, 40°42'40"N, 33°17'21"E, leg. Örgel & Yaman; 1♂, 2♀♀, 20.V.2018, Korgun, Çukurören 3 km SW, 1390 m, 40°38'55"N, 33°22'05"E, leg. Örgel & Yaman; 1♂, 2♀♀, 21.V.2018, Ilgaz, Kuyupınar 2 km E, 1414 m, 40°51'06"N, 33°37'37"E, leg. Örgel & Yaman. **Eskişehir:** 4♂♂, 5♀♀, 27.IV.2019, Sarıcakaya, İğdir 8 km N, 40°07'10"N, 30°36'47"E, 1200 m, leg. Örgel & Köksal; 1♂, 1♀, 27.IV.2019, Sarıcakaya, İğdir 6 km S, 40°06'08"N, 30°37'02"E, 1200 m, leg. Örgel & Köksal. **Totally:** 36 specimens.

Distribution in Turkey: Ankara, Balıkesir, Edirne, Erzurum, İstanbul, Kastamonu, Kırklareli, Kocaeli, Samsun, Sinop, Tekirdağ (Bordoni, 2009; Anlaş et al., 2011; Assing 2010). This species is here recorded for the first time from Çankırı and Eskişehir provinces.

Distribution in the world: This species is distributed in Bulgaria, Greece, Moldova, Romania, Turkey and Ukraine (Schülke & Smetana, 2015).

***Achenium scimbalioides* Koch, 1937 (Figure 4)**

Material examined: **Afyonkarahisar:** 1♂, 01.VI.2014, Dinar, Kabaklı 2 km E, 38°07'20"N, 30°03'42"E, 846 m, leg. Yağmur & Örgel. **Aksaray:** 1♀, 22.III.2018, Melendiz River, 38°12'00"N, 34°19'50"E, 1400 m, leg. Örgel & Yaman. **Ankara:** 1♂, 09.IV.2017, Beypazarı, Üreğil, 40°17'07"N, 32°04'11"E, 1375 m, leg. Örgel & Yaman. **Aydın:** 2♂♂, 22.III.2015, Dilek Peninsula National Park, Radar road, 37°39'49"N, 27°12'57"E, 969 m, leg. Yağmur & Örgel. **Çankırı:** 1♂, 20.V.2018, Kursunlu 5 km E, Taşkaracalar, 1647 m, 40°42'11"N, 33°19'43"E, leg. Örgel & Yaman. **Denizli:** 2♂♂, 2♀♀, 11.IV.2015, Tavas, 37°39'36"N, 28°52'06"E, 1131 m, leg. Anlaş, Yağmur & Örgel. **Eskişehir:** 1♂, 2♀♀, 27.IV.2019, Sarıcakaya, İğdir 8 km N, 40°07'10"N, 30°36'47"E, 1200 m, leg. Örgel & Köksal. **İzmir:** 2♂♂, 2♀♀, 14.XI.2014, Karaburun 5 km SW, 38°37'39"N, 26°29'26"E, leg. Anlaş, Yağmur & Örgel. **Karaman:** 2♂♂, 2♀♀, 25.V.2016, Sarıveliler, Göktepe, Saçak Hill, 36°38'22"N, 32°32'09"E, 1847 m, leg. Örgel & Yaman. **Kütahya:** 14♂♂, 8♀♀, 03.V.2015, Murat Mountain, 38°55'04"N, 29°36'47"E, 1756 m, leg. Yağmur, Örgel & Altın. **Manisa:** 5♂♂, 5♀♀, 15.III.2014, Spil Mountain, 38°33'45"N, 27°24'28"E, 1364 m, leg. Yağmur & Örgel; 2♂♂, 14.III.2014, Selendi, Omurlar village, 38°53'04"N, 28°49'27"E, 868 m, leg. Yağmur & Örgel. **Muğla:** 7♂♂, 3♀♀, 22.III.2014, Yılanlı Orman İşletme 2 km N, 37°13'52"N, 28°29'28"E, 1172 m, leg. Anlaş & Örgel.

Niğde: 1♂, 1♀, 02.VI.2016, Ulukışla, Horoz, 37°28'47"N, 34°47'55"E, 1049 m, leg. Örgel & Yaman. **Yozgat:** 1♂, 4♀♀, 11.IV.2019, Kadışehri, Ovacık 4 km N, 40°04'58"N, 35°53'58"E, 1670 m, leg. Yağmur & Örgel, Yaman. **Totally:** 72 specimens.

Distribution in Turkey: Adana, Bayburt, Çanakkale, Gümüşhane, Manisa, Tunceli, Uşak (Anlaş, 2009; Anlaş et al., 2011; Assing 2010, Örgel & Anlaş, 2016). This species is here recorded for the first time from many provinces (see above) in Aegean and Central Anatolia Regions.

Distribution in the world: Bulgaria, Turkey and Greece (Schülke & Smetana, 2015).

***Achenium turcicum* Coiffait, 1971 (Figure 5)**

Material examined: **Karaman:** 1♂, 28.V.2016, Ayrancı-Erdemli Yolu, Yüglük Hill, 37°02'49"N, 34°00'26"E, 2176 m, leg. Anlaş, Örgel & Yaman; 1♂, 29.V.2016, Ayrancı, Berendi, 37°16'08"N, 34°05'19"E, 1832 m, leg. Anlaş, Örgel & Yaman; 1♀, 29.V.2016, Ayrancı, Berendi 10 km N, 37°16'02"N, 34°06'53"E, 2105 m, leg. Anlaş, Örgel & Yaman; 2♂♂, 28.V.2016, Ayrancı, Yüglük Hill, 37°00'57"N, 33°46'48"E, 1942 m, leg. Anlaş, Örgel & Yaman; 8♂♂, 7♀♀, 03.V.2018, Ayrancı, Yüglük Hill, 37°00'49"N, 33°46'55"E, 1967 m, leg. Örgel & Yaman. **Konya:** 3♂♂, 2♀♀, 20.V.2016, Seydişehir, Erenler Mountain, 37°34'29"N, 32°02'56"E, 1785 m, leg. Örgel & Yaman; 1♂, 5♀♀, 19.V.2016, Beyşehir, Erenler Mountain, 37°47'20"N, 31°58'31"E, 1770 m, leg. Örgel & Yaman; 1♂, 1♀, 05.III.2018, Böllük Lake, 38°30'49"N, 32°54'00"E, 990 m, leg. Örgel & Yaman; 1♂, 02.III.2018, Ilgın, Bulcuk, 38°06'52"N, 31°59'03"E, 1436 m, leg. Örgel & Yaman. **Totally:** 34 specimens.

Distribution in Turkey: *A. turcicum* was only known its type locality, Şarkikaraağaç, Isparta (Coiffait, 1971; Assing, 2010). Thus, this species is recorded for the first time outside the type locality and its distribution is found to be much wider than it was previously known. *A. turcicum* is recorded for the first time from Central Anatolia Region.

Remarks: For redescription of this species, see Assing (2010). Aedeagus in ventral view and male sternite VII of *A. turcicum* are given for the first time in Figures 5C, F.

Distribution in the world: This is an endemic species for Turkey (Schülke & Smetana, 2015).

DISSCUSSION

The genus *Achenium* Leach includes 54 species in the Palaearctic region (Assing, 2010). According to recent studies, the genus was represented by 11 species in

Turkey (Assing, 2010; Anlaş et al., 2011), These are *Achenium anatolicum* Jarrige, 1952; *A. humile* (Nicolai, 1822); *A. propontiacum* Bordoni, 2009; *A.*

scimbalioides Koch, 1937; *A. turcicum* Coiffait, 1971; *A. debile* Erichson, 1840; *A. caucasicum* Laporte,

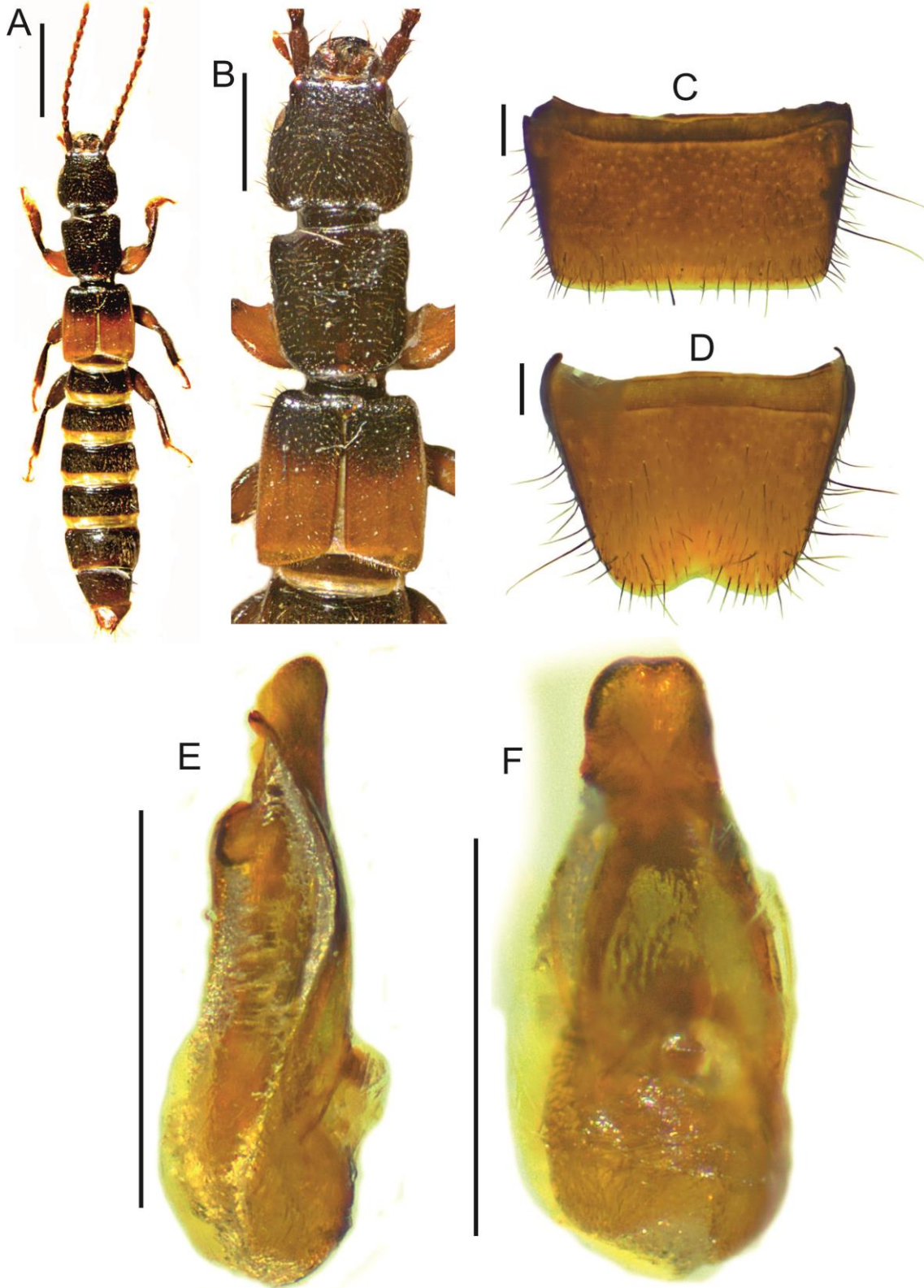


Figure 3. *Achenium propontiacum* Bordoni. A-habitus; B-forebody; C-male sternite VII; D-male sternite VIII; E-aedeagus, lateral; F-aedeagus, ventral. Scale bars: 1 mm (A-B); 0.2 mm (C-D); 0.5 mm (E-F).

Şekil 3. *Achenium propontiacum* Bordoni. 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-D); 0.5 mm (E-F).

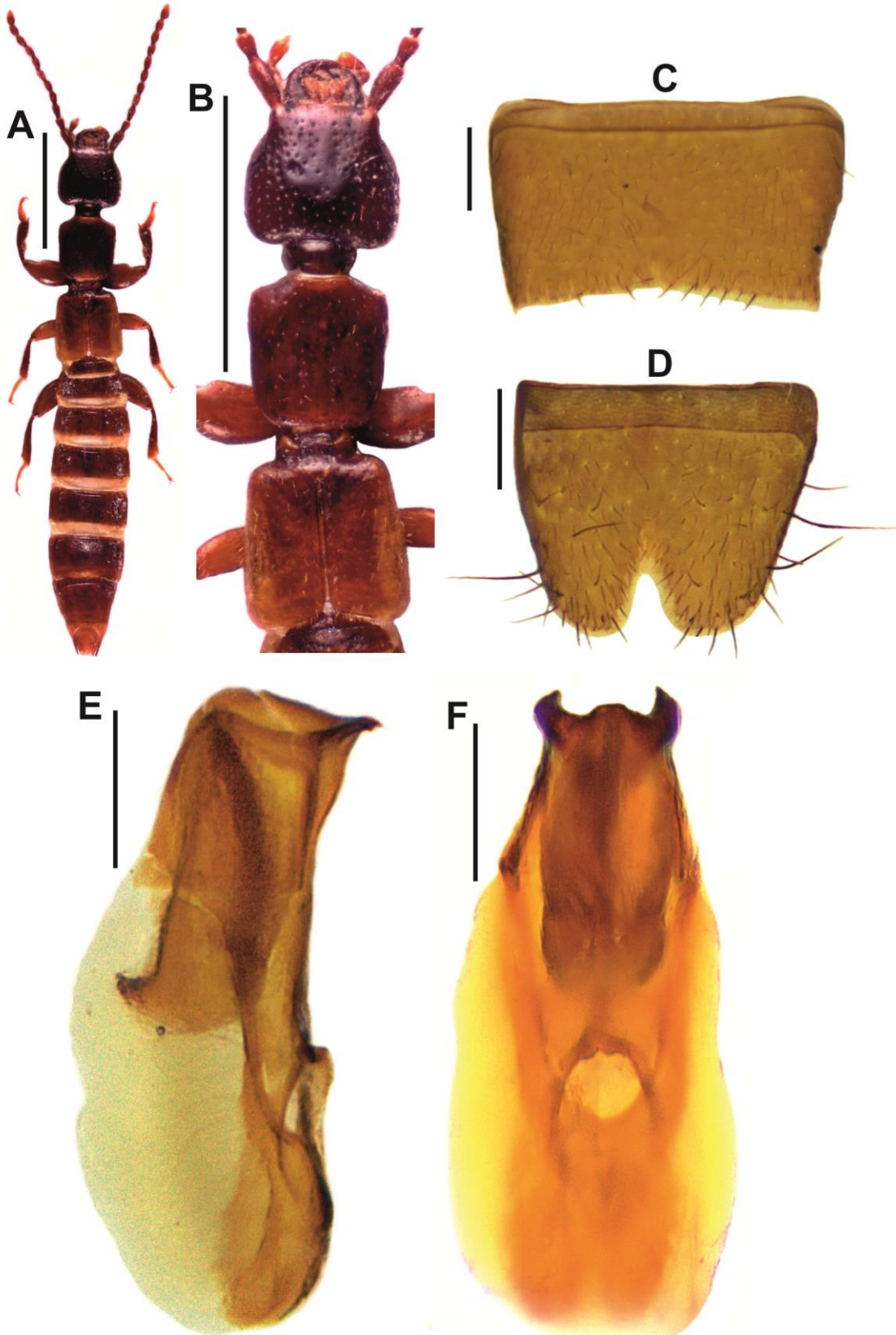


Figure 4. *Achenium scimbalioides* Koch. A-habitus; B-forebody; C-male sternite VII; D-male sternite VIII; E-aedeagus, lateral; F-aedeagus, ventral. Scale bars: 1 mm (A-B); 0.2 mm (C-F).

Şekil 4. *Achenium scimbalioides* 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).

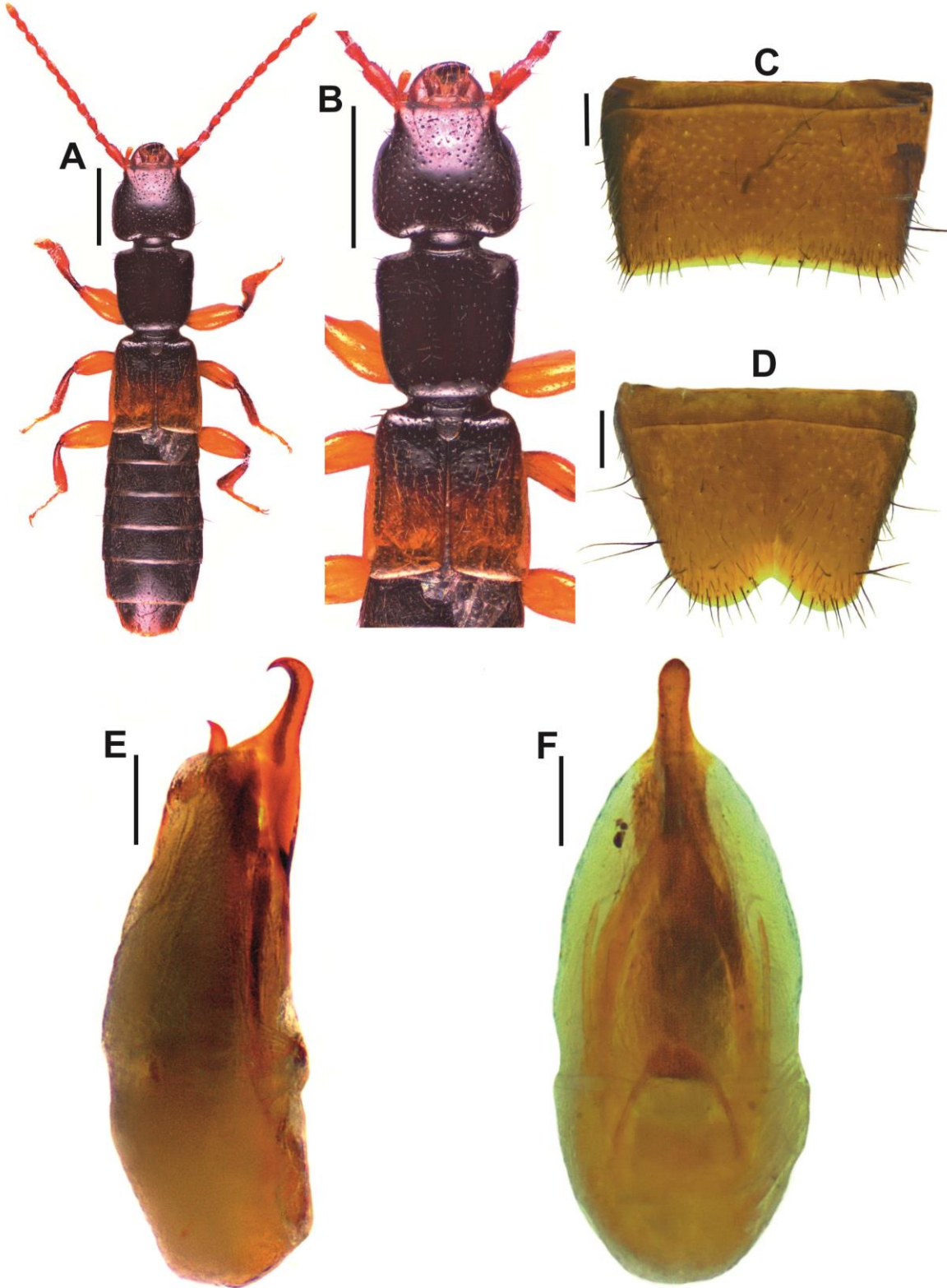


Figure 5. *Achenium turcicum* Coiffait. A-habitus; B-forebody; C-male sternite VII; D-male sternite VIII; E-aedeagus, lateral; F-aedeagus, ventral. Scale bars: 1 mm (A-B); 0.2 mm (C-F).

Şekil 5. *Achenium turcicum* Coiffait. A-genel vücut; B-ön vücut; C-erkek sternit VII; D-erkek sternit VIII; E-aedeagus, yan görünüşü; F-aedeagus, ön görünüşü. Ölçek çubukları: 1 mm (A-B); 0.2 mm (C-F).

1835; *A. picinum* Fauvel, 1875; *A. quadriceps* Eppelsheim, 1889; *A. richteri* Scheerpeltz, 1961 and *A. sanctum* Koch, 1937. As a result of the field studies in

Aegean and Central Anatolia, a total of five species were recorded: *A. anaticum*, *A. humile*, *A. propontiacum*, *A. scimbalioides* and *A. turcicum*. Of

the recorded species; *A. humile* from the Aegean Region and *A. turcicum* from Central Anatolia Region were recorded for the first time. *A. turcicum* was reported for the first time outside the type locality and its distribution was found to be much wider than previously known. *A. debile* was reported based on a old specimen from Konya province in central Anatolia region (Assing, 2010). But it was not recorded from central Anatolia in this study. Thus, this record is highly doubtful in central Anatolia.

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Statement of Conflict of Interest

Author has declared no conflict of interest.

Author's Contributions

The contribution of the authors is equal.

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