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Contribution to the Knowledge of Reduviidae (Hemiptera) Fauna of Turkey

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A b s t r a c t : This study is based upon material of the family Reduviidae collected from different localities of Turkey between 1967 and 2009. In this study, a total of 14 species from seven genera belonging to four subfamilies (Harpactorinae, Peiratinae, Reduviinae and Stenopodainae) of the family Reduviidae are recorded from Turkey. Among them, *Rhynocoris punctiventris* (HERRICH SCHAEFFER 1848) and *Reduvius pallipes* KLUG 1830 were abundant and widespread species. In addition, new localities have been found for some species which have already been reported in Turkey.

K e y w o r d s : Hemiptera, Reduviidae, Fauna, Turkey.

Introduction

Reduviidae are part of the Heteroptera a monophyletic group within the Hemiptera which are, with some other families (e.g. Anthocoridae, Cimidae ...) predaceous. Some of them (Triatominae) are blood-sucking and vectors of Chagas disease, but the majority feed on arthropods. Hunting adaptations and trophic habits of Reduviidae are diverse, some are very specialized feeders (Ectrichodiinae and diplopods; Salyavatinae and termites ...) but the majority is more generalized (one old name of Reduviidae is *general-feeders*), in some case the real trophic habits are unknown. Some are secondary phytophagous. The biology varies greatly according to the families or genera. The biotopes vary according to the hunting method: on the ground, in or under the vegetation, in the flowers...The preys vary accordingly. Usually Reduvids are univoltin but in some species the development takes more than one year.

Reduvids are cosmopolitan but the majority inhabits the tropics or the subtropical zone. In the Palaearctics, the Reduvids are well known in the temperate countries, very scarce in the northern parts (the richness of the fauna increasing north to south). At the World scale there are nearly 1,000 genera and 7,000 species grouped, according to the authors, in 22, 27 or 31 families.

The Reduvid-fauna of Turkey has been studied by several authors as HORVATH, PUTON (XIXth century and beginning of XXth), HOBERLANDT, LINNAVUORI, SEIDENSTÜCKER, STICHEL and WAGNER (around 1950-1965) and ÖNDER (1980).

The aim of this paper is to bring new collect and biological data on Reduviidae in Turkey. The material of the Reduviidae collected from different localities of Turkey in 1967-

2009. Provinces of the collected specimens are given in alphabetical order in the following list. The material is deposited in the Entomology Museum, Erzurum, Turkey (EMET).

Results

In this study, a total 14 species from seven genera belonging to four subfamilies from Reduviidae are recorded from Turkey.

Subfamily Harpactorinae

Coranus griseus (ROSSI 1790)

Material examined: Adıyaman: Besni, 25.VIII.1994, ♂; Erzurum: Ispir, 1100 m, 1.VII.1990, ♀; İzmir: Seferihisar, 14.VIII.1998, ♀; Konya: University field, 18.VII.1997, ♀; Manisa: Turgutlu, 78 m, 15.VII.2009, ♀, ♂; Mersin: Aydıncık, 6.VIII.2006, ♀, Erdemli, 19.VIII.1995, ♀ ♀; Nevesehir: Ürgüp, 1600 m, 13.VIII.1999, ♂.

Distribution in Turkey: Anatolia (sub *C. aegyptius*) (HORVATH 1883); Hamidie (sub *C. aegyptius*) (HORVATH 1901); many data sub *C. aegyptius* (Artvin, Aydın, Bilecik, Çorum, Denizli, Diyarbakır, Eskişehir, İzmir, Konya, Malatya, Mardin, Muğla, Siirt, Tekirdağ, Şanlıurfa) by ÖNDER (1980).

The more often this species lives on the ground, under low vegetation; quoted on *Sinapis arvensis*, *Quercus*, *Nicotiana tabacum*, *Narcissus*, *Alhagi*, *Gossypium*, *Oryza sativa*, *Beta vulgaris* by ÖNDER (1980).

A turano Mediterranean species known in the whole Europe (except Scandinavia and Baltic area), North Africa and Central Asia. The distribution of *C. griseus* in Turkey is poorly known because this taxon has been confused with *C. aegyptius* for a long time. PUTSHKOV (1987) brought evidence that *C. aegyptius* doesn't exist in Europe nor in Turkey and that the records of this species in this region must be re-addressed to *C. griseus*. *C. aegyptius* is known from Canary archipelago to Central Asia (Iraq, Iran) through North Africa and Near East.

Coranus kerzhneri PUTSHKOV 1982

Material examined: Amasya: 10.IX.1983, ♂; Erzurum: Hamamderesi, 1750 m, 2.VII.1997, ♀; Muğla: 8.VIII.1983, ♂.

Distribution in Turkey: Biology like above. Mediterranean basin as far as the Ural Mountains, Czech Republic and Byelorussia. The distribution of *C. kerzhneri* in Turkey is poorly known because of its late distinction.

Nagusta goedelii (KOLENATI 1857)

Material examined: Artvin: Yusufeli, 15.VIII.1991, ♂, Demirkent, 700 m, 11.VIII.1991, ♂; Erzincan: 1250 m, 27.VII.1991, ♀; Erzurum: 1850 m, 11.V.1992, ♀; İğdir: 850 m, 16.VII.1997, ♀; İstanbul: Çamlıca, 25.VIII.1984, ♂; Kars: Sarıkamış, Karakurt, 1500 m, 26.VIII.1998, ♂; Malatya: Alişar, 10.VII.1994, ♂.

Distribution in Turkey: Ankara, on *Salix* (LINNAVUORI 1965); well known everywhere (ÖNDER 1980).

In males the last segments of connexivum are leaf like expanded. Often caught on trees and shrubs where it finds its preys; mentioned on *Pinus*, *Pirus*, *Prunus*, *Rosa*, *Quercus*, *Medicago*, *Cydonia*, *Citrus*, *Cupressus*, *Fraxinus*, *Rubus*, *Juglans*, *Punica*, *Gossypium*, *Galium*, *Crataegus* by ÖNDER (1980). An east Mediterranean species absent in the euro-Mediterranean region and the Maghreb; known from Central Europe till Iran.

***Rhynocoris bipustulatus* (FIEBER 1861)**

Material examined: Mersin: Aydıncık, 10 m, 27.VII.2005, ♀.

Distribution in Turkey: A very variable species. Biology unknown, in Israel "in grasses among waste" (DISPONS 1955). An east Mediterranean species, doubtful in Greece (present in Crete) known in Turkey, the Near East and Cyprus (PUTSHKOV & MOULET 2010) though not reported from Turkey by HOBERLANDT (1955), ÖNDER (1980) nor PUTSHKOV & PUTSHKOV (1996).

***Rhynocoris ibericus* KOLENATI 1856**

Material examined: Bingöl: Ilıcalar, İçpınar, Derik Mezrası, Paşa Çeşmesi, 1100 m, 28.V.2006, ♂; Erzurum: İspir, 1100, 30.VII.1990, ♂, Madenköprübaşı, 1150 m, 7.VII.1996, 2 ♀ ♀, Oltu, Coşkunlar, 1100 m, 11.VI.1997, ♀, Olur, 1600 m, 22.VII.1992, ♀, Şenkaya, Turnalı, 1750 m, 6.VII.1988, 2 ♂ ♂; İğdır: Tuzluca, 900 m, 19.VI.2009, ♀; Konya: Güneysınır, Güragaç, 1017 m, 19.VII.1999, ♂; Tunceli: Pülümür, 30.VII.1989, ♀.

Distribution in Turkey: In Turkey not very common (HOBERLANDT 1955), not recorded by ÖNDER (1980). Mainly on grasses and shrubs; larvae under stones; the preys are not well known (butterflies and caterpillars, Diptera, larvae of Cicadidae). This great black species never passes unnoticed. An east Mediterranean species from the Balkans as far as Turkenistan.

***Rhynocoris punctiventris* (HERRICH SCHAEFFER 1848)**

Material examined: Adana: Kozan, 13.VIII.1983, 2 ♀ ♀; Adivaman: 20.VIII.1990, ♂, Besni, 26.VIII.1994, 2 ♀ ♀, ♂; Antalya: 15.VII.2008, ♂, 27.VII.1994, ♂, 15.VIII.2008, ♂, 7.IX.1995, ♂, 7.X.1996, ♀, Kumluca, 15. V.1993, ♂, 14.VI.1993, ♂, 13.VII.1993, ♂, 10.VIII.1993, ♂, 13.VIII.1993, ♀, 12.X.1991, ♂, Serik, 17.VII.1993, ♀, ♂, 18.VII.1996, ♀, 22.VII.1993, ♀, 26.VII.1993, ♀, 1.VIII.1993, ♂, 13.VIII.1993, ♀, ♂, 15.VIII.1993, ♂, 16.VIII.1993, 2 ♂ ♂, 22.VIII.1993, ♂, 26.VIII.1993, ♀, 22.IX.1993, ♀, Side, 9.X.1974, ♀; Ardahan: 20.VII.1973, ♂; Artvin: Ardanuç, Ferhatlı, 13.V.2000, ♂, Yusufeli, Cıvna, 900 m, 15.VII.1992, ♀; Aydın: Cine, 7.IX.1992; Bahkesir: Erdek, 8.VI.1988, ♀; Bayburt: 26.VII.1997, ♀; Bingöl: 16.VI.1974, ♀, ♂, Ilıcalar, 1100 m, 28.V.2005, ♀; Erzincan: Kemalîye, Sandık, 21.VII.1984, ♀, Üzümlü, Bayırbağ, 31.VII.1991, ♀; Erzurum: 12.VI.1996, ♂, 18.VI.1996, ♀, 25.VI.1999, ♀, 18.VII.1970, 2 ♂ ♂, 25.VII.1967, ♀, 26.VII.1983, ♀, 29.VII.1967, ♀, 15.VIII.1993, ♂, 17.VIII.1992, ♂, Güngörmez, 2500 m, 28.VII.1998, ♂, Karagöbek, 2200 m, 15.VIII.1989, ♀, Palandöken, 2200 m, 1.VII.1996, ♀, ♂, 2.VII.2008, ♂, 3.VII.2008, ♂, 6.VII.1996, ♂, 7.VII.2008, ♀, 6.VIII.1996, 3 ♂ ♂, 2 ♀ ♀, 12.VIII.1993, ♂, 15.VIII.1998, ♂, University field, 1850 m, 24.VI.2009, ♂, 7.VII.2008, 3 ♂ ♂, ♀, 9.VII.1998, ♀, 29.VII.2009, ♂, 4.VIII.2008, ♂, 21.VIII.1996, ♀, 23.IX.1993, ♂, Umudum, 2100 m, 8.VIII.1991, ♀, ♂, Aşkale, 1800 m, 16.VII.1999, ♀, ♂, 16.VIII.1999, ♀, Aziziye, Yoncalık, 1900 m, 4.VIII.2009, ♂, Tepebaşı, 12.VIII.1996, ♂, Ilıca, Ovacık, Gözeler, 14.VII.1984, ♂, İspir, Madenköprübaşı, 1200 m, 7.VII.1996, 2 ♂ ♂, Narman, Göllü, 1700 m, 29.VIII.1991, ♀, Oltu, Sütkans, 1750 m,

18.VI.1996, 2♀♀, 25.VI.1996, 2♀♀, 4.VII.1990, ♂, Olur, 1600 m, 22.VII.1992, ♂, Pasinler, Rabat, 2400 m, 27.VIII.1996, ♂, Şenkaya, Akşar, 1300 m, 9.VII.2000, ♀, Has, 12.VI.1996, ♂, Turmalı, 2000 m, 6.VIII.1988, 2♀♀, Tortum, 1600 m, 27.VII.1993, ♂, Kaledibi, 5.VII.1992, ♂, Pehlivanlı, 1250 m, 12.VII.1992, ♀, 2♂♂, Uzundere, 1000 m, 08.VIII.1991, ♀; Hatay: İskenderun, Deren, 7.VII.1990, ♀; İğdır: Tuzluca, 900 m, 16.VI.2009, ♂, 18.VI.2009, ♂, İstanbul: 21.VII.1973, ♀, 20.VIII.1973, ♀, ♂; İzmir: Davutlar Milli Parkı, 30.VI.1992, ♂; Kars: Sarıkamış, Akkurt, 1650 m, 25.VIII.1997, ♀, Karakurt, 1500 m, 13.VIII.2009, 2♂♂; Konya: University field, 9.VII.1997, ♂, 14.VII.1997, ♂, Güneysınır, Gurağaç, 1017 m, 6.VI.1999, ♀, 11.VI.1999, ♀, 18.VI.1999, 4♀♀, 2♂♂, 21.VI.1999, ♀, 2♂♂, 22.VI.1999, ♀, 10.VII.1998, ♀, ♂, 19.VII.1999, ♀, 25.VII.1999, ♂, 10.VIII.1998, ♀, ♂, 10.VIII.1999, ♀, 11.VIII.1997, ♀; Malatya: Alishar, 10.VII.1994, ♀; Manisa: Alaşehir, 16.VIII.1984, ♂; Mersin: Aydıncık, 10 m, 27.VII.2005, ♀, ♂, 6.VIII.2006, ♂, Erdemli, 18.VII.1983, ♂, Kızılbağ, 4.VII.1996, 2♂♂, 5.VII.1996, ♂, 6.VII.1996, ♂, 11.VII.1996, ♂, 13.VII.1996, ♀, ♂, 14.VII.1996, ♂, 19.VII.1996, ♂, 3. VIII.1996, 2♀♀, Silifke, 14.VII.1997, ♂, 21.VII.1997, 2♀♀, Tarsus, Çamlıyayla, 25.V.1992, ♂; Muğla: 15.VII.1983, ♀, 8.VIII.1983, ♀, 25.VIII.1983, ♀, Yatağan, 9.IX.1986, ♀; Niğde: Gümüş, Bolkar Dağları, 2600 m, 12.VII.1997, ♂; Osmaniye: Kadirli, Kabayar, 14.VII.1997, ♀; Rize: İkizdere, 2400 m, 11.VII.2000, ♂; Sanlıurfa: 25.V.1991, ♂, Ceylanpınar, 25.V.1991, ♀, ♂.

Distribution in Turkey: Anatolia (HORVATH 1883); Akbès, Aghir, Jenidje-Kalé (HORVATH 1901); Yauladagi-Belen (LINNAVUORI 1965); several data (ÖNDER 1980); Avanos (KIYAK et al. 2004). In Turkey well known everywhere (HOBERLANDT 1955).

Often on the ground, under low vegetation; adults on grasses, trees or shrubs; attacks and eats several kinds of insects (Hymenoptera, Hemiptera, Coleoptera). The little specimen of this species can be confounded with the great size samples of *Rh. iracundus* but the venter of the first (except the black ones) bears lateral lines of black spots surrounded with a whitish/creamy halo, this halo never exists in *Rh. iracundus* which venter can be vertically or transversally black striped (an unknown condition in *Rh. punctiventris*). An east Mediterranean species known from the Balkans to Central Asia.

Subfamily Peiratinae

Ectomocoris ululans (ROSSI 1970)

Material examined: Adana: 14.VII.1993, 2♀♀, ♂; Erzurum: Athikonak, 02.VIII.1990, ♂; Hatay: İskenderun, 12.VII.1993, ♀; Mersin: Erdemli, 16.VII.1995, ♂.

Distribution in Turkey: Aşağılar (HOBERLANDT 1955), İzmir (ÖNDER 1980).

Well known species in wet ambiances (more or less salted); it can swim (PRIESNER & ALFIERI 1953). Both macro- and brachypter forms. A ponto Mediterranean species (that occurs in Spain and Corsica) as far as Central Asia and Saudi Arabia.

Peirates hybridus (SCOPOLI 1763)

Material examined: Adana: 14.VII.1993, ♂, Kozan, 03.IX.1995, ♂; Ankara: Çubuk, 21.VIII.1990, ♀, Kalecik, 30.VII.1990, ♀; Antalya: 14.VII.1995, ♂, Turunçova, 11.VII.1995, ♂; Erzurum: Pasinler, 10.V.1983, ♂; Gümüşhane: Torul, 09.IX.1985, ♂; Rize: 20.VII.1990, ♂.

Distribution in Turkey: Anatolia (HORVATH 1883); Artvin, Konya, Niğde (ÖNDER 1980).

Usually under the vegetation, in the litter; both in wet zones and dry biotopes; its preys

mainly are Heteroptera. Close to *P. stridulus* (FABRICIUS 1787) from which it is easily separable by both ♂ and ♀ genitalia (MOULET 2001). A turano-Mediterranean species known in Central Asia and India; widespread in Turkey.

***Peirates strepitans* RAMBUR 1839**

Material examined: Antalya: 4.VIII.1997, ♂; Mersin: Erdemli, Doğulu, 3 m, 11.VII.1983, ♂, 11.VII.1996, ♂.

Distribution in Turkey: Yeniköy, Konya (HOBERLANDT 1955); Bolu, Çorum (ÖNDER 1980).

Present both in wet (and more or less salted) and dry biotopes; on and under the vegetation, under stones. An afro Mediterranean species (the whole Africa and Madagascar; in France only in Corsica!), occurs in Saudi Arabia, Yemen and Iran.

Subfamily Reduviinae

***Reduvius pallipes* KLUG 1830**

Material examined: Adana: Kozan, Bağtepe, 13.VII.1983, 2♂♂, 14. VII.1983, ♂, 14.VIII.1983, ♂; Aksaray: 8.VIII.2008, ♀; Amasya: 03.VIII.1983, ♂; Ankara: Haymana, 21.VIII.1997, ♂; Artvin: Yusufeli, 14.VIII.1991, ♂, Zeytinlik, 26.VII.1990, ♀; Bursa: Kemaliye, 20.VII.1979, ♂; Elazığ: Harput, Miyadin, Şimal mezarası, 20.VIII.1973, 2♂♂; Gaziantep: 19.VII.1993, ♀, 15.VIII.1993, ♀; Hatay: İskenderun, Deren, 07.VII.1990, ♀; Kahramanmaraş: 550 m, 15.VII.2009, ♂; Konya: Beyşehir, Gökçimen, 25.VIII.1997, ♀, ♂, Güney Sınır, Gurağaç, 1017 m, 19.VII.1999, ♀; Kirsehir: 05.VIII.1993, ♀; Osmaniye: Kadirli, Kabayır, 15.VII.1997, ♀; Malatya: 10.VIII.1984, ♂, Arapgir, 05.VII.1990, ♂; Mersin: Erdemli, 19.VIII.1995, ♂; Niğde: Altınhisar, 15.VII.1993, ♀; Sivas: Divriği, 25.VIII.1983, ♂; Yozgat: Sorgun, 01.VIII.1983, ♂.

Distribution in Turkey: Aydın, Diyarbakır, Edirne, İzmir, Manisa (ÖNDER 1980); Nevşehir (Avanos) (KIYAK et al. 2004).

Biology poorly known; caught once in Algeria in the nest of a barn-owl couple (DISPONS 1955); on sparse grass in vineyards (HOBERLANDT 1955); on *Prunus domestica* and *Vitis vinifera* (ÖNDER 1980). Close to *R. tabidus*, but this species lives in North Africa and Near East; the record of this species in Turkey, Iraq and Iran are erroneous or refer to *R. komarowii* (PUTSHKOV & PUTSHKOV 1996). A ponto Mediterranean species from the Balkan peninsula to Central Asia and Saudi Arabia; caught in Sicily.

***Reduvius personatus* (LINNAEUS 1758)**

Material examined: Ankara: Haymana, 28.VII.1995, ♀; Antalya: Turunçova, 19.VII.1995, ♀; İzmir: 24. VII.1984, ♀; Kütahya: Tavşanlı, 10.IX.1994, ♀; Tokat: Çevreli, 15.VIII.1983, ♂.

Distribution in Turkey: Bursa, İzmir, Sakarya (ÖNDER 1980).

A well known species outside and inside houses (e.g. in libraries, formerly in butchers'); attacks and eats preys of several arthropods orders; larvae hide with sand, dust ... A palaearctic species (unknown in Japan), present (introduced) in North America; mentioned (maybe erroneously) from South America and Australia; only one station in HOBERLANDT (1955).

Subfamily *Stenopodainae*

Oncocephalus pilicornis REUTER 1882

Material examined: Antalya: 5.VII.1995, ♂, 29.VII.1995, ♂.

Distribution in Turkey: Muğla (ÖNDER 1980)

Biology as *O. squalidus*, often under the vegetation. An euro-maghrebian species known as far as Saudi Arabia; only mentioned from Turkey by HOBERLANDT (1955).

Oncocephalus squalidus (ROSSI 1790)

Material examined: Antalya: Serik, Karadayı, 2.VIII.1993, ♀; Malatya: Akçadağ, 28.VI.1996, ♂.

Distribution in Turkey: Akbès (HORVATH 1901); Mollafeneri (HOBERLANDT 1955); Adana, Antalya, Bursa, Izmir, Konya, Manisa, Sakarya (ÖNDER 1980).

The more often, *Oncocephalus* species live on the ground, hidden under stones or in the soil; attracted by lights. Both macro- and brachypter forms (mainly ♀), sometimes apter. Probably the commonest species of the genus in Europe. *O. squalidus* lives often in wet zones (more or less salted) or under stones. A holomediterranean species known as far as Central Asia and Arabic peninsula; present in Oriental Africa.

Oncocephalus thoracicus FIEBER 1861

Material examined: Rize: Fındıklı, 17.VIII.1992, ♂; Konya: Ilgın, 15.VII.1990, ♂.

Distribution in Turkey: Antalya (ÖNDER 1980).

On the ground, among grasses in cultivated zones. A ponto Mediterranean species, in Europe known in Bulgaria; not recorded by HOBERLANDT (1955).

Zusammenfassung

Vorliegende Arbeit behandelt Wanzenmaterial der Familie Reduviidae, welches im Zeitraum 1967 bis 2009 in verschiedenen türkischen Regionen gesammelt wurde. Insgesamt konnten im Untersuchungsgebiet 14 Arten der Familie aus 4 Unterfamilien (Harpactorinae, Peiratinae, Reduviinae und Stenopodainae) nachgewiesen werden. *Rhynocoris punctiventris* (HERRICH SCHAEFFER 1848) und *Reduvius pallipes* KLUG 1830 erwiesen sich als häufig und weit verbreitet. Für einige schon in der Türkei bekannte Arten wurden zusätzliche Fundangaben festgehalten.

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