

Presence of *Sphedanolestes sanguineus* (Fabricius, 1794) in Turkey, followed by an annotated checklist of Reduviidae (Hemiptera: Heteroptera)

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Received: 16.03.2012 • Accepted: 10.05.2013 • Published Online: 12.08.2013 • Printed: 06.09.2013

Abstract: In this paper, the authors report the discovery of *Sphedanolestes sanguineus* (Fabricius, 1794) in Turkey, a new finding for Asian fauna, and give an annotated checklist of Reduviidae (Hemiptera: Heteroptera) for this country. *Stenolemus novaki* Horváth, 1888, *Holotrichius apterus* Jakovlev, 1879, *Holotrichius denudatus* A. Costa, 1842, *Holotrichius rotundatus* Stål, 1874, *Rhynocoris annulatus* (Linnaeus, 1758), *Rhynocoris transitus* Hoberlandt, 1952, and *Pygolampis bidentata* (Goeze, 1778) are little known species from Turkey. Furthermore, *Stenolemus novaki* is recorded for the first time from Marmara and central Anatolia, and *Pygolampis bidentata* is recorded for the first time in the eastern Black Sea region. A revised list of Turkish Reduviidae species comprising 57 taxa is compiled.

Key words: Turkey, Reduviidae, checklist, new record, *Sphedanolestes sanguineus*

1. Introduction

The family Reduviidae belongs to the superfamily Reduvidae (Hemiptera: Heteroptera). Worldwide, this family represents the second largest heteropteran family, with about 1000 genera and more than 7000 species. In the Palaearctic region, 808 species belonging to 145 genera have been identified (Miller, 1956; Putshkov, 1994; Putshkov and Putshkov, 1996; Henry, 2009; Weirauch et al., 2009; Putshkov and Moulet, 2010).

Palaearctic species are mainly xero- or mesophilous and thermophilous. Most species of Reduviidae are known to be predators and blood-sucking ectoparasites (Triatominae). Hunting adaptations differ according to the taxa, and these adaptations are related to the kind of prey. Many specimens of Reduviidae are specialized feeders on diplopods (many Ectrichodiinae), spiders (some Emesinae), termites (Salyavatinae), ants (some Holoptilinae), and other invertebrates/insects (Putshkov and Moulet, 2010).

There have been various studies on the Reduviidae in Turkey performed by either native or foreign researchers, namely by Horváth (1883, 1901, 1905, 1918), Puton (1892), Puton and Noulhier (1895), Kiritshenko (1918), Fahringer (1922), Hoberlandt (1956), Seidenstücker (1957, 1958), Wagner (1959, 1966), Linnavuori (1965), Önder (1980), Önder et al. (1981, 1983, 1984, 2006), Kiyak (1990, 1993, 2000), Kiyak and Salur (2000), Rus (2005),

Tezcan et al. (2010), Yıldırım et al. (2010), Dursun (2011), and Fent (2011). Önder (1980) reported 54 Reduviidae species from Turkey, but in total, 57 species from 19 genera of Reduviidae from Turkey have been recorded according to available records (Önder et al., 1981; Kiyak and Çağlar, 1991; Putshkov and Putshkov, 1996; Kiyak and Salur, 2000; Rus, 2005; Putshkov and Moulet, 2010; Dursun, 2011) in Turkey. Four valid species of Reduviidae—*Vachiria natolica* Stål, 1859, *Oncocephalus ocularis* Horváth, 1898, *Oncocephalus biguttula* Horváth, 1901, and *Empicoris mediterraneus* Hoberlandt, 1956—have been described from Turkey (see Putshkov and Putshkov, 1996).

2. Materials and methods

The research material consists of samples collected by A. Dursun and A. Salur in Adana, Ankara, Balıkesir, Gümüşhane, Hatay, Iğdır, Kahramanmaraş, Rize, Trabzon, and Van in 2002–2010 (deposited in the collection of A. Dursun) as well as samples collected by G. Seidenstücker in 1958–1968 from Adana, Bursa, Gaziantep, Hatay, Kayseri, Konya, Malatya, and Niğde, which are now preserved at Zoologische Staatssammlung Museum in Munich (ZSMC, Germany).

Male genitalia were used to identify some species. For preparation of the genitalia, samples were softened in 5% acetic acid (CH₃COOH) and their genitalia were extracted. The studies by Stichel (1959), Kerzhner and Jaczewski

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(1964), Josifov (1968), Linnavuori (1973), Gamarra (1980), Putshkov (1994), Moulet (2005), and Putshkov and Moulet (2010) were followed in the identification of the collected materials.

3. Results

3.1. *Sphedanolestes sanguineus* (Fabricius, 1794) (Reduviidae, Harpactorinae)

Material examined: Adana Province: Tufanbeyli, İncedere, 1400 m, 19.08.2002, 1♀, 1♂ (Leg. A. Salur).

Distribution in Turkey: New record for the fauna of Turkey and Asia.

Redescription: Measurements (in mm). Body length (from apex of head to apex of membrane): ♂: 9, ♀: 9.9. Head black, marginally and medially with 3 yellow lines; ocelli yellow; head length ♀: 1.95, ♂: 1.21, head width ♀: 1.17, ♂: 0.82, vertex width ♀: 0.48, ♂: 0.3. Antennae black, antennal segment 4 dark brown; length of antenna ♀: 6.49 (segment I 2.29, segment II 0.8, segment III 1.4, segment IV 2), ♂: 6.11 (segment I 2.26, segment II 0.7, segment III 1.3, segment IV 1.85) (Figures 1 and 2). Rostrum black, reaching the first coxae.

Pronotum black, wider than long; pronotum length: ♀: 1.98, ♂: 1.30, pronotum width: ♀: 2.40, ♂: 1.68. Scutellum black with red apex; scutellum length: ♀: 0.96, ♂: 0.80, scutellum width: ♀: 1.40, ♂: 0.91. Hemelytra black, membrane brown and surpassing the apex of abdomen. Connexivum red, proximal half of segments black (Figures 1–3). Dorsum black, 6th and 7th tergites with red spots. Pro-, meso-, and metapleura black. Coxae, trochanters, and femora black, distal part of tibiae and tarsi brown. Ventral surface of abdomen red, median cleft brownish yellow. All of the body covered with short and yellowish setae.



Figure 1. *Sphedanolestes sanguineus* (♂ dorsal).

Pygophore red, laterally black, its posterolateral margin with numerous short yellowish setae and narrower with broad apophyse (Figure 4). Paramere concave and black (Figure 4).

Ecological note: These specimens were collected by sweep-netting at light in rest position on *Mentha* sp. near a little stream.

3.2. Annotated checklist of Reduviidae from Turkey

REDUVIIDAE Latreille, 1807

EMESINAE Amyot & Serville, 1843

Genus: *Stenolemus* Signoret, 1858

Stenolemus bogdanovii Oshanin, 1871

Ref: Asian Turkey: Puton and Noualhier (1895); Hoberlandt (1956); Önder (1980); Önder et al. (2006).

Comments: Until now, this Irano-Turanian species has been distributed only in Central Asia between 35° to 45° N latitudes. It is known only in the Mediterranean region of Turkey.

Stenolemus novaki Horváth, 1888

Material examined: Bursa Province: Çekirge, 04.06.1961, 2♀♀; Kayseri Province: Ali Dağ, 22.06.1962, 1♀ (Leg. G. Seidenstücker, ZSMC).

Ref: Asian Turkey: Putshkov and Moulet (2010)

Comments: This northern Mediterranean species (also known in the Near East and the Arabian Peninsula) was first mentioned from Turkey by Putshkov and Moulet (2010) without exact locality. In this study, this species is first recorded for the Marmara region and central Anatolia.

Genus: *Ploiaria* Scopoli, 1786

Ploiaria domestica Scopoli, 1786

Ref: Asian Turkey: Oshanin (1908); Hoberlandt (1956); Önder (1980); Önder et al. (2006); Putshkov and Moulet (2010); Fent (2011).



Figure 2. *Sphedanolestes sanguineus* (♀ dorsal).



Figure 3. *Sphedanolestes sanguineus* (♂ dorsal).

Comments: This Turano-Mediterranean species was found for the first time by Oshanin (1908) from İzmir. Until now, it has been distributed only in western Anatolia.

Genus: *Metapterus* A. Costa, 1862

Metapterus linearis A. Costa, 1862

Ref: Asian Turkey: Hoberlandt (1956, as *Ischnonyctes barbarus*); Seidenstücker (1957); Önder (1980); Önder et al. (2006); Putshkov and Moulet (2010).

European Turkey: Davidová-Vilímová and Kment (2003).

Comments: The record of *Ischnonyctes barbarus* (Lucas, 1849) by Hoberlandt (1956) is based on a 5th instar larva of *M. linearis* (Putshkov and Putshkov, 1996; Davidová-Vilímová and Kment, 2003). This Turano-Mediterranean species was first mentioned from Turkish Thrace by Davidová-Vilímová and Kment (2003).

Genus: *Empicoris* Wolff, 1811

Empicoris mediterraneus Hoberlandt, 1956

Ref: Asian Turkey: Hoberlandt (1956); Önder (1980); Önder et al. (2006); Putshkov and Moulet (2010).

Comments: This Turano-Mediterranean species is known in southern Europe, North Africa, and Central Asia, and is distributed only in the Mediterranean region of Turkey, where it is rare.

PEIRATINAE Amyot & Serville, 1843

Genus: *Ectomocoris* Mayr, 1865

Ectomocoris ululans (Rossi, 1790)

Ref: Asian Turkey: Kiritshenko (1918); Hoberlandt (1956); Önder (1980); Önder et al. (2006); Yıldırım et al. (2010).

Comments: This Holomediterranean species was found for the first time by Kiritshenko (1918) in Turkey from Artvin (Ardanuç). This species is rare in Turkey, and in the Palearctic region is known as far as southern Europe, North Africa, and Central Asia.

Genus: *Peirates* Serville, 1831

Peirates hybridus (Scopoli, 1763)

Material examined: Kahramanmaraş Province: Afşin, Körüköy, 28.09.2008, 1♀; Trabzon Province: Beşikdüzü, 25.04.2010, 1♀ (Leg. A. Dursun).

Ref: Asian Turkey: Ankara, Artvin, Bursa, Diyarbakır, Eskişehir, Gaziantep, Giresun, Konya, Niğde, Uşak (Horváth, 1883; Puton and Noualhier, 1895; Oshanin,



Figure 4. *Sphedanolestes sanguineus* pygophore and paramere (ventral).

1908; Gadeau de Kerville, 1939; Hoberlandt, 1956; Seidenstücker, 1958; Önder and Adıgüzel, 1979; Önder, 1980; Önder et al., 1981; 2006 Tezcan et al., 2010; Yıldırım et al., 2010; Dursun, 2011).

European Turkey: Edirne (Önder et al., 1984).

Comments: This Holomediterranean species is known in the Palearctic region in Europe, North Africa, and Central Asia. It was first reported in Turkey from Bursa by Horváth (1883).

Peirates strepitans Rambur, 1839

Ref: Asian Turkey: Escherich (1897); Hoberlandt (1956); Önder (1980); Önder et al. (2006); Putshkov and Moulet (2010); Yıldırım et al. (2010).

Comments: This Holomediterranean species was first mentioned by Escherich (1897) from Ankara. Later it was recorded by Hoberlandt (1956) from Mersin (Toros-Yeniköy) and Konya (Akşehir). This species is known from Europe, Africa (inclusive of tropical Africa and Madagascar), and Central Asia.

PHYMATINAE Laporte, 1832

Genus: *Phymata* Latreille, 1802

Phymata crassipes (Fabricius, 1775)

Ref: Asian Turkey: Fahringer (1922); Hoberlandt (1956); Tuatay et al. (1972); Kıyak (1993); Dursun (2011).

Comments: This Euro-Siberian species is known from throughout Europe, North Africa, Central Asia, China, and Mongolia.

REDUVIINAE Latreille, 1807

Genus: *Holotrichius* Burmeister, 1835

Holotrichius apterus Jakovlev, 1879

Material examined: Van Province: Gürpınar, Çavuştepe, 24.07.2009, 1♂ (Leg. A. Dursun).

Ref: Asian Turkey: Ağrı, Iğdır, Kars (Kiritshenko, 1918; Önder et al., 2006).

Comments: This Irano-Turanian species is distributed in Dagestan (Russia), Turkey, and from countries neighboring Anatolia in Turkey. It was first found by Kiritshenko (1918) from Ağrı, Iğdır (Tuzluca = Kulp), and Kars. It was recorded for the first time after 1918 in Anatolia and is distributed only in eastern Anatolia. This species is distributed only in Anatolia in Turkey.

Holotrichius denudatus A. Costa, 1842

Material examined: Konya Province: 16.07.1952, 1♀; Niğde Province: Ulukışla, 21.06.1964, 1♂ (Leg. G. Seidenstücker), (ZSMC).

Ref: Asian Turkey: Niğde (Ulukışla) (Seidenstücker, 1957); Aydın, Çanakkale, Hakkari, İzmir (Önder, 1980; Önder et al., 2006).

Comments: This Ponto-Mediterranean species is known in southern Europe, Turkey, and Israel (maybe erroneously). It was first recorded in Turkey from Niğde by Seidenstücker (1957). In this study, we report the first record for central Anatolia.

Holotrichius ochraceus Reuter, 1891

Ref: Asian Turkey: Seidenstücker (1957); Önder et al. (2006).

Comments: Up until now, this Holomediterranean species was recorded only from Hatay by Seidenstücker (1957). This species is distributed only in Anatolia and Syria, according to the available records.

Holotrichius putoni Reuter, 1909

Ref: Asian Turkey: Reuter (1909); Hoberlandt (1956); Önder (1980).

Comments: This eastern Mediterranean or Ponto-Mediterranean species was described from Israel by Reuter (1909). Until now, it has been recorded only from Hatay (Akbez-Hassa) by Reuter (1909) and Hakkari by Önder (1980) in Turkey, as well as in Israel and Syria.

Holotrichius rotundatus Stål, 1874

Material examined: Adana Province: Misis, 06.05.1958, 1♂ (Leg. G. Seidenstücker), (ZSMC); Hatay Province: Hassa, Akbez, 19.05.2010, 1♂ (Leg. A. Dursun)

Ref: Asian Turkey: Adıyaman (Kahta) (Önder, 1980).

Comments: In this study, this Ponto-Mediterranean species is mentioned for the first time in the Mediterranean region of Turkey. This species is distributed only in Asia in the Palaearctic region. Doubtful in Central Asia (Azerbaijan, Armenia, Tadjikistan, Uzbekistan) (Putshkov and Moulet, 2010).

Holotrichius spinicollis Reuter, 1891

Ref: European Turkey: Reuter (1891); Hoberlandt (1956).

Comments: This Ponto-Mediterranean species was described from Greece and Turkey by Reuter (1891) without exact localities.

Genus: *Pasira* Stål, 1859

Pasira basiptera Stål, 1859

Ref: Asian Turkey: Horváth (1883); Puton and Noulhier (1895); Hoberlandt (1956); Önder (1980).

Comments: This Holomediterranean species was first mentioned for Turkey from Bursa by Horváth (1883). According to Putshkov and Moulet (2003), records of brachypterous specimens from Turkey, Bulgaria, and Iran may refer to *P. marinadolina* Putshkov and Moulet, 2003.

Genus: *Reduvius* Fabricius, 1775

Reduvius ciliatus Jakovlev, 1879

Ref: Asian Turkey: Puton and Noulhier (1895); Kiritshenko (1918); Hoberlandt (1956); Önder (1980).

Comments: Until now this Irano-Turanian species has been recorded in Turkey only from Ağrı, Gaziantep, and Hatay. This species has been recorded from the sparse grass between vineyards by Hoberlandt (1956).

Reduvius festae Giglio-Tos, 1894

Ref: Asian Turkey: Önder (1980).

Comments: This Mediterranean species was mentioned from Adıyaman (Kahta) by Önder (1980); there is no other locality in Turkey. Until now, this species has been recorded only from Lebanon and Turkey.

Reduvius pallipes Klug, 1830

Ref: Asian Turkey: Reuter (1890; 1892); Puton (1892); Hoberlandt (1956); Wagner (1966); Tuatay et al. (1972); Önder and Adıgüzel (1979); Önder (1980); Kıyak (1990); Tezcan et al. (2010); Yıldırım et al. (2010).

European Turkey: Edirne (Önder, 1980).

Comments: This Ponto-Mediterranean species was first mentioned from Mardin in eastern Anatolia by Reuter (1890). Until now, this species has been recorded from Iraq, Iran, and Central Asia, by Putshkov and Putshkov (1996).

Reduvius personatus (Linnaeus, 1758)

Ref: Asian Turkey: Reuter (1892); Kiritshenko (1918); Hoberlandt (1956); Önder (1980); Önder et al. (1981, 2006); Öncül Abacıgil et al. (2010); Yıldırım et al. (2010); Dursun (2011).

European Turkey: Edirne (Önder et al., 1984).

Comments: This Palaearctic species was first recorded by Reuter (1892) from Asia Minor without exact locality; it was mentioned by Kiritshenko (1918) from Artvin.

Reduvius testaceus (Herrich-Schaeffer, 1845)

Ref: Asian Turkey: Reuter (1890); Kiritshenko (1918); Miller (1956); Hoberlandt (1956); Önder (1980); Kıyak (1990).

Comments: This Ponto-Mediterranean species was first recorded in Turkey from İzmir by Reuter (1890). It was found on xerophilous vegetation in wooded hill formations by Hoberlandt (1956).

STENOPODAINAE Amyot & Serville, 1843

Genus: *Oncocephalus* Klug, 1830

Oncocephalus acutangulus Reuter, 1882

Ref: Asian Turkey: Puton (1892); Puton and Noulhier (1895); Horváth (1898); Hoberlandt (1956); Önder (1980); Önder et al. (1981); Rus (2005).

European Turkey: Edirne (Önder et al., 1984).

Comments: This Ponto-Mediterranean species is known in southern Europe, North Africa, Turkey, Israel, Syria, and Saudi Arabia. It was first recorded in Turkey from Hatay (Akbez-Hassa) by Reuter (1892). Data by Puton (1982) are also from Turkey.

***Oncocephalus aspericollis* Reuter, 1882**

Ref: Asian Turkey: Puton and Noualhier (1895); Horváth (1901); Hoberlandt (1956); Önder (1980).

Comments: *O. aspericollis* is an eastern Mediterranean species known in Turkey, Israel, Syria, and Iraq. Its presence in Saudi Arabia must be confirmed. It has been described as *Oncocephalus arcticeps* from Hatay (Akbez-Hassa) by Puton and Noualhier (1895).

***Oncocephalus biguttula* Horváth, 1901**

Ref: Asian Turkey: Horváth (1901, 1919); Fahringer (1922); Hoberlandt (1956); Sedenstücker (1958); Önder (1980).

European Turkey: Edirne (Sedenstücker, 1958); Önder (1980).

Comments: This Turkish endemic species was described from Hatay (Akbez-Hassa) by Horváth (1901).

***Oncocephalus brachymerus* Reuter, 1882**

Ref: Asian Turkey: Putshkov and Moulet (2010).

Comments: This species with prevailing Asiatic distribution was mentioned from Turkey by Putshkov and Moulet (2010) without exact locality.

***Oncocephalus notatus* Klug, 1830**

Ref: Asian Turkey: Kiritshenko (1918); Hoberlandt (1956); Önder (1980); Önder et al. (2006).

Comments: This Holomediterranean species was first recorded in Turkey from Iğdır (Tuzluca = Kulp) by Kiritshenko (1918). Putshkov and Putshkov (1996) listed the species from Asian Turkey with a question mark; its occurrence in Turkey needs confirmation.

***Oncocephalus obsoletus* Klug, 1830**

Ref: Asian Turkey: Putshkov and Putshkov (1996); Putshkov and Moulet (2010).

Comments: This Ponto-Arabian species was mentioned in Turkey by Putshkov and Putshkov (1996) and Putshkov and Moulet (2010) without providing exact localities.

***Oncocephalus ocellaris* Horváth, 1898**

Ref: Asian Turkey: Horváth (1898); Hoberlandt (1956); Önder (1980).

Comments: This Holomediterranean Pontian species was described from Hatay (Akbez-Hassa) by Horváth (1898) and is known only from Anatolia, Israel, and Syria. Probably synonymous with *O. mesopotamicus* Dispons (Moulet, 2002; Putshkov and Moulet, 2010).

***Oncocephalus pilicornis* Reuter, 1882**

Ref: Asian Turkey: Sedenstücker (1958); Önder (1980); Josifov (1980); Putshkov and Moulet (2010); Yıldırım et al. (2010).

European Turkey: İstanbul (Horváth, 1918; Hoberlandt, 1956).

Comments: Putshkov and Putshkov (1996) listed *O. pilicornis* from Asian Turkey with a question mark. Occurrence of this Eremian species was later confirmed by Putshkov and Moulet (2010).

***Oncocephalus plumicornis* (Germar, 1822)**

Ref: Asian Turkey: Tuatay et al. (1972); Önder (1980).

Comments: This Asian species was recorded first in Turkey from Nevşehir (Avanos) by Tuatay et al. (1972); there is no other published locality.

***Oncocephalus squalidus* (Rossi, 1790)**

Ref: Asian Turkey: Horváth (1883; 1901); Hoberlandt (1956); Tuatay et al. (1972); Önder (1980); Önder et al. (1981); Putshkov and Moulet (2010); Yıldırım et al. (2010).

European Turkey: İstanbul (Horváth, 1918); Edirne (Önder et al., 1984).

Comments: This Holomediterranean species was mentioned first in Turkey from Bursa by Horváth (1883). It was found on the ground among stones in macchia by Hoberlandt (1956).

***Oncocephalus thoracicus* Fieber, 1861**

Ref: Asian Turkey: Fieber (1861, original description); Reuter (1882); Hoberlandt (1956); Seidenstücker (1958); Stichel (1959); Tuatay et al. (1972); Önder and Adıgüzel (1979); Önder (1980); Önder et al. (2006); Putshkov and Moulet (2010); Yıldırım et al. (2010).

Comments: This Ponto-Mediterranean species was mentioned first in Turkey from Bursa by Fieber (1861), Reuter (1882), and Stichel (1959), without any mention of exact localities. It was erroneously mentioned from Ankara by Tuatay et al. (1972) as *O. paulinoi*. This species was found on the ground, in the grass in the border zone of a cultivated area by Hoberlandt (1956).

***Oncocephalus vescerae* Dispons, 1965**

Ref: Asian Turkey: Putshkov and Moulet (2010).

Comments: This Eremian species was mentioned first in Turkey from Antalya and Balıkesir by Putshkov and Moulet (2010). This species is known in North Africa, Turkey, Israel, Iran, and Iraq.

Genus: *Pygolampis* Germar, 1817

***Pygolampis bidentata* (Goeze, 1778)**

Material examined: Rize Province: Çamlıhemşin, Şenyurt Köyü, 16.07.2005, 2♂♂ (Leg. A. Dursun).

Ref: Asian Turkey: Adapazarı-Sakarya (Önder et al., 1981; 2006); Mersin (Putshkov and Moulet, 2010).

Comments: This species was found from Namrun (Mersin) (coll. Eckerlein) according to Putshkov and Moulet (2010). In this study, the species is recorded for the first time from the eastern Black Sea region.

Genus: *Sastrapada* Amyot & Serville, 1843

***Sastrapada baerensprungi* (Stål, 1859)**

Ref: Asian Turkey: Putshkov and Moulet (2010).

Comments: This Holomediterranean species was

mentioned first from Adana (Ceyhan) by Putshkov and Moulet (2010).

HARPACTORINAE Amyot & Serville, 1843

Genus: *Callistodema* Reuter, 1890

***Callistodema fasciata* (Kolenati, 1857)**

Ref: Asian Turkey: Horváth (1883; 1891); Reuter (1890); Kiritshenko (1918); Hoberlandt (1956); Seidenstücker (1958); Linnavuori (1965); Önder (1980); Putshkov and Moulet (2010).

Comments: This Ponto-Mediterranean species was first mentioned by Horváth (1883) as *Callidema lygaeiformis* from the surroundings of Bursa. The distribution area of this species is Caucasia, Turkey, Greece, and Russia (Dagestan).

Genus: *Coranus* Curtis, 1833

***Coranus angulatus* Stål, 1874**

Ref: Asian Turkey: Önder (1980); Önder et al. (2006).

Comments: This Eremian species is known in North and tropical Africa, the Near East, and Asia. In Turkey, it was found first in Adana with light traps by Önder (1980).

***Coranus contrarius* Reuter, 1881**

Ref: Asian Turkey: Horváth (1883); Hoberlandt (1956); Önder (1980); Putshkov (1987); Kıyak (1993); Özsaraç et al. (2001); Önder et al. (2006).

Comments: This Ponto-Mediterranean species is known in Eastern Europe, Turkey, and Central Asia. It was found first in Turkey from Bursa by Horváth (1883).

***Coranus griseus* (Rossi, 1790)**

Ref: Asian Turkey: Horváth (1883; 1901); Hoberlandt (1956); Önder (1980); Özsaraç et al. (2001); Önder et al. (2006); Yıldırım et al. (2010); Kıyak and Akar (2010); Dursun (2011).

European Turkey: İstanbul (Fahringer, 1922); Tekirdağ (Wagner, 1966) as *C. aegyptius*.

Comments: This Turano-Mediterranean species was mentioned first by Horváth (1883) (as *Coranus aegyptius*) from the surroundings of Bursa. It is frequent and widely distributed in Anatolia and Turkish Thrace.

***Coranus kerzhneri* P. V. Putshkov, 1982**

Ref: Asian Turkey: Putshkov (1994); Yıldırım et al. (2010).

Comments: This Euro-Mediterranean species is known in Europe, Azerbaijan, and Turkey. The presence in North Africa of this species must be confirmed. It was mentioned first by Putshkov (1994) from the surroundings of Bursa.

***Coranus cf. subapterus* (De Geer, 1773)**

Ref: Asian Turkey: Gadeau de Kerville (1939); Önder (1980); Önder et al. (2006).

European Turkey: Edirne, Tekirdağ (Hoberlandt, 1956; Önder, 1980; Önder et al., 2006).

Comments: Putshkov and Putshkov (1996) listed the species from Asian Turkey with a question mark. In Bulgaria, Turkey, Armenia, Azerbaijan, Turkmenistan, and Afghanistan, populations exist that cannot be reported

to be "real" *Coranus niger*, which Putshkov and Moulet (2010) called "*Coranus cf. subapterus*". It was mentioned by Hoberlandt (1956), Önder (1980), and Önder et al. (2006) from European and Asian Turkey, but must be confirmed.

***Coranus tuberculifer* Reuter, 1881**

Ref: Asian Turkey: Reuter (1881, original description); Horváth (1883; 1901); Hoberlandt (1956); Önder (1980); Önder et al. (2006); Putshkov and Moulet (2010); Dursun (2011).

European Turkey: İstanbul (Putshkov and Moulet, 2010).

Comments: The distribution area of this species is Europe, Caucasia, Turkey, and Syria. The record from Israel is doubtful. This eastern Mediterranean species was first recorded in Turkey from Bursa by Reuter (1881).

Genus: *Nagusta* Stål, 1859

***Nagusta goedelii* (Kolenati, 1857)**

Ref: Asian Turkey: Stål (1859); Jakovlev (1876); Escherich (1897); Reuter (1909); Kiritshenko (1918); Hoberlandt (1956); Linnavuori (1965); Önder (1980); Önder et al. (1983; 2006); Yıldırım et al. (2010); Putshkov and Moulet (2010); Dursun (2011).

European Turkey: Çanakkale (Gökçeada), Edirne, İstanbul, Kırklareli (Önder, 1980; Önder et al., 2006; Yıldırım et al., 2010; Putshkov and Moulet, 2010; Fent, 2011).

Comments: This Ponto-Mediterranean species was first recorded from the surroundings of Ankara by Escherich (1897). It is frequent and widely distributed in Anatolia and Turkish Thrace.

Genus: *Rhynocoris* Hahn, 1833

***Rhynocoris annulatus* (Linnaeus, 1758)**

Material examined: Gümüşhane Province: Tersun, Karamustafa Paşa, 23.06.2007, 1♀ (Leg. A. Dursun).

Ref: Asian Turkey: Muş (Kiritshenko, 1924; Hoberlandt, 1956); Rize (Kıyak and Çağlar, 1991).

Comments: This Euro-Siberian species was first recorded by Kiritshenko (1924) from Muş (Kurtik Dağı) and by Kıyak and Çağlar (1991) from Rize. In this study, the species is first mentioned from Gümüşhane. It is distributed in the eastern Black Sea region and east Anatolia in Turkey, according to the available records.

***Rhynocoris bipustulatus* (Fieber, 1861)**

Ref: Asian Turkey: Putshkov and Moulet (2010); Yıldırım et al. (2010).

Comments: This eastern Mediterranean species was first mentioned from the surroundings of Adana by Putshkov and Moulet (2010). It is known as a color- and morphological-variable species.

***Rhynocoris flavolimbatus* (Jakovlev, 1889)**

Ref: Asian Turkey: Puton and Noulhier (1895); Horváth (1901); Kiritshenko (1918); Hoberlandt (1956); Seidenstücker (1958); Önder (1980); Rus (2005).

Comments: This Irano-Turanian species is known in Azerbaijan, Armenia, Iran, and the Asian part of Turkey. The record from Syria is doubtful. It was first mentioned from the surroundings of Hatay by Puton and Noualhier (1895).

***Rhynocoris ibericus* Kolenati, 1857**

Ref: Asian Turkey: Stål (1874); Horváth (1901, 1919); Kiritshenko (1918); Seidenstücker (1958); Önder (1980); Kıyak (1990); Yıldırım et al. (2010).

European Turkey: İstanbul (Horváth, 1918; Putshkov and Moulet, 2010).

Comments: This Ponto-Mediterranean species was first mentioned by Stål (1874) without exact localities, and from the surroundings of Adana by Horváth (1901).

***Rhynocoris iracundus* (Poda, 1761)**

Ref: Asian Turkey: Horváth (1883, 1901, 1905); Puton (1892); Escherich (1897); Jakovlev (1904); Kiritshenko (1918); Fahringer (1922); Gadeau de Kerville (1939); Hoberlandt (1956); Akramovskaya (1959); Dispos (1964); Linnavuori (1965); Gidayatov (1967); Benedek (1969); Tuatay et al. (1972); Önder (1980); Kıyak (1990); Önder et al. (2006); Öncül Abacıgil et al. (2010); Putshkov and Moulet (2010); Dursun (2011).

European Turkey: Edirne, Çanakkale (Gökçeada), Kırklareli, Tekirdağ (Hoberlandt, 1956; Önder, 1980; Önder et al., 2006; Putshkov and Moulet, 2010).

Comments: This Euro-Siberian species is known throughout Europe, and in Asia and Kashmir. It is a very common and abundant species throughout Thrace and the Asian part of Turkey. It was first mentioned from the surroundings of Bursa by Horváth (1883).

***Rhynocoris niger* (Herrich-Schaeffer, 1842)**

Ref: Asian Turkey: Wagner (1959); Önder (1980); Önder et al. (2006).

Comments: Putshkov and Putshkov (1996) and Putshkov and Moulet (2010) listed the species from Asian Turkey with a question mark, noting that the record from Asian Turkey by Wagner (1959) needs confirmation. This Euro-Siberian species was mentioned from the surroundings of Tiflis (Tbilisi) in Georgia by Kiritshenko (1918). It has been confirmed by Önder (1980) and Önder et al. (2006).

***Rhynocoris persicus* (Jakovlev, 1877)**

Ref: Asian Turkey: Puton (1892); Seidenstücker (1958); Önder (1980); Putshkov (2002); Önder et al. (2006).

Comments: This Caspian species was first mentioned from the surroundings of Hatay (Akbez-Hassa). Putshkov (2002) listed the species also from Gaziantep and Malatya.

***Rhynocoris punctiventris* (Herrich-Schaeffer, 1846)**

Material examined: Van Province: Akdamar Island, 23.07.2009, 2♂♂ (Leg. A. Dursun).

Ref: Asian Turkey: All regions of Turkey (Horváth, 1883, 1901, 1905, 1919; Puton, 1892; Gadeau de Kerville, 1939; Hoberlandt, 1956; Önder, 1980; Kıyak, 1990,

1993, 2000; Öz Saraç and Kıyak, 2001; Önder et al., 2006; Putshkov and Moulet, 2010; Yıldırım et al., 2010; Ankara (Kıyak & Akar, 2010); Dursun, 2011).

European Turkey: Çanakkale (Gökçeada), İstanbul (Önder, 1980; Önder et al., 2006; Putshkov and Moulet, 2010; Yıldırım et al., 2010).

Comments: *R. punctiventris* is a very common and abundant Ponto-Mediterranean species throughout Thrace and the Asian part of Turkey. It was first found by Horváth (1883) in Bursa.

***Rhynocoris rubrogularis* (Horváth, 1880)**

Ref: Asian Turkey: Kiritshenko (1918); Kıyak and Salur (2000).

Comments: This Caspian species was first mentioned from the surroundings of Artvin (neighboring Caucasus) by Kiritshenko (1918). It is known in the eastern Black Sea region of Turkey.

***Rhynocoris transitus* Hoberlandt, 1952**

Material examined: Malatya Province: 14.06.1965, 1♂; Gaziantep Province: Düllük, 18.05.1968, 2♀♀ (Leg. G. Seidenstücker), (ZSMC).

Ref: Asian Turkey: Hakkari (Çukurca) (Önder, 1980); Kahramanmaraş (Önder et al., 2006).

Comments: This Pontic species was first found by Önder (1980) from Hakkari (Çukurca). It is rare in Turkey.

Genus: *Sphedanolestes* Stål, 1867

***Sphedanolestes lividigaster* (Mulsant & Rey, 1852)**

Ref: Asian Turkey: Hatay, İzmir, Mersin (Reuter, 1890; Önder, 1980; Önder et al., 2006).

Comments: Putshkov and Putshkov (1996) and Putshkov and Moulet (2010) listed it from Asian Turkey with a question mark, noting that Reuter's (1890) record from İzmir needs confirmation. This Holomediterranean species was first found from İzmir by Reuter (1890) and it was mentioned later by Önder et al. (2006) from Hatay, İzmir, and Mersin. It is distributed only in the Mediterranean and Aegean regions of Turkey.

***Sphedanolestes pulchellus* (Klug, 1830)**

Material examined: Balıkesir Province: Bandırma, 20.07.2004, 1♂; Hatay Province: Hassa, Akbez, 19.05.2010, 1♀ (Leg. A. Dursun).

Ref: Asian Turkey: Adana, Ankara, Bursa, Hatay, İzmir, Kahramanmaraş, Kocaeli (Reuter, 1890; Horváth, 1901, 1918; Hoberlandt, 1956; Linnavuri, 1965; Önder, 1980; Kıyak, 1993; Önder et al., 2006).

European Turkey: İstanbul, Tekirdağ (Horváth, 1918; Önder, 1980; Önder et al., 2006).

Comments: This Ponto-Mediterranean species was recorded first in Turkey from Bursa and İzmir (Reuter, 1890).

***Sphedanolestes sanguineus* (Fabricius, 1794)**

Ref: This study.

Genus: *Vachiria* Stål, 1859

***Vachiria deserta* (Becker, 1867)**

Material examined: Iğdır Province: Karakoyunlu, 848 m, 27.07.2009, 1♂; Hatay Province: Hassa, Akbez, 19.05.2010, 1♀ (Leg. A. Dursun).

Ref: Asian Turkey: Ağrı, Antalya, Elazığ, Iğdır, Konya, Nevşehir, Sivas, Van (Horváth, 1894; Poppius, 1909; Kiritshenko, 1918; Hoberlandt, 1956; Tuatay et al., 1972; Önder, 1980; Önder et al., 2006).

Comments: This Ponto-Mediterranean species was first recorded in Turkey from Iğdır (Aralık) by Horváth (1894). In this study, the species is first recorded for the fauna of Hatay.

***Vachiria natolica* Stål, 1859**

Material examined: Ankara Province: Polatlı-Gordion, 01.08.2008, 1♀ (Leg. A. Dursun).

Ref: Asian Turkey: Aydın, Çorum, Diyarbakır, Iğdır, İzmir, Manisa, Mardin, Mersin (Stål, 1859; Poppius, 1909; Hoberlandt, 1956; Önder, 1980; Önder et al., 2006).

Comments: This Saharomediterranean species was described by Stål (1859) from İzmir. In this study, it is first recorded for the fauna of Ankara and central Anatolia.

4. Discussion

An annotated preliminary list of Turkish Reduviidae was given for the first time by Önder (1980), who reported 54 species. However, some species were later synonymized and so the original number was reduced to 45 (Putshkov and Putshkov, 1996; Putshkov and Moulet, 2010).

In this study, the Harpactorine *Sphedanolestes sanguineus* (Fabricius, 1794) is reported only from Adana (in the Mediterranean region) and is a new record not only for Turkey but for the whole of Asia. This record greatly extends eastwards the distribution area of this species, which has been so far only known from the western Mediterranean Basin (France, Italy, Portugal, Spain, Algeria, Libya, Morocco, Tunisia) (Figure 5) (Putshkov and Putshkov, 1996; Putshkov and Moulet, 2010). Twenty-

six species of the genus *Sphedanolestes* are known from the Palearctic region; of those, 3 have been recorded from Turkey.

The species of Reduviidae from Turkey are known mostly in Anatolia. Only 15 species belonging to 9 genera have been identified in Turkish Thrace: *Coranus griseus*, *Holotrichius spinicollis*, *Metapterus linearis*, *Nagusta goedelii*, *Peirates hybridus*, *Rhynocoris ibericus*, *R. iracundus*, *R. punctiventris*, *Sphedanolestes pulchellus*, *Reduvius pallipes*, *R. personatus*, *Oncocephalus acutangulus*, *O. biguttula*, *O. pilicornis*, and *O. squalidus*. Of those, *Holotrichius spinicollis* is distributed only in Turkish Thrace.

Vachiria natolica Stål, 1859, *Oncocephalus ocularis* Horváth, 1898, and *Empicoris mediterraneus* Hoberlandt, 1956 have been described from Turkey; *Oncocephalus biguttula* Horváth, 1901 is a Turkish endemic.

The species *Ploiaria domestica*, *Metapterus linearis*, *Empicoris mediterraneus*, *Holotrichius ochraceus*, *Holotrichius putoni*, *Reduvius festae*, *Oncocephalus notatus*, *Oncocephalus ocularis*, *Oncocephalus plumicornis*, *Rhynocoris bipustulatus*, *Rhynocoris niger*, *Rhynocoris persicus*, and *Rhynocoris rubrogularis* are rare and little known species in Turkey.

In this study, we mention the exact localizations of *Stenolemus novaki* in Turkey, of *Peirates hybridus* for Kahramanmaraş and Trabzon, of *Rhynocoris punctiventris* for Akdamar Island (Van), of *Sphedanolestes pulchellus* for Balıkesir, of *Vachiria deserta* for Hatay, and of *Vachiria natolica* for Ankara, Bursa, and Kayseri.

Eight species are excluded from Turkish fauna as they are based on proven or suspected misidentifications or taxonomic confusion:

Reduvius tabidus Klug, 1830 is distributed mostly in North Africa, Israel, Saudi Arabia, and Italy (Sicily) (Putshkov and Putshkov, 1996; Putshkov and Moulet, 2010); its presence in Turkey is not improbable.

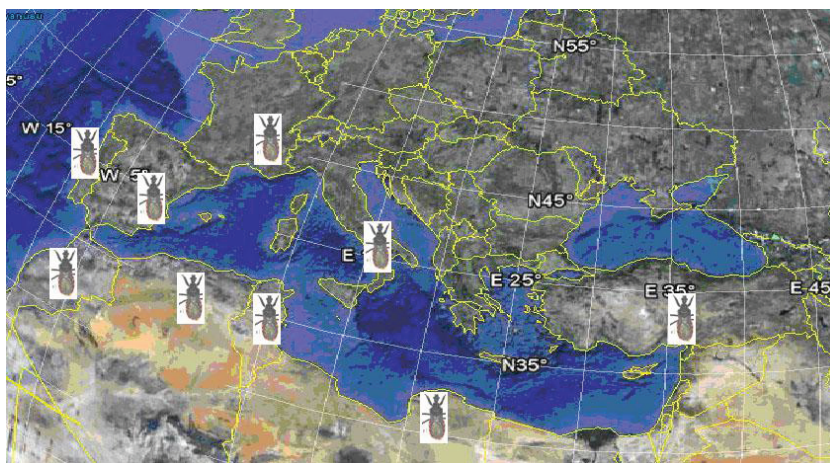


Figure 5. Distribution of *Sphedanolestes sanguineus* in Palearctic region.

Oncocephalus gularis Reuter, 1882 is strictly an Iberian endemic.

Rhynocoris erythropus (Linnaeus, 1767), mentioned by Wagner (1959), is a western Mediterranean species; previous records from the Balkan Peninsula, Ukraine, Caucasus, and Egypt were not confirmed recently (Putshkov and Putshkov, 1996; Putshkov and Moulet, 2010). Its occurrence in Turkey is quite unlikely, and the published records should be revised.

Rhynocoris rubricus (Germar, 1814), a species known only in Italy and former Yugoslavia, was first mentioned by Horváth (1905) and later by Hoberlandt (1956), but these records are erroneous.

Rhynocoris monticola (Oshanin, 1871) is distributed in Central Asia; the records by Horváth (1901) are erroneous (Putshkov and Putshkov, 1996).

Peirates stridulus (Fabricius, 1787) was mentioned by Coscarón (1997) from Asian Turkey, but according to Putshkov and Moulet (2010), the record of this western Mediterranean species (unknown in Italy and Greece) should be revised.

The mention of *Ischnonyctes barbarus* (Lucas, 1849) by Hoberlandt (1956) is based on misidentified *Metapterus*

linearis; *I. barbarus* is unknown in Turkey, according to Putshkov and Moulet (2010).

Coranus niger (Rambur, 1840) was first mentioned by Gadeau de Kerville (1939) from İzmir for Asian Turkey, but the records from Turkey were considered erroneous by Putshkov and Moulet (2010). This species is distributed in southern Europe.

The total number of known Reduviidae in Turkey, which was formerly 56 species and 19 genera, is now 57 species and 19 genera.

Acknowledgments

We are grateful to Prof Dr Klaus Schönitzer (Zoologische Staatssammlung, Munich, Germany) for comparative material, Dr Petr Kment (National Museum, Prague, Czech Republic) for resource help and editing of the manuscript, Yüksek Öğretim Kurulu (YÖK), the Scientific and Technological Research Council of Turkey (TÜBİTAK), and Deutsche Forschungs Gemeinschaft (Germany) Project Number SCHO 356/4-1, for financial support of the project.

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