

Distribution Records for Harpalinae (Coleoptera: Carabidae) With Two New Records in Turkey¹

Sakine Serap Avgın² and Owe Nodmar³

Osmaniye Korkut Ata University, Art and Science Faculty, Department of Biology, Osmaniye, Turkey

J. Entomol. Sci. 44(4): 359-382 (October 2009)

Abstract The geographic distribution of 120 species/subspecies representing 35 genera of the carabid subfamily Harpalinae (Coleoptera: Carabidae) in Turkey was determined by examining and cataloging specimens collected in various areas of the country. Some of these species/subspecies are new records of distribution in several Turkish provinces. *Calathus* (*Neocalathus*) *leptodactylus* Putzeys, 1873 and *Pterostichus* (*Argutor*) *leonisi* Apfelbeck, 1904 are recorded for the first time as occurring in Turkey. Previously published records from Turkey, geographical distribution and chorotype information are provided for each species.

Key Words geographical distribution, Turkey, Carabidae, Harpalinae

Most carabid (Coleoptera: Carabidae) species are considered to be predaceous; others are omnivores feeding on both plant and animal material (Allen 1979, Pavuk et al. 1997). Their predatory habits and their prevalence in agroecosystems suggest their possible use as naturally-occurring biological control agents (Kulman 1974, Pavuk et al. 1997). In addition, carabids may serve as environmental indicator species due to their diversity, ease of sampling, and sensitivity to environmental physiochemical and biological changes (Lövei and Sunderland 1996, Gutiérrez et al. 2004).

The subfamily Harpalinae is the most diverse group of carabids and includes approx. 19,000 species worldwide (Lorenz 1998, Ober 2002). Casale and Vigna Taglianti (1999) recognized that Turkey contains a rich diversity of Harpalinae species. Their study along with those of Müller (1937), Mlynar (1979), Sciaky (1987), Jaeger (1992, 1999), Kataev (1993), Dvořák (1993), Wrase (1994, 1996, 1999, 2001), Kataev and Wrase (1995, 1997), Avgın (2006a), and Avgın and Emre (2007) provide taxonomic and faunistic information on the Harpalinae species in Turkey. Yet, efforts must continue to catalog the occurrence, distribution and taxonomic identity of the Harpalinae in Turkey. Thus, our objective in this study was to assimilate and summarize information on the distribution of Harpalinae species/subspecies together with new records in Turkey. This includes listing the species known previously or new records for the country, and providing previously known and new provincial records. This information will serve as an important foundation for future ecological, biogeographical, and biological control studies with these Harpalinae species in Turkey.

¹Received 22 June 2009; accepted for publication 14 July 2009.

²Address inquiries (email: serapavgın@hotmail.com).

³Juvansmåla S-370 34 Holmsjö, Sweden.

Materials and Methods

The carabid specimens examined in this study were collected from various locations and habitats in Turkey by either Folke Gabrielsson (Villavägen 1, SE-914 41, Sweden [FG]), Stig Lundberg (Rektorsgatan 5, SE-972 42, Luleå, Sweden [SL]), Owe Nodmar (Juvansmala 370 34 Holmsjö, Sweden [ON]), Roger Pettersson (Dept. of Wildlife, Fish and Environmental Studies, Swedish Univ. of Agricultural Sciences, SE-901 83, Umea, Sweden [RP]), or Mikael Sörensson (Dept. of Cell and Organism Biology, Lund Univ., Sölvegatan 35, SE-223 62, Lund, Sweden [MS]). Initials of the collector(s) are listed with each specimen in the ensuing list in this paper. Representatives of all species/subspecies examined herein are deposited in the collection of Owe Nodmar (Juvansmala 370 34 Holmsjö, Sweden). Nomenclature follows that of Löbl and Smetana (2003), while the zoogeographical chorotypes used were proposed by Casale and Vigna Taglianti (1999) and Vigna Taglianti et al. (1999).

Results

A total of 421 carabid specimens were examined in this study. These specimens represent 120 species/subspecies in 35 genera of the subfamily Harpalinae. Information on the collection site and date, the collector(s), provincial distribution with new records, previously published records from Turkey, geographical distribution in Turkey, and proposed chorotype are presented for each species/subspecies in the following annotated list. *Calathus* (*Neocalathus*) *leptodactylus* Putzeys, 1873 and *Pterostichus* (*Argutor*) *leonisi* Apfelbeck, 1904 are recorded for the first time as occurring in Turkey.

Subfamily Harpalinae Bonelli, 1810

***Chlaenius* Bonelli, 1810.** The number of species and subspecies belonging to this genus in Turkey is 20 (Löbl and Smetana, 2003). We examined 6 species belonging to this genus.

***Chlaenius* (*Chlaeniellus*) *vestitus* Paykull, 1790.** Four specimens were examined (Ankara: Çubuk, 18 May 1996 [ON], 2 specimens; Konya: 10 km south of Bakaran, 17 May 1996 [SL, ON, RP, FG], 2 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Ankara (Kocatepe and Mergen 2004), and Niğde (Avgın and Özdikmen 2008). This species is distributed in the Central Anatolia Region of Turkey. Its known range exemplifies a Palearctic chorotype.

***Chlaenius* (*Chlaenius*) *festivus* Panzer, 1796.** Four specimens were examined (Antalya: Elmalı, 14 June 1994 [ON], 3 specimens; Konya: 10 km south of Bakaran, 17 May 1996 [SL, ON, RP, FG], 1 specimen). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Ankara (Kocatepe and Mergen 2004). This species is distributed in the Central Anatolia Region and Mediterranean Region of Turkey. Its known range exemplifies a Turano-European chorotype.

***Chlaenius* (*Dinodes*) *cruralis* Fischer von Waldheim, 1829.** Two specimens were examined (İçel: 20 km north of Erdemli, 26 May 1996 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl

and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies a Turano-Mediterranean chorotype.

***Chlaenius (Dinodes) decipiens* L. Dufour, 1820.** Six specimens were examined (Bingöl: 60 km Bingöl, 23 May 1997 [ON], 2 specimens; Erzurum: 18 km Çat, 23 May 1997 [ON], 1 specimen; İçel: 20 km Erdemli, 25 May 1997 [ON], 3 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Başkonuş mountain (Avgin 2006b). The specimens examined were collected in the Eastern Anatolia and Mediterranean Regions of Turkey. Its known range exemplifies an Europeo-Mediterranean chorotype.

***Chlaenius (Stenochlaenius) coeruleus* Steven, 1809.** One specimen was examined (Trabzon: Zigana Geçidi, 21 May 1996 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Black Sea Region of Turkey. Its known range exemplifies a Ponto-Caucasian chorotype.

***Chlaenius (Trichochlaenius) aenocephalus* Dejean, 1826.** Two specimens were examined (Kahramanmaraş: Göksun, 31 May 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies a Turano-Mediterranean chorotype.

***Amblystomus* Erichson, 1837**

The number of species and subspecies belonging to this genus in Turkey is 6 (Löbl and Smetana 2003). We examined 2 species belonging to this genus.

***Amblystomus metallescens* Dejean, 1829.** One specimen was examined (Konya: Bozkır, Yalılıyık, 22 May 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Central Anatolia Region of Turkey. Its known range exemplifies an Europeo-Mediterranean chorotype.

***Amblystomus niger* Heer, 1841.** Two specimens were examined (Antalya: Side, 14 June 1994 [ON]; Konya: Bozkır, Yalılıyık, 22 May 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Central Anatolia Region of Turkey. Its known range exemplifies an Europeo-Mediterranean chorotype.

***Anisodactylus* Dejean, 1829**

The number of species and subspecies belonging to this genus in Turkey is 5 (Löbl and Smetana 2003). We examined 1 species belonging to this genus.

***Anisodactylus (Anisodactylus) nemorivagus* Duftschmid, 1812.** Two specimens were examined (Ordu: 20 km north of Akkus, 20 May 1996 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Black Sea Region of Turkey. Its known range exemplifies an European chorotype.

***Carterus* Dejean, 1830**

The number of species and subspecies belonging to this genus in Turkey is 7 (Löbl and Smetana 2003). In this study were examined 3 species belonging to this genus.

***Carterus (Carterus) dama* P. Rossi, 1792.** Six specimens were examined (Antalya: Yarpuz, 16 May 1996 [ON], 2 specimens; İçel: 20 km north of Erdemli, 25 May 1997 [ON], 3 specimens; İçel: 20 km Gülnar, 27 May 1996 [ON], 1 specimen). The species was previously reported from Afyon, Çorum, Eskişehir, Kütahya, and Manisa (Wrase 1989), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Kahramanmaraş (Avgın 2006a). This species is widely distributed in the central, north, and south of Turkey. Its known range exemplifies a Mediterranean chorotype.

***Carterus (Carterus) rufipes* Chaudoir, 1843.** One specimen was examined (Antalya: Yarpuz, 16 May 1994 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies an E-Mediterranean chorotype.

***Carterus (Pristocarterus) angustipennis* Chaudoir, 1852.** Two specimens were examined (Erzurum: 18 km south of Çat, 23 May 1997 [ON]). The species was previously reported from Bingöl, Diyarbakır, and Sivas (Wrase 1994), Anatolia (Casale and Vigna Taglianti 1999), and Turkey (Löbl and Smetana 2003). This species is mostly distributed in the Central Anatolia and Eastern Anatolia Regions of Turkey. Its known range exemplifies a SW-Asiatic chorotype.

***Ditomus* Bonelli, 1810**

The number of species and subspecies belonging to this genus in Turkey is 2 (Löbl and Smetana 2003). We examined 1 species belonging to this genus.

***Ditomus calydonius* P. Rossi, 1790.** Five specimens were examined (Antalya: Yarpuz, 16 May 1996 [ON], 2 specimens; İçel: 20 km north of Erdemli, 25 May 1997 [ON], 3 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Kahramanmaraş (Avgın 2006a), Ahır mountain (Avgın 2006c), and Melendiz mountain and Niğde (Avgın and Özdikmen 2008). This species is mostly distributed in the Mediterranean Region of Turkey. Its known range exemplifies a Turano-European chorotype.

***Dixus* Billberg, 1820**

The number of species belonging to this genus in Turkey is 6 (Löbl and Smetana 2003). We examined 2 species belonging to this genus.

***Dixus eremita* Dejean, 1825.** Four specimens were examined (İçel: 20 km north of Erdemli, 26 May 1996 [ON], 3 specimens; İçel: 30 km Tarsus, 25 May 1996 [ON], 1 specimen). The species was previously reported from Eskişehir (Türkkan 1998), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Kahramanmaraş (Avgın 2006a), Ahır mountain (Avgın 2006c), and Konya (Avgın and Özdikmen 2008). This species is mostly distributed in the Mediterranean and Central Anatolia Regions of Turkey. Its known range exemplifies an E-Mediterranean chorotype.

***Dixus obscurus* Dejean, 1825.** Four specimens were examined (Antalya: Yarpuz, 16 May 1996 [ON], 2 specimens; Giresun: Sebinkarahisar, 20 May 1997 [ON], 2 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Adıyaman and Kahramanmaraş (Avgın 2006a), and Ahır mountain (Avgın 2006c). This species is widely distributed in the

east, north, and south of Turkey. Its known range exemplifies an E-Mediterranean chorotype.

***Odontoncarus* Solier, 1835**

The number of species belonging to this genus in Turkey is 1 (Löbl and Smetana 2003). We examined 1 species belonging to this genus.

***Odontoncarus asiaticus* Chaudoir, 1852.** Two specimens were examined (İçel, 20 km north of Erdemli, 01 June 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Kahramanmaraş (Avgin 2006a), and Ahır mountain (Avgin 2006c). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies an E-Mediterranean chorotype.

***Penthus* Chaudoir, 1843**

The number of species belonging to this genus in Turkey is 1 (Löbl and Smetana 2003). We examined 1 species belonging to this genus.

***Penthus tenebrioides* Waltl, 1838.** Three specimens were examined (İçel: 20 km north of Erdemli, 25 May 1997 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies an E-Mediterranean chorotype.

***Tschitscherinellus* Csiki, 1906**

The number of species and subspecies belonging to this genus in Turkey is 2 (Löbl and Smetana 2003). We examined 1 species belonging to this genus.

***Tschitscherinellus cordatus* Dejean, 1825.** Two specimens were examined (İçel: 20 km Gülnar, 27 May 1996 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies a Mediterranean chorotype.

***Acinopus* Dejean, 1821**

The number of species and subspecies belonging to this genus in Turkey is 6 (Löbl and Smetana 2003). We examined 3 species belonging to this genus.

***Acinopus (Acinopus) picipes* Olivier, 1795.** Nine specimens were examined (Antalya: Gündoğmus, 12 June 1994 [ON], 3 specimens; Antalya: Elmalı: 14 May 1994 [ON], 1 specimen; Antalya: Yarpuz, 18 May 1994 [ON], 2 specimens; İçel: 20 km north of Erdemli, 26 May 1996 [ON], 3 specimens). The species was previously reported from Eskişehir (Türkkan 1998), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Ankara (Kocatepe and Mergen 2004), Kahramanmaraş (Avgin 2006a), Başkonuş mountain (Avgin 2006b), and Melendiz mountain and Niğde (Avgin and Özdikmen 2008). This species is mostly distributed in the Mediterranean and Central Anatolia Regions of Turkey. Its known range exemplifies a Turano-European chorotype.

***Acinopus (Oedematicus) megacephalus* P.Rossi, 1794.** Two specimens were examined (İçel: Gülnar, 27 May 1996 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Kahramanmaraş (Avgin 2006a). This species is distributed in the Mediterranean Region of Turkey. Its known range exemplifies a Turano-European chorotype.

***Acinopus (Osimus) ammophilus* Dejean, 1829.** Five specimens were examined (Antalya: Yarpuz, 22 May 1998 [ON], 4 specimens; Giresun: Sebinkarahisar, 20 May 1997 [ON], 1 specimen). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Melendiz mountain, Nevşehir, and Niğde (Avgin and Özdikmen 2008). This species is widely distributed in the central, north, and south of Turkey. Its known range exemplifies a Turano-European chorotype.

***Harpalus* Latreille, 1802**

The number of species and subspecies belonging to this genus in Turkey is 74 (Löbl and Smetana 2003). We examined 28 species/subspecies belonging to this genus.

***Harpalus (Cryptophonus) litigiousus* Dejean, 1829.** One specimen was examined (Antalya: Akseki, 16 May 1996 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Erzurum and Kars (Kesdek and Yıldırım 2003). This species is mostly distributed in the Mediterranean and Eastern Anatolia Regions of Turkey. Its known range exemplifies a Mediterranean chorotype.

***Harpalus (Cryptophonus) tenebrosus* Dejean, 1829.** Two specimens were examined (Artvin: Artvin, 28 May 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Black Sea Region of Turkey. Its known range exemplifies a Centralasiatic-Europeo-Mediterranean chorotype.

***Harpalus (Harpalus) affinis* Schrank, 1781.** Five specimens were examined (Ordu: Akkus, 24 May 1998 [ON], 4 specimens; Giresun: Sebinkarahisar, 25 May 1998 [ON], 1 specimen). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Ardahan, Artvin, Kars, and Trabzon (Kesdek and Yıldırım 2003), and Ankara (Kocatepe and Mergen 2004). This species is mostly distributed in the Black Sea Region of Turkey. Its known range exemplifies an Asiatic-European chorotype.

***Harpalus (Harpalus) angulatus subangulatus* Reitter, 1900.** One specimen was examined (Erzurum: Kop Geçidi, 22 May 1997 [ON]). The subspecies was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Eastern Anatolia of Turkey. Its known range exemplifies a SW-Asiatic chorotype.

***Harpalus (Harpalus) anxioides* Kataev, 1991.** Six specimens were examined (Artvin: Artvin, 28 May 1998 [ON], 2 specimens; Gümüşhane: west of Şiran, 29 May 1997 [ON], 3 specimens; İçel: 20 km north of Erdemli, 26 May 1996 [ON], 1 specimen). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Erzurum (Kesdek and Yıldırım 2003). This species is mostly distributed in the Black Sea and Mediterranean Regions of Turkey. Its known range exemplifies an Anatolian chorotype.

***Harpalus (Harpalus) attenuatus* Stephens, 1828.** Three specimens were examined (Antalya: Gündoğmuş, 12 June 1994 [ON], 2 specimens; Kastamonu: Ilgaz Mountain, 18 May 1997 [ON], 1 specimen). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Bingöl, Erzurum, and Sinop (Kesdek and Yıldırım 2003), Kahramanmaraş (Avgin 2006a), Işık mountain and Ankara (Avgin and Özdikmen 2008). This species is widely distributed in the east, north, and south of Turkey. Its range exemplifies a Mediterranean chorotype. Its known range exemplifies a Mediterranean chorotype.

***Harpalus (Harpalus) brachypterus* Tschitschérine, 1898.** Two specimens were examined (Kahramanmaraş: Gözecik, 30 May 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies a Syro-Palaestinian chorotype.

***Harpalus (Harpalus) circumpunctatus* Chaudoir, 1846.** One specimen was examined (Kastamonu: 15 km south of Kastamonu, 15 May 1997 [ON, RP]). The species was previously reported from North-East Anatolia (Kataev 1993), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Erzurum (Kesdek and Yıldırım 2003). This species is mostly distributed in the Eastern Anatolia Region of Turkey. Its known range exemplifies a Centralasiatic-European chorotype.

***Harpalus (Harpalus) dimidiatus* P. Rossi, 1790.** One specimen was examined (Kastamonu: 15 km south of Kastamonu, 18 May 1997 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Black Sea Region of Turkey. Its known range exemplifies an European chorotype.

***Harpalus (Harpalus) distinguendus* Duftschmid, 1812.** Eleven specimens were examined (Erzincan: 45 km west of Erzincan, 23 May 1996 [ON], 3 specimens; Erzurum: Kop Geçidi, 23 May 1996 [ON, RP], 3 specimens; İçel: 20 km north of Erdemli, 26 May 1996 [ON], 2 specimens; Giresun: Sebinkarahisar, 20 May 1997 [ON], 2 specimens; Kahramanmaraş: Gözeçik, 30 May 1998 [ON], 1 specimen). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Ankara, Antalya, Erzurum, and Trabzon (Kesdek and Yıldırım 2003), Ankara (Kocatepe and Mergen 2004), and Gaziantep, Kahramanmaraş, and Sivas (Avgin 2006a). This species is widely distributed in the central, east, north, and south of Turkey. Its known range exemplifies a Palearctic chorotype.

***Harpalus (Harpalus) honestus* Duftschmid, 1812.** Eight specimens were examined (Antalya: Akseki, 17 May 1996 [ON], 2 specimens; Erzurum: Kop Geçidi, 26 May 1998 [ON, RP], 3 specimens; Gümüşhane: West of Şiran, 29 May 1997 [ON], 2 specimens; İçel: 20 km north of Erdemli, 26 May 1996 [ON], 1 specimen). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Kahramanmaraş (Avgin 2006a), and Başkonuş mountain (Avgin 2006b). This species is widely distributed in the east, north, and south of Turkey. Its known range exemplifies a Sibero-European chorotype.

***Harpalus (Harpalus) kazanensis* Jedlička, 1958.** Three specimens were examined (Erzurum: 18 km south of Çat, 23 May 1997 [ON, RP], 1 specimen; Artvin: Artvin, 28 May 1998 [ON], 2 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Black Sea and Eastern Anatolia Regions of Turkey. Its known range exemplifies an Armeno-Caucasian chorotype.

***Harpalus (Harpalus) laevipes* Zetterstedt, 1828.** Five specimens were examined (Artvin: Artvin, 28 May 1998 [ON], 2 specimens; Ünye: Akkus, 24 May 1998 [ON], 3 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Black Sea Region of Turkey. Its known range exemplifies an Asiatic-European chorotype.

***Harpalus (Harpalus) latus* Linné, 1758.** Two specimens were examined (Antalya: Akseki, 15 May 1997 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies an Asiatic-European chorotype.

***Harpalus (Harpalus) metallinus* Ménériés, 1836.** Five specimens were examined (Antalya: Elmalı, 14 June 1994 [ON], 2 specimens; İçel: 20 km north of Erdemli, 26 May 1996 [ON], 3 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Kahramanmaraş (Avgin 2006a), and Ahır mountain (Avgin 2006c). This species is distributed in the Mediterranean Region of Turkey. Its known range exemplifies an Anatolian chorotype.

***Harpalus (Harpalus) punctatostritatus* Dejean, 1829.** Three specimens were examined (Konya: Bakaran, 16 May 1997 [ON, RP]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Central Anatolia of Turkey. Its known range exemplifies a Mediterranean chorotype.

***Harpalus (Harpalus) pygmaeus* Dejean, 1829.** One specimen was examined (Giresun: Sebinkarahisar, 20 May 1997 [ON, SL]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Black Sea Region of Turkey. Its known range exemplifies a S-European chorotype.

***Harpalus (Harpalus) reflexus anadoluensis* Kataev, 1993.** One specimen was examined (Erzurum: 18 km south of Çat, 23 May 1997 [ON]). This subspecies was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Eastern Anatolia Region of Turkey. Its known range exemplifies a SW-Asiatic chorotype.

***Harpalus (Harpalus) rubripes* Duftschmid, 1812.** Four specimens were examined (Artvin: Artvin, 28 May 1998 [ON], 2 specimens; Ordu: 20 km north of Akkus, 20 May 1996 [ON], 2 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Ardahan, Erzurum, and Kars (Kesdek and Yıldırım 2003). This species is widely distributed in the Black Sea Region of Turkey. Its known range exemplifies an Asiatic-European chorotype.

***Harpalus (Harpalus) saxicola* Dejean, 1829.** Two specimens were examined (Giresun: Sebinkarahisar, 20 May 1997 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Ankara (Kocatepe and Mergen 2004). This species is distributed in the Central Anatolia and Black Sea Regions of Turkey. Its known range exemplifies a Turano-European chorotype.

***Harpalus (Harpalus) serripes* Quensel, 1806.** Five specimens were examined (Antalya: Akseki, 16 May 1999 [ON], 3 specimens; Bolu: 10 km south of Gerede, 18 May 1996 [SL, ON, RP], 1 specimen; Sivas: Yagdonduran Geçidi, 30 May 1998 [ON],

1 specimen. The species was previously reported from Eskişehir (Türkkan 1998), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Amasya, Ankara, Erzincan, Erzurum, Kars, Konya, and Muğla (Kesdek and Yıldırım 2003), Adıyaman, Kahramanmaraş, and Sivas (Avgin 2006a), Başkonuş mountain (Avgin 2006b), and Nevşehir (Avgin and Özdikmen 2008). This species is widely distributed in the central, east, north, and south of Turkey. Its known range exemplifies a Palearctic chorotype.

***Harpalus (Harpalus) smaragdinus* Duftschmid, 1812.** One specimen was examined (Bolu: Gerede, 17 May 1997 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Ardahan, Artvin, and Erzurum (Kesdek and Yıldırım 2003), Kahramanmaraş, Malatya, and Sivas (Avgin 2006a), and Başkonuş mountain (Avgin 2006b). This species is widely distributed in the central, east, and north of Turkey. Its known range exemplifies an Asiatic-European chorotype.

***Harpalus (Harpalus) smyrnensis* Heyden, 1888.** Six specimens were examined (Giresun: Alucra, 25 May 1998 [ON, RP], 2 specimens; Antalya: Yarpuz, 22 May 1998 [ON], 3 specimens; İçel: 20 km north of Erdemli, 26 May 1996 [ON], 1 specimen). The species was previously reported from Sivas (Öncüer 1991), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Ardahan, Denizli, Elazığ, Erzurum, Gümüşhane, and Kars (Kesdek and Yıldırım 2003). This species is widely distributed in the central, east, north, and south of Turkey. Its known range exemplifies an Anatolian endemic chorotype.

***Harpalus (Harpalus) sulphuripes* Germar, 1824.** Seven specimens were examined (Amasya: Amasya, 19 May 1996 [ON], 2 specimens; Ordu: Akkus, 24 May 1998 [ON], 2 specimens; Tokat: Tokat, 24 May 1998 [ON], 3 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Kahramanmaraş (Avgin 2006a), and Başkonuş mountain (Avgin 2006b). This species is distributed in the Black Sea and Mediterranean Regions of Turkey. Its known range exemplifies an Europeo-Mediterranean chorotype.

***Harpalus (Harpalus) trichophorus* Tschitschérine, 1897.** Two specimens were examined (İçel: 20 km north of Erdemli, 25 May 1997 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies a C-Anatolian endemic chorotype.

***Harpalus (Harpalus) pumilus* Sturm, 1818.** Four specimens were examined (Konya: Beyşehir Gölü, 15 May 1996 [ON], 3 specimens; Konya: Bozkır, Yalıhüyük, 22 May 1998 [ON], 1 specimen). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Central Anatolia Region of Turkey. Its known range exemplifies an Asiatic-European chorotype.

***Harpalus (Pseudophonus) griseus* Panzer, 1796.** Five specimens were examined (Artvin: Artvin, 28 May 1998 [ON], 2 specimens; İçel: 20 km north of Erdemli, 26 May 1996 [ON], 3 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Adana, Antalya, Çankırı, Erzurum, Iğdır, Isparta, İçel, Malatya, Osmaniye, Samsun, and Sinop (Kesdek and Yıldırım 2003), Adana, Adıyaman, Kahramanmaraş, and Malatya (Avgin 2006a), and Sinop (Avgin and Özdikmen 2008). This species is widely distributed in the central, east, north, and south of Turkey. Its known range exemplifies a Palearctic chorotype.

***Harpalus (Semiophonus) signaticornis* Duftschmid, 1812.** One specimen was examined (Bolu: Gerede, 17 May 1997 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Kahramanmaraş (Avgın 2006a). The specimens examined were collected in the Black Sea Region of Turkey. Its known range exemplifies an European chorotype.

***Ophonus* Dejean, 1821**

The number of species belonging to this genus in Turkey is 38 (Löbl and Smetana 2003). We examined 7 species belonging to this genus.

***Ophonus (Hesperophonus) azureus* Fabricius, 1775.** Sixteen specimens were examined (Antalya: Yarpuz, 22 May 1998 [ON], 2 specimens; İçel: Erdemli, 01 June 1998 [ON], 2 specimens; Artvin: Artvin, 28 May 1998 [ON], 2 specimens; Bolu: 10 km south of Gerede, 18 May 1996 [ON, RP, SL], 2 specimens; Erzurum: Kop Geçidi, 23 May 1996 [ON], 2 specimens; Çankırı: Ilgaz Mountain, 18 May 1996 [ON, RP], 2 specimens; Ordu: 20 km north of Akkus, 20 May 1996 [SL, ON], 2 specimens; Sivas: Yagdonduran Geçidi, 30 May 1998 [ON], 2 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Bayburt, Erzurum, Sinop, and Trabzon (Kesdek and Yıldırım 2003), Ankara (Kocatepe and Mergen 2004), Kahramanmaraş and Kayseri (Avgın 2006a), Başkonuş mountain (Avgın 2006b), and Ankara, Niğde, and Samsun (Avgın and Özdikmen 2008). This species is widely distributed in the central, east, north, and south of Turkey. Its known range exemplifies a Centralasiatic-Europeo-Mediterranean chorotype.

***Ophonus (Hesperophonus) cribricollis* Dejean, 1829.** Fifteen specimens were examined (Amasya: Amasya, 19 May 1996 [ON], 2 specimens; Antalya: Akseki, 16 May 1996 [ON], 2 specimens; Antalya: Yarpuz, 17 May 1996 [ON], 2 specimens; Bolu: 10 km south of Gerede, 18 May 1996 [ON, RP], 2 specimens; Gümüşhane: West of Şiran, 29 May 1997 [ON], 1 specimen; İçel: 20 km north of Erdemli, 01 June 1998 [ON, SL], 2 specimens; Çankırı: Ilgaz Mountain, 18 May 1996 [ON, RP], 3 specimens; Konya: Bakaran, 16 May 1997 [ON], 1 specimen). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Ankara (Kocatepe and Mergen 2004), Kahramanmaraş (Avgın 2006a), and Başkonuş mountain (Avgın 2006b). This species is widely distributed in the central, north, and south of Turkey. Its known range exemplifies a Turano-European chorotype.

***Ophonus (Hesperophonus) similis* Dejean, 1829.** Three specimens were examined (İçel: 20 km north of Erdemli, 20 May 1994 [ON, IR]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Kahramanmaraş (Avgın 2006a). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies a Turano-European chorotype.

***Ophonus (Hesperophonus) subquadratus* Dejean, 1829.** Two specimens were examined (İçel: 20 km north of Erdemli, 01 June 1998 [ON]). The species was previously reported from İzmir (Öncüer 1991), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Antalya and Erzurum (Kesdek and Yıldırım 2003), Kahramanmaraş and Kayseri (Avgın 2006a), Başkonuş mountain (Avgın 2006b), and Ahır mountain (Avgın 2006c). This species is widely distributed in the central, north, south, and west of Turkey. Its known range exemplifies a Mediterranean chorotype.

***Ophonus (Metoponus) cordicollis* Dejean, 1829.** Two specimens were examined (Bolu: 10 km south of Gerede, 16 May 1996 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999). The specimens examined were collected in the Black Sea Region of Turkey. Its known range exemplifies a S-European chorotype.

***Ophonus (Metoponus) puncticeps* Stephens, 1828.** Three specimens were examined (Artvin: Artvin, 28 May 1998 [ON]). The species was previously reported from Eskişehir (Türkkan 1998), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Niğde (Avgin and Özdikmen 2008). This species is distributed in the Central Anatolia and Black Sea Regions of Turkey. Its known range exemplifies a Turano-European chorotype.

***Ophonus (Ophonus) battus* Reitter, 1900.** Two specimens were examined (İçel: 20 km north of Erdemli, 01 June 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Kahramanmaraş (Avgin 2006a). This species is distributed in the Mediterranean Region of Turkey. Its known range exemplifies an E-Mediterranean chorotype.

***Acupalpus* Latreille, 1829**

The number of species and subspecies belonging to this genus in Turkey is 13 (Löbl and Smetana 2003). We examined 2 species belonging to this genus.

***Acupalpus (Acupalpus) luteatus* Duftschmid, 1812.** Two specimens were examined (Konya: Bozkır, Yalıhüyük, 23 May 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Central Anatolia Region of Turkey. Its known range exemplifies a Sbero-European chorotype.

***Acupalpus (Acupalpus) maculatus* Schaum, 1860.** Four specimens were examined (Erzincan: Tercan, 29 May 1998 [ON], 2 specimens; Konya: Bozkır, Yalıhüyük, 22 May 1998 [ON], 2 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Kahramanmaraş (Avgin 2006a). The specimens examined were collected in the Central Anatolia and Eastern Anatolia Regions of Turkey. Its known range an Europeo-Mediterranean chorotype.

***Anthracus* Motschulsky, 1850**

The number of species belonging to this genus in Turkey is 3 (Löbl and Smetana 2003). We examined 1 species belonging to this genus.

***Antracus consputus* Duftschmid, 1812.** Two specimens were examined (Konya: Bozkır, Yalıhüyük, 22 May 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Central Anatolia Region of Turkey. Its known range exemplifies an Asiatic-European chorotype.

***Stenolophus* Dejean, 1821**

The number of species and subspecies belonging to this genus in Turkey is 8 (Löbl and Smetana 2003). We examined 3 species belonging to this genus.

***Stenolophus (Stenolophus) discophorus* Fischer von Waldheim, 1823.** Two specimens were examined (Erzincan: Tercan baraj, 29 May 1998 [ON, RP, SL]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Erzurum (Kesdek and Yıldırım 2003), and Kahramanmaraş (Avgın 2006a). This species is distributed in the Mediterranean and Eastern Anatolia Regions of Turkey. Its known range exemplifies a S-European chorotype.

***Stenolophus (Stenolophus) mixtus* Herbst, 1784.** Three specimens were examined (Konya: Beyşehir Gölü, 15 May 1996 [ON], 1 specimen; Konya: Bozkır, Yalıhüyük, 22 May 1998 [ON], 2 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Central Anatolia Region of Turkey. Its known range exemplifies a Palearctic chorotype.

***Stenolophus (Stenolophus) teutonius* Schrank, 1781** Two specimens were examined (Konya: Bozkır, Yalıhüyük, 22 May 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Antalya and Trabzon (Kesdek and Yıldırım 2003), Ankara (Kocatepe and Mergen 2004), Kahramanmaraş (Avgın 2006a), and Niğde (Avgın and Özdikmen 2008). This species is widely distributed in the central, north, and south of Turkey. Its known range exemplifies a Turano-European-Mediterranean chorotype.

***Platytarus* Fairmaire, 1850**

The number of species belonging to this genus in Turkey is 1 (Löbl and Smetana 2003). We examined 1 species belonging to this genus.

***Platytarus faminii* Dejean, 1826.** Two specimens were examined (İçel: Gülnar, 26 May 1997 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies an Afrotropico-Mediterranean chorotype.

***Cymindis* Latreille, 1806**

The number of species and subspecies belonging to this genus in Turkey is 8 (Löbl and Smetana 2003). We examined 3 species belonging to this genus.

***Cymindis (Cymindis) axillaris* Fabricius, 1794.** Four specimens were examined (Antalya: Gündogmus, 12 June 1994 [ON], 3 specimens; Antalya: Yarpuz, 18 June 1994 [ON], 1 specimen). The species was previously reported from Turkey (Öncüer 1991, Löbl and Smetana 2003), Anatolia (Casale and Vigna Taglianti 1999), and Erzurum and Konya (Kesdek and Yıldırım 2007). This species is distributed in the central, north and south of Turkey. Its known range exemplifies a W-Palearctic chorotype.

***Cymindis (Cymindis) scapularis* Schaum, 1857.** Two specimens were examined (İçel: 20 km north of Erdemli, 26 May 1996 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Ankara (Kocatepe and Mergen 2004, Avgın and Özdikmen 2008), and Erzurum and Iğdır (Kesdek and Yıldırım 2007). This species is distributed in the central, north and south of Turkey. Its known range exemplifies a S-European chorotype.

Cymindis (Menas) miliaris Fabricius, 1801. Six specimens were examined (Antalya: Yarpuz, 18 May 1994 [ON], 3 specimens; İçel: 20 km north of Erdemli, 26 May 1996 [ON], 3 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Kahramanmaraş (Avgın 2006a), Başkonuş mountain (Avgın 2006b), and Soğuksu National Park and Ankara (Avgın and Özdikmen 2008). This species is distributed in the Mediterranean and Central Anatolia Regions of Turkey. Its known range exemplifies a Turano-European chorotype.

***Microlestes* Schmidt-Göbel, 1846**

The number of species and subspecies belonging to this genus in Turkey is 11 (Löbl and Smetana 2003). We examined 1 species belonging to this genus.

***Microlestes negrita* Wollaston, 1854.** One specimen was examined (İçel: 20 km north of Erdemli, 26 May 1996 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Kahramanmaraş (Avgın 2006a). This species is distributed in the Mediterranean Region of Turkey. Its known range exemplifies a Mediterranean chorotype.

***Philorhizus* Hope, 1838**

The number of species and subspecies belonging to this genus in Turkey is 4 (Löbl and Smetana 2003). We examined 1 species belonging to this genus.

***Philorhizus notatus* Stephens, 1827.** Two specimens were examined (Antalya: Kemer, 19 May 1997 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Konya (Kesdek and Yıldırım 2007). This species is distributed in the Mediterranean and Central Anatolia Regions of Turkey. Its known range exemplifies a Centralasiatic-European chorotype.

***Lionychus* Wissman, 1846**

The number of species belonging to this genus in Turkey is 2 (Löbl and Smetana 2003). We examined 1 species belonging to this genus.

***Lionychus (Lionychus) quadrillum* Duftschmid, 1812.** Three specimens were examined (Giresun: Sebinkarahisar, 20 May 1997 [ON]). The species was previously reported from Turkey (Öncüer 1991, Löbl and Smetana 2003), Anatolia (Casale and Vigna Taglianti 1999), and Erzurum (Kesdek and Yıldırım 2007). This species is distributed in the Black Sea and Eastern Anatolia Regions of Turkey. Its known range exemplifies an European chorotype.

***Syntomus* Hope, 1838**

The number of species and subspecies belonging to this genus in Turkey is 7 (Löbl and Smetana 2003). We examined 5 species belonging to this genus.

***Syntomus fuscomaculatus* Motschulsky, 1844.** Four specimens were examined (Antalya: Elmalı, 14 June 1996 [ON], 2 specimens; Antalya: Selale, 11 June 1994 [ON], 2 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Kahramanmaraş (Avgın

2006a), Başkonuş mountain (Avgın 2006b), Bingöl (Kesdek and Yıldırım 2007), and Nevşehir (Avgın and Özdikmen 2008). This species is widely distributed in the central, east, south of Turkey. Its known range exemplifies a Turano-Mediterranean chorotype.

***Syntomus impressus* Dejean, 1825.** One specimen was examined (Antalya: Yarpuz, 22 May 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies a Mediterranean chorotype.

***Syntomus obscuroguttatus* Duftschmid, 1812.** Six specimens were examined (Erzurum: Kop Geçidi, 23 May 1996 [ON, RP], 2 specimens; İçel: 20 km north of Erdemli, 26 May 1996 [ON], 2 specimens; Ordu: 20 km north of Akkus, 20 May 1996 [ON], 2 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Erzurum (Kesdek and Yıldırım 2007). This species is distributed in the east, north and south of Turkey. Its known range exemplifies a Europeo-Mediterranean chorotype.

***Syntomus pallipes* Dejean, 1825.** Five specimens were examined (Antalya: Akseki, 16 May 1996 [ON], 2 specimens; İçel: 20 km north of Erdemli, 26 May 1996 [ON], 3 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies an Europeo-Mediterranean chorotype.

***Syntomus parallelus* Ballion, 1870.** One specimen was examined (Kahramanmaraş: Göksun, 31 May 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Kahramanmaraş (Avgın 2006a), and Ardahan, Erzincan, Erzurum, Kars, and Sarıkamış (Kesdek and Yıldırım 2007). This species is distributed in the Eastern Anatolia and Mediterranean Regions of Turkey. Its known range exemplifies a Turanian chorotype.

***Phloeozetus* Peyron, 1856**

The number of species and subspecies belonging to this genus in Turkey is 2 (Löbl and Smetana 2003). We examined 1 species belonging to this genus.

***Phloeozetus fuscipennis* Schaum, 1857.** One specimen was examined (İçel: 20 km north of Erdemli, 25 May 1997 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies an E-Mediterranean chorotype.

***Badister* Clairville, 1806**

The number of species and subspecies belonging to this genus in Turkey is 9 (Löbl and Smetana 2003). We examined 1 species belonging to this genus.

***Badister (Badister) bullatus* Schrank, 1798.** Two specimens were examined (Konya: Bozkır Yalhöyük, 22 May 1998 [ON], collected from under stone). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Central Anatolia Region of Turkey. Its known range exemplifies a Holarctic chorotype.

***Licinus* Latreille, 1802**

The number of species and subspecies belonging to this genus in Turkey is 7 (Löbl and Smetana 2003). We examined 1 species belonging to this genus.

***Licinus (Licinus) merkli* J. Frivaldszky, 1880.** One specimen was examined (Bolu: Gerede, 17 May 1997 [ON, RP]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Black Sea Region of Turkey. Its known range exemplifies a SW-Anatolian endemic chorotype.

***Panagaeus* Latreille, 1802**

The number of species belonging to this genus in Turkey is 2 (Löbl and Smetana 2003). We examined 1 species belonging to this genus.

***Panagaeus (Panagaeus) cruxmajor* Linné, 1758.** Three specimens were examined (Konya: Beyşehir Gölü, 15 May 1996 [SL, ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Central Anatolia Region of Turkey. Its known range exemplifies a Sibero-European chorotype.

***Agonum* Bonelli, 1810**

The number of species and subspecies belonging to this genus in Turkey is 20 (Löbl and Smetana 2003). We examined 3 species belonging to this genus.

***Agonum (Agonum) sordidum* Dejean, 1828.** Two specimens were examined (Antalya: Yarpuz, 22 May 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies an E-Mediterranean chorotype.

***Agonum (Agonum) viridicupreum* Goeze, 1777.** Four specimens were examined (Bolu: South of Gerede, 18 May 1996 [ON], 2 specimens; Konya: Bakaran, 17 May 1996 [ON, RP], 2 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Ankara (Kocatepe and Mergen 2004), Erzurum and Kars (Kesdek and Yıldırım 2004). This species is widely distributed in the central, east, and north of Turkey. Its known range exemplifies a Turano-European chorotype.

***Agonum (Europhilus) antennarium* Duftschidt, 1812.** Two specimens were examined (Kastamonu: Ilgaz Mountain, 18 May 1997 [ON, RP]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Erzurum and Trabzon (Kesdek and Yıldırım 2004), and Niğde, Işık mountain, Ankara, and Akçay (Avgin and Özdikmen 2008). This species is widely distributed in the central, east, north and west of Turkey. Its known range exemplifies an European chorotype.

***Anchomenus* Bonelli, 1810**

The number of species belonging to this genus in Turkey is 2 (Löbl and Smetana 2003). We examined 1 species belonging to this genus.

***Anchomenus (Anchomenus) dorsalis* Pontoppidan, 1763.** Six specimens were examined (Erzurum: Kop Geçidi, 23 May 1996 [ON], 4 specimens; Giresun: Sebinkarahisar, 20 May 1997 [ON], 2 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Ankara (Kocatepe and Mergen 2004), Adana, Ardahan, Erzurum, Gümüşhane, Konya, and Trabzon (Kesdek and Yıldırım 2004), and Ahır mountain (Avgın 2006c). This species is widely distributed in the east, central, north and south of Turkey. Its known range exemplifies a Palearctic chorotype.

***Olisthopus* Dejean, 1828**

The number of species and subspecies belonging to this genus in Turkey is 4 (Löbl and Smetana 2003). We examined 1 species belonging to this genus.

***Olisthopus glabricollis* Germar, 1817.** Four specimens were examined (Antalya: Yarpuz, 22 May 1998 [SL, WK, RP, ON], 2 specimens; Tokat: North of Niksar, 24 May 1998 [ON], 2 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). This species is distributed in the Mediterranean and Black Sea Regions of Turkey. Its known range exemplifies an E-Mediterranean chorotype.

***Pedius* Motschulsky, 1850**

The number of species belonging to this genus in Turkey is 2 (Löbl and Smetana 2003). We examined 1 species belonging to this genus.

***Pedius longicollis* Duftschmid, 1812.** Two specimens were examined (Kahramanmaraş: Gözecik, 30 May 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region Turkey. Its known range exemplifies a Turano-European chorotype.

***Poecilus* Bonelli, 1810**

The number of species and subspecies belonging to this genus in Turkey is 12 (Löbl and Smetana 2003). We examined 3 species belonging to this genus.

***Poecilus (Ancholeus) puncticollis* Dejean, 1828.** One specimen was examined (Kahramanmaraş: Gözecik, 30 May 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region Turkey. Its known range exemplifies a Turano-European chorotype.

***Poecilus (Poecilus) cupreus* Linné, 1758.** Four specimens were examined (Kastamonu: South of Kastamonu [ON], 2 specimens; Ordu: 20 km Akkus, 20 May 1996 [ON], 2 specimens). The species was previously reported from Eskişehir (Türkkan 1998), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Adana, Adıyaman, Gaziantep, Kahramanmaraş, and Malataya (Avgın 2006a). This species is widely distributed in the central, north, and south of Turkey. Its known range exemplifies an Asiatic-European chorotype.

***Poecilus (Poecilus) ilgazdagensis* Jedlička, 1961.** Two specimens were examined (Bolu: Gerede, 17 May 1995 [ON], 1 specimen; Kastamonu: 15 km south of Kastamonu 18 May 1997 [ON, RP], 1 specimen). The species was previously re-

ported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Black Sea Region of Turkey. Its known range exemplifies a NW-Anatolian endemic chorotype.

Pterostichus Bonelli, 1810

The number of species and subspecies belonging to this genus in Turkey is 62 (Löbl and Smetana 2003). We examined 6 species belonging to this genus.

***Pterostichus (Adelosia) macer* Marsham, 1802.** Two specimens were examined (Kahramanmaraş: Gözeçik, 30 May 1996 [ON]). The species was previously reported from Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies a Turano European chorotype.

***Pterostichus (Argutor) leonisi* Apfelbeck, 1904.** Casale and Vigna Taglianti (1999) listed this species name doubtfully as a junior synonym of *Pterostichus (Argutor) vernalis* Panzer, 1796; however, Löbl and Smetana (2003) record the name as that of a valid species. Two specimens were examined (Konya: Beyşehir Gölü, 15 May 1996 [ON]). Casale and Vigna Taglianti (1999) did not note a Turkish locality for this species, thus, this species is listed as new to the Turkish harpaline fauna. It is distributed in Austria, Bosnia Herzegovina, Bulgaria, Russia: Central European Territory, Czech Republic, Greece (incl. Crete), Hungary, Moldavia, Slovakia, Russia: South European Territory, Ukraine, and Yugoslavia (Serbia, Montenegro) (Löbl and Smetana 2003). Its range exemplifies a Palearctic chorotype.

***Pterostichus (Argutor) vernalis* Panzer, 1796.** Two specimens were examined (Konya: Bozkır Yalılıyük [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey Löbl and Smetana (2003), and Kahramanmaraş (Avgin 2006a). The specimens examined were collected in the Central Anatolia of Turkey. Its known range exemplifies a Palearctic chorotype.

***Pterostichus (Haplomaseus) heinzi* Jedlička, 1965.** Three specimens were examined (Trabzon: Zigana Geçidi, 21 May 1996 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Black Sea Region of Turkey. Its known range exemplifies a NE-Anatolian endemic chorotype.

***Pterostichus (Phonias) strenuus* Panzer, 1796.** Three specimens were examined (Erzincan: West of Erzincan 23 May 1996 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Kahramanmaraş (Avgin 2006a). This species is distributed in the Mediterranean and Eastern Anatolia Regions of Turkey. Its known range exemplifies an Asiatic-European chorotype.

***Pterostichus (Pseudomaseus) nigrita* Paykull, 1790.** Two specimens were examined (Ankara: Çubuk, 18 May 1996 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Işık mountain, Ankara, and Akçay (Avgin and Özdikmen 2008). This species is mostly distributed in the Central Anatolia Region of Turkey. Its known range exemplifies a Palearctic chorotype.

***Tapinopterus* Schaum, 1858**

The number of species and subspecies belonging to this genus in Turkey is 28 (Löbl and Smetana 2003). The female genitalia is important for the identification of

some species belonging to this genus. We examined 3 species/subspecies belonging to this genus.

***Tapinopterus (Percosteropus) agonaderus* Chaudoir, 1850.** Three specimens were examined (Ordu: North of Akkus, 26 May 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Black Sea Region of Turkey. Its known range exemplifies a NW-Anatolian endemic chorotype.

***Tapinopterus (Pterotapinus) fairmairei* Chaudoir, 1868.** One specimen was examined (Trabzon: Zigana Geçidi, 21 May 1996 [SL, ON, RP]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Black Sea Region of Turkey. Its known range exemplifies a NE-Anatolian endemic chorotype.

***Tapinopterus (Tapinopterus) kapparicola schatzmayri* Straneo, 1935.** Seven specimens were examined (Antalya: Akseki, 16 May 1996 [ON], 2 specimens; İçel: 20 km north of Erdemli, 26 May 1996 [ON], 2 specimens; Antalya: Kas, 15 June 1994 [ON], 3 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies a Centralasiatic-Mediterranean chorotype.

***Calathus* Bonelli, 1810**

The number of species and subspecies belonging to this genus in Turkey is 35 (Löbl and Smetana 2003). We examined 9 species belonging to this genus. Examination of the male genitalia is required for identification of species belonging to *Calathus*, as shown by Battoni and Vereschagina (1984) in their treatment of the *fuscipes*-species group which includes the widely distributed *C. distinguendus* Chaudoir, 1846, *C. longicollis* Motschulsky, 1865 and *C. syriacus* Chaudoir, 1863 in Turkey.

***Calathus (Calathus) distinguendus* Chaudoir, 1846.** One specimen was examined (Artvin: Arvin, 28 May 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Erzincan, Erzurum, Isparta, and Kars (Kesdek and Yıldırım 2004). This species is distributed in the Eastern Anatolia and Black Sea Regions of Turkey. Its known range exemplifies a Turano-European chorotype.

***Calathus (Calathus) longicollis* Motschulsky, 1865.** Eight specimens were examined (Antalya: Akseki, 22 May 1998 [ON], 2 specimens; Antalya: Elmalı, 14 May 1996 [ON, SL], 2 specimens; Bingöl: North of Bingöl, 23 May 1997 [ON], 2 specimens; İçel: 20 km north of Erdemli, 26 May 1996 [ON], 2 specimens). The species was previously reported from İzmir (Öncüler 1991), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Balıkesir, Bingöl, Erzincan, Erzurum, and Konya (Kesdek and Yıldırım 2004). This species is widely distributed in the central, east, south, and west of Turkey. Its known range exemplifies a Turano-European chorotype.

***Calathus (Calathus) syriacus* Chaudoir, 1863.** Thirteen specimens were examined (Antalya: Akseki, 16 May 1996 [ON], 2 specimens; Erzurum: 18 km south of Çat, 23 May 1997 [ON], 2 specimens; İçel: 20 km north of Erdemli, 26 May 1996 [ON], 2 specimens; Bingöl: north of Bingöl, 23 May 1997 [ON], 1 specimen; İçel: Gülnar, 26 May 1997 [ON], 2 specimens; Kayseri: Erciyes Mountain, [ON, RP], 1 specimen; Kahramanmaraş: Göksun, 31 May 1998 [ON], 2 specimens; Sivas: Yagdonguran Geçidi,

30 May 1998 [ON], 1 specimen). The species was previously reported from Malatya (Öncüler 1991), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Adana, Ankara, Antalya, Bayburt, Bingöl, Elazığ, Erzincan, Erzurum, İçel, and Muğla (Kesdek and Yıldırım 2004), Başkonuş mountain (Avgin 2006b), and Ahır mountain (Avgin 2006c). This species is widely distributed in the central, east, north, and south of Turkey. Its known range exemplifies a Turano-Mediterranean chorotype.

***Calathus (Neocalathus) cinctus* Motschulsky, 1850.** Two specimens were examined (Amasya: Amasya, 19 May 1996 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Bingöl, Erzincan, Erzurum, and Konya (Kesdek and Yıldırım 2004). This species is widely distributed in the east, central and north of Turkey. Its known range exemplifies a W-Palearctic chorotype.

***Calathus (Neocalathus) ambiguus* Paykull, 1790.** Ten specimens were examined (Amasya: Amasya, 19 May 1997 [ON], 2 specimens; Bolu: Gerede, 17 May 1995 [ON], 3 specimens; Erzincan: 45 km west of Erzincan, 23 May 1996 [ON], 2 specimens; İçel: 20 km north of Erdemli, 26 May 1996 [ON], 3 specimens). The species was previously reported from Van (Battoni 1986), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Ankara, Erzincan, Erzurum, Kars, Konya, Muş, and Sinop (Kesdek and Yıldırım 2004). This species is widely distributed in the east, central, north, and south of Turkey. Its known range exemplifies an Asiatic-European chorotype.

***Calathus (Neocalathus) deyrollei* Gautier des Cottés, 1870.** Three specimens were examined (Trabzon: Zigana Geçidi, 21 May 1996 [SL, ON, RP]). The species was previously reported from Artvin, Rize, and Trabzon (Battoni 1986), Anatolia (Casale and Vigna Taglianti 1999), and Turkey (Löbl and Smetana 2003). This species is distributed in the Black Sea Region of Turkey. Its known range exemplifies a NE-Anatolian endemic chorotype.

***Calathus (Neocalathus) leptodactylus* Putzeys, 1873.** Seven specimens were examined (Antalya: Akseki, 16 May 1996 [ON], 2 specimens; Antalya: Elmalı, 14 June 1994 [GG, ON], 2 specimens; İçel: 20 km north of Erdemli, 26 May 1996 [ON], 3 specimens). The species is previously not reported from Turkey, thus, these are new records of its occurrence. The species is reported from Cyprus and Syria (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies a W-Palearctic endemic chorotype.

***Calathus (Neocalathus) melanocephalus* Linné, 1758.** Two specimens were examined (Giresun: Sebinkarahisar, 20 May 1997 [ON]). The species was previously reported from Eskişehir (Türkkan 1998), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Ankara (Kocatepe and Mergen 2004), and Başkonuş mountain (Avgin 2006b). This species is widely distributed in the central, north, and south of Turkey. Its known range exemplifies a Palearctic chorotype.

***Calathus (Neocalathus) deplanatus* Chaudoir, 1843.** Two specimens were examined (Çankırı: Ilgaz Mountain, 18 May 1996 [ON, RP]). The species was previously reported from Tokat (Battoni 1986), Anatolia (Casale and Vigna Taglianti 1999), and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Central Anatolia Region of Turkey. Its known range exemplifies an Anatolia chorotype.

***Amara* Bonelli, 1810**

The number of species and subspecies belonging to this genus in Turkey is 55 (Löbl and Smetana 2003). We examined 8 species belonging to this genus. The most

widespread some species of *Amara* in Turkey are *Amara (Amara) aenea* DeGeer, 1774 and *Amara (Bradytus) apricaria* Paykull, 1790.

***Amara (Amara) aenea* DeGeer, 1774.** Eight specimens were examined (Antalya: Akseki, 16 May 1996 [ON], 4 specimens; Antalya: Yarpuz, [SL, ON, WK], 2 specimens; Bolu: S. Gerede, 17 May 1997 [ON], 2 specimens). The species was previously reported from Eskişehir (Türkkan 1998), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Adana, Adıyaman, Kahramanmaraş, and Malatya (Avgin 2006a), and Ahır mountain (Avgin 2006c). This species is widely distributed in the central, north, and south of Turkey. Its known range exemplifies a Palearctic chorotype.

***Amara (Amara) anthobia* A. Villa & G.B. Villa, 1833.** One specimen was examined (Amasya: 19 May 1997 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Adıyaman and Kahramanmaraş (Avgin 2006a). The specimens examined were collected in the Black Sea Region of Turkey. Its known range exemplifies an European chorotype.

***Amara (Amara) lucida* Duftschmid, 1812.** Two specimens were examined (Gümüşhane: West of Şiran, 29 May 1997 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Kahramanmaraş (Avgin 2006a). This species is distributed in the Mediterranean and Black Sea Regions of Turkey. Its known range exemplifies a Turano-European chorotype.

***Amara (Bradytus) apricaria* Paykull, 1790.** Four specimens were examined (Gümüşhane: West of Şiran, 29 May 1997 [ON], 2 specimens; İçel: 20 km north of Erdemli, 26 May 1996 [ON], 2 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), west and north of Anatolian, especially in mountains (Schweiger 1966), Kahramanmaraş (Avgin 2006a), and Akçay, Ankara, and Niğde (Avgin and Özdikmen 2008). This species is widely distributed in the central, north, and south of Turkey. Its known range exemplifies a Palearctic chorotype.

***Amara (Celia) montana* Dejean, 1828.** One specimen was examined (İçel: Gülnar, 27 May 1996 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies a Mediterranean chorotype.

***Amara (Celia) sollicita* Pantel, 1888.** Two specimens were examined (Erzurum: 18 km south of Çat, 23 May 1997 [ON, RP]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Eastern Anatolia Region of Turkey. Its known range exemplifies a Turano-European-Mediterranean chorotype.

***Amara (Curtonotus) aulica* Panzer, 1796.** Three specimens were examined (Ordu: 20 km north of Akkus, 20 May 1996 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Kahramanmaraş (Avgin 2006a), and Ankara (Avgin and Özdikmen 2008). This species is distributed in the central, north, and south of Turkey. Its known range exemplifies a Holarctic chorotype.

***Amara (Paracelia) dalmatina* Dejean, 1828.** Two specimens were examined (Tokat: Tokat, 24 May 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The speci-

mens examined were collected in the Black Sea Region of Turkey. Its known range exemplifies a E-Mediterranean chorotype.

***Zabrus* Clairville, 1806**

The number of species and subspecies belonging to this genus in Turkey is 47 (Löbl and Smetana 2003). Lodos (1983) provided limited information on some species that occur in Turkey and his taxonomic key contained some species of this genus. We examined 7 species/subspecies belonging to this genus.

***Zabrus (Pelor) melancholicus* Schaum, 1864.** Three specimens were examined (Erzurum: 18 km south of Çat, 23 May 1997 [ON]). The species was previously reported from Konya, İçel, İzmir, Manisa, and Niğde (Lodos 1983), Ankara, Konya, İzmir, Manisa, and Niğde (Lodos 1989), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Kahramanmaraş (Avgin 2006a). This species is widely distributed in the central, north, south, and west of Turkey. Its known range exemplifies an Anatolian endemic chorotype.

***Zabrus (Pelor) graecus orientalis* Apfelbeck, 1904.** Six specimens were examined (İçel: 20 km Erdemli, 26 May 1996 [ON], 2 specimens; İçel: Gülnar, 26 May 1997 [ON, RP], 2 specimens; İçel: Erdemli, 26 May 1997 [ON], 2 specimens). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Mediterranean Region of Turkey. Its known range exemplifies an Anatolian endemic chorotype.

***Zabrus (Pelor) politus* Gautier des Cottes, 1869.** Two specimens were examined (Antalya: Yarpuz, 18 June 1994 [ON, RP]). The species was previously reported from Ankara, Antalya, Aydın, Denizli, İzmir, Konya, Manisa, and Muğla (Lodos 1983), Anatolia (Casale and Vigna Taglianti 1999), and Turkey (Löbl and Smetana 2003). This species is widely distributed in the central, south, and west of Turkey. Its known range exemplifies a S-Anatolian endemic chorotype.

***Zabrus (Pelor) rotundicollis* Ménétériés, 1836.** Four specimens were examined (Bolu: Gerede, 17 May 1997 [ON, SL], 2 specimens; Kahramanmaraş: Göksun, 31 May 1998 [ON], 2 specimens). The species was previously reported from Eskişehir (Türkkan 1998), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Kahramanmaraş (Avgin 2006a). This species is distributed in the central, north, and south of Turkey. Its known range exemplifies an Anatolian endemic chorotype.

***Zabrus (Pelor) segnis* Schaum, 1864.** Two specimens were examined (Giresun: Sebinkarahisar, 25 May 1998 [ON]). The species was previously reported from Anatolia (Casale and Vigna Taglianti 1999) and Turkey (Löbl and Smetana 2003). The specimens examined were collected in the Black Sea Region of Turkey. Its known range exemplifies a N-Anatolian endemic chorotype.

***Zabrus (Pelor) spinipes* Fabricius, 1798.** Five specimens were examined (Sivas: Yagdonduran Geçidi, 30 May 1998 [ON], 2 specimens; Kahramanmaraş: Gözecik, 30 May 1998 [ON], 3 specimens). The species was previously reported from Ankara, Batman, Burdur, Diyarbakır, Isparta, Konya, and Siirt (Lodos 1983, 1989), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), Ankara (Kocatepe and Mergen 2004), and Kayseri (Avgin 2006a). This species is widely distributed in the central, east, south of Turkey. Its known range exemplifies a Turano-Mediterranean endemic chorotype.

***Zabrus (Pelor) trinii anatolicus* Ganglbauer, 1915.** Nine specimens were examined (Antalya: Yarpuz, 22 May 1998 [ON], 4 specimens; İçel: 20 km north of

Erdemli, 26 May 1996 [ON], 2 specimens; Erzurum: Kop Geçidi 2300 m, 23 May 1996 [ON, RP], 3 specimens). The species was previously reported from Erzurum (Lodos 1983), Anatolia (Casale and Vigna Taglianti 1999), Turkey (Löbl and Smetana 2003), and Kayseri (Aydın 2006a). This species is widely distributed in the central, north, and south of Turkey. Its known range exemplifies a SW-Asiatic chorotype.

Discussion

Löbl and Smetana (2003) listed 512 species of Harpalinae occurring in Turkey. We examined specimens representing 120 of these species (23% of the total) from 35 genera. Some of these species/subspecies were new records of distribution in several Turkish provinces, thus, adding to the distribution information for these species. In addition, 2 species previously not reported from Turkey—*Calathus* (*Neocalathus*) *leptodactylus* Putzeys, 1873 and *Pterostichus* (*Argutor*) *leonisi* Apfelbeck, 1904—were new reports for Harpalinae fauna in Turkey. The number of species belonging to the genera *Calathus* and *Pterostichus* occurring in Turkey is now 36 and 63, respectively, elevating the numbers reported by Löbl and Smetana (2003).

Acknowledgment

The authors thank Dr. George E. Ball (Department of Biological Sciences, University of Alberta, Canada) for reviewing an earlier version of this manuscript.

References Cited

- Allen, R. T. 1979.** The occurrence and importance of ground beetles in agricultural and surrounding habitats, Pp. 485-505. In T.L. Erwin, G.E. Ball and D.R. Whitehead (eds.), Carabid beetles: their evolution, natural history, and classification. Dr. W. Junk. The Hague.
- Aydın, S. S. 2006a.** Faunistic and taxonomic researches on the family Carabidae (Coleoptera) in Kahramanmaraş and the surrounding area. Ph.D. Diss. Univ. Çukurova, Adana, Turkey, 352 p.
- Aydın, S. S. 2006b.** Distribution and diversity of ground beetles in Başkonuş Mountain National Park of Turkey. J. Environ. Biol. 27: 515-521.
- Aydın, S. S. 2006c.** Habitat selection and diversity of ground beetles (Carabidae) on Ahır Mountain (K.Maraş, Turkey), in Mediterranean Region. Munis Entomol. & Zool. 1: 257-266.
- Aydın, S. S. and İ. Emre. 2007.** Contribution to the taxonomy of the Harpalinae (Coleoptera: Carabidae) from Kahramanmaraş and the surrounding towns in Turkey. Trans. Am. Entomol. Soc. 133: 413-432.
- Aydın, S. S. and H. Özdikmen. 2008.** Additional records of the distribution and occurrence of carabid beetles (Coleoptera: Carabidae) in Turkey. J. Entomol. Sci. 43: 381-393.
- Battoni, F. and T. Vereschagina. 1984.** Materiali Per Una Revisione Dei *Calathus* Bonelli Del Gruppo *fuscipes* (Coleoptera Carabidae). G. It. Ent., 129-162.
- Battoni, F. 1986.** Specie anatoliche nuove o poco note del genere *Calathus* Bonelli 1810 E revisione del gruppo *Alternans* (Coleoptera, Carabidae). Fragm. Entomol. 18: 297-318.
- Casale, A. and A. Vigna Taglianti. 1999.** Caraboid beetles (excl. Cicindelidae) of Anatolia, and their biogeographical significance (Coleoptera, Caraboidea). Biogeographia, Lavori della Società Italiana di Biogeografia. Siena, Italy 20: 277-406.
- Dvořák, M. 1993.** Zur kenntnis der gattung *Carterus* und ihrer Verwandten (Coleoptera, Carabidae, Ditomimi). Cas. Sle. Mus. Opava, (A) 42: 179-185.
- Gutiérrez, D., R. Menéndez and M. Méndez. 2004.** Habitat-based conservation priorities for carabid beetles within the Picos De Europa National Park. Northern Spain. Biol. Conserv. 115: 379-393.

- Jaeger, B. 1992.** Beitrag zur Erforschung der *Acupalpus*-fauna des Iran und der Türkei nebst Beschreibung von *Acupalpus turcicus* n.sp. (Col., Carabidae). Entomol. Nachr. Ber. 36: 223-230.
- Jaeger, B. 1999.** Nachtrag zur *Acupalpus*-Fauna des Nahen und Mittleren Ostens und neue Erkenntnisse zur Verbreitung und Synonymie einiger Arten der Gattungen *Acupalpus*, *Anthraxus*, *Bradycellus* und *Psychristus* (Coleoptera, Carabidae). Linz. Biol. Beitr. 31: 955-973.
- Kataev, B. M. 1993.** Ground beetles of the *Oblitus* group of the genus *Harpalus* Latr. (Coleoptera, Carabidae). Entomol. Rev. (Engl. Transl.) 72(8): 21-51.
- Kataev, B. M. and D. W. Wrase. 1995.** Three new and little known Palaearctic species of the genus *Harpalus* Latr. (Coleoptera, Carabidae). Linz. Biol. Beitr. 27: 319-330.
- Kataev, B. M. and D. W. Wrase. 1997.** New taxa of the genus *Harpalus* Latr. from China and Turkey (Coleoptera, Carabidae). Linz. Biol. Beitr. 29: 991-1014.
- Kesdek, M. and E. Yıldırım. 2003.** Contribution to the knowledge of Carabidae fauna of Turkey Part 1: Harpalini (Coleoptera, Carabidae, Harpalinae). Linz. Biol. Beitr. 35: 1147-1157.
- Kesdek, M. and E. Yıldırım. 2004.** Contribution to the knowledge of Carabidae fauna of Turkey Part 2: Platynini (Coleoptera, Carabidae). Linz. Biol. Beitr. 36: 527-533.
- Kesdek, M. and E. Yıldırım. 2007.** Contribution to the Knowledge of the Carabidae Fauna of Turkey Part 4: Dryptini, Lebiini and Zulphiini (Coleoptera, Carabidae, Lebiinae). Entomofauna. 28-22, 277-284.
- Kocatepe, N. and O. Mergen. 2004.** Ankara İli Carabidae (Coleoptera) Familyası Türleri Üzerinde Faunistik Araştırmalar. Türk. Entomol. Derg. 28: 295-309.
- Kulman, H. M. 1974.** Comparative Ecology of North American Carabidae with Special Reference to Biological Control. Entomophaga Mem. Hors. Ser. 7: 61-70.
- Lodos, N. 1983.** Türkiye faunasına ait ekin Kambur Böcekleri, *Zabrus* Clairv. (Coleoptera: Carabidae) Cinsinin Yeniden Gözden Geçirilmesi. Türk Bit. Kor. Derg. 7: 51-63.
- Lodos, N. 1989.** Türkiye Entomolojisi IV, Ege Üniv. Ziraat Fakültesi Yayınları, 493: 250 s.
- Lorenz, W. 1998.** Systematic List of Extant Ground Beetles of the World (Insecta, Coleoptera, "Geadephaga": Trachypachidae and Carabidae, incl. Paussinae, Cicindelinae, Rhysodinae). Private Edition, Tutzing. 502 pp.
- Löbl, I. and A. Smetana. 2003.** Catalogue of Palaertic Coleoptera. Volume I. Archostemata-Myxophaga-Adephaga. Apollo Books. Stenstrup, Denmark, 819 pp.
- Lövei, G. L. and K. D. Sunderland. 1996.** Ecology and behavior of ground beetles (Coleoptera: Carabidae). Annu. Rev. Entomol. 41: 231-256.
- Mlynar, Z. 1979.** Beitrag zur Kenntnis der osteuropäischen und sibirischen *Harpalus*-Arten (Col., Carabidae). Koleopterol. Rundsch. 54: 73-111.
- Müller, D. G. 1937.** Note su alcuni Carabidi della Balcania e della Regione Mediterranea. Atti Mus. Civ. Stor. Nat. Trieste 13: 119-134.
- Ober, K. A. 2002.** Phylogenetic relationships of the carabid subfamily Harpalinae (Coleoptera) based on molecular sequence data. Mol. Phylogenet. Evol. 24: 228-248.
- Öncüer, C. 1991.** A catalogue of the parasites and predators of insect pest of Turkey. Ege Univ. Agric. Faculty. Bornova, İzmir, 354 pp.
- Pavuk, D. M., F. F. Purrington, C. E. Williams and B. R. Stinner. 1997.** Ground beetle (Coleoptera: Carabidae) activity density and community composition in vegetationally diverse corn agroecosystems. Am. Midl. Nat. 138: 14-28.
- Sciaky, R. 1987.** Revisione delle specie paleartiche occidentali del genere *Ophonus* Dejean, 1821 (Coleoptera, Carabidae). Mem. Soc. Entomol. Ital. 65: 29-120.
- Schweiger, H. 1966.** *Bradytus* Zimm. Genusunun (Col. Carabidae) Türkiye'deki Türleri. İstanbul Üniv. Fen Fak. Mec. XXXI 1: 37-48.
- Türktaş, H. 1998.** Eskişehir Çevresi Carabidae (Insecta: Coleoptera) Üzerine Faunistik Araştırmalar. Yüksek Lisans Tezi, Eskişehir, 34 s.
- Vigna Taglianti, A., P. A. Audisio, M. Biondi, M. A. Bologna, G. M. Carpaneto, A. D. Biase, S. Fattorini, E. Piattella, R. Sindaco, A. Venchi and M. Zapparoli. 1999.** A proposal for a chorotype classification of the Near East Fauna, in the framework of the Western Palearctic

- Region, p. 31-59. Biogeographia. Parte I. Biogeografia Dell'Anatolia. Pubblicato Sotto Gli Auspici Del Ministero Dei Beni Culturali Ed Ambientali. Siena, Italy. 406 pp.
- Wrase, D. W. 1989.** Taxonomische Bemerkungen Zu Einigen *Carterus*-Arten (Insecta, Coleoptera, Carabidae: Harpalini). Reichenbachia. Staatliches Museum Für Tierkunde Dresden. 27(6): 33-46.
- Wrase, D. W. 1994.** Revision der *Carterus angustus* – Gruppe und Bemerkungen zur Gattung *Carterus* Dejean (Col., Carabidae, Harpalini). Linz. Biol. Beitr. 26: 931-964.
- Wrase, D. W. 1996.** Eine Neue Art Der Gattung *Ophonus* Dejean Aus Der Türkei (Coleoptera, Carabidae). Linz. Biol. Beitr. 28(2): 655-658.
- Wrase, D. W. 1999.** Revision of the genus *Oedesis* Motschulsky (Coleoptera Carabidae Harpalini). Pp. 393-416. In: A. Zamotailov, R. Sciaky (eds.), Advances in Carabidology, MUIISO Publishers, Krasnodar.
- Wrase, D. W. 2001.** Beschreibung Einer Neuen *Parophonus*-Art Aus Der Südlichen Türkei Und Bemerkungen Zur Synonymie Von *P. planicollis* (Dejean 1829) (Coleoptera, Carabidae, Harpalini). Linz. Biol. Beitr. 33: 87-95.