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Taxonomic Survey on Macrocentrinae and Orgilinae fauna (Hymenoptera, Braconidae) from North-eastern Anatolian Region of Turkey

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A b s t r a c t : In order to determine Braconidae fauna of Turkey, adult specimens of Macrocentrinae and Orgilinae were collected from various habitats of provinces Ardahan, Erzurum, İğdir and Kars of Turkish north-eastern Anatolian region using Malaise and light traps and sweeping nets among 2012 and 2014. In total, 14 species belonging 3 genera are reported for the studied region among which *Macrocentrus bicolor* CURTIS, 1833, *M. resinellae* (LINNAEUS, 1758) and *Orgilus (Orgilus) radialis* JAKIMAVICIUS, 1972 are recorded for the first time from Turkey. The numbers of species of each genus are as follows: Macrocentrinae; *Macrocentrus* CURTIS, 1833: 7, *Kerorgilus* van ACHTERBERG, 1985: 1, and Orgilinae; *Orgilus* HALIDAY, 1833: 6.

K e y w o r d s : Macrocentrinae, Orgilinae, *Macrocentrus*, *Orgilus*, *Kerorgilus*.

Introduction

Macrocentrinae is a medium-sized subfamily containing nearly 236 species described worldwide belonging to eight genera (YU et al. 2012). The vast majority species are solitary or gregarious koinobiont endoparasitoids of lepidopteran larvae. Polyembryony (usually resulting in gregarious broods) frequently occurs in the genus *Macrocentrus* CURTIS 1833. They attack concealed microlepidopteran larvae such as Gelechiidae, Oecophoridae, Sesiidae and Tortricidae (SHAW & HUDDLESTON 1991). Although the genus *Macrocentrus* is cosmopolitan, its species are concentrated in the Holarctic region. A total of 84 species are located in Palaearctic region. Of them, 12 species were recognised by VAN ACHTERBERG (1985, 1993, 2001) from Turkey. Recently, BEYARSLAN & AYDOĞDU (2012) recorded update the register to fourteen species.

Orgilinae is a medium-sized subfamily with approximately 356 species belonging to 13 genera. These species are solitary koinobiont endoparasitoids of microlepidopteran larvae. Although the genus *Orgilus* is cosmopolitan, *Orgilus* species are concentrated in the Holarctic region. A total of 76 species are located in Palaearctic region. Of them, 24 species were recorded by TAEGER (1989), BEYARSLAN (1996, 2011), PAPP (2003), BEYARSLAN & ÇETİN ERDOĞAN (2011), BEYARSLAN & AYDOĞDU (2012), BEYARSLAN et al. (2006, 2013) GÜÇLÜ & ÖZBEK (2015) from Turkey.

Material and Methods

Specimens of Macrocentrinae and Orgilinae were collected from different habitats of Turkish north-eastern Anatolian region using Malaise and light traps and sweeping nets. The obtained adult specimens were then pinned and properly labelled. Relevant literature was used for taxonomical examination of the material (BEYARSLAN 1996). The specimens were identified mostly using the keys by ČAPEK (1970), TOBIAS (1986), van ACHTERBERG (1987, 1992, 2001), TAEGER (1989) and BAET & TIGNON (1998). identification keys.

General distributions of species and the known host species of the species of Macrocentrinae and Orgilinae are given according to YU et al. (2012). In addition, locality, the altitude of locality, collection date, sex, number of specimens and collectors of each species are given. All specimens are deposited in collection of the Department of Entomology, Bitlis Eren University, Bitlis, Turkey.

Results

In total, 14 species belonging 3 genera are reported from various habitats of provinces Ardahan, Erzurum, İğdır and Kars of Turkish north-eastern Anatolian region.

M a c r o c e n t r i n a e

Genus *Macrocentrus* CURTIS, 1833

***Macrocentrus bicolor* CURTIS, 1833**

M a t e r i a l e x a m i n e d : Erzurum, Uzundere, Art yaylası, (39°54'5"N, 41°15'35"E), 1871m, 18.06.2012, 1♀, leg. Ö. KELEŞ.

Distribution: Palaearctic, Oriental.

H o s t s : Lepidoptera, Chimabachidae: *Diurnea lipsiella* (DENIS & SCHIFFERMÜLLER, 1775). Drepanidae: *Drepanula applana* (FABRICIUS, 1777). Gelechiidae: *Anacampsis populella* (CLERCK, 1759). Gracillariidae: *Phyllonorycter scopariella* (ZELLER, 1846). Lyonetiidae: *Leucoptera lustratella* (HERRICH-SCHÄFFER, 1855). Oecophoridae: *Agonopterix ferulae* (ZELLER, 1847). Pyralidae: *Acrobasis consociella* (HÜBNER, 1813). Tineidae: *Morophaga choragella* DENIS & SCHIFFERMÜLLER, 1775); *Nemapogon cloacella* (HAWORTH, 1828); *Nemaxera betulinella* (PAYKULL, 1785); *Triaxomera parasitella* (HÜBNER, 1796). Tortricidae: *Archips rosana* (LINNAEUS, 1758); *A. xylosteana* (LINNAEUS, 1758); *Pandemis cinnamomeana* (TREITSCHKE, 1830); *Tortricodes alternella* (DENIS & SCHIFFERMÜLLER, 1775).

This species is new to Turkey.

***Macrocentrus blandus* EADY & CLARK, 1964**

M a t e r i a l e x a m i n e d : Ardahan, Çıldır, Eskibeyrehatun Köyü, (41°7'47"N, 42°54'32"E), 1950 m, 24.06.2013, 1♂, leg. E. Çoban. Ardahan, Göle, Eskidemirkapı, (40°51'9"N, 42°47'31"E), 2050 m, 21.06.2012, 1♀, 1♂, leg. Yurtcan; 3♀, 1♂, leg. Ö. Keleş. Ardahan, Göle, Yiğitkonağı, (40°56'47"N, 42°34'53"E), 1993 m, 22.06.2012, 2♀, leg. M. Yurtcan. Erzurum, Köprüköy,

($39^{\circ}58'01"N$, $41^{\circ}52'17"E$), 1602 m, 17.06.2012, 1♂, leg. E. Çoban; 1♂, leg. Ö. Şahsuvaroğlu. Erzurum, Narman, ($40^{\circ}20'46"N$ $41^{\circ}54'51"E$), 1567 m, 27.06.2013, 1♀, leg. M. Yurtcan. Kars, Kağızman, Paslı, ($40^{\circ}16'36"N$ $42^{\circ}57'22"E$), 1785 m, 21.09.2012, 1♀, leg. A. Beyarslan. Kars, Susuz, İncesu, ($40^{\circ}44'45"N$ $43^{\circ}7'30"E$), 1760 m, 17.09.2012, 1♀, 2♂♂, leg. A. Beyarslan. Kars, Merkez, ($40^{\circ}32'32"N$, $43^{\circ}12'22"E$), 2077 m, 25.06.2012, 1♀, 1♂, leg. E. Çoban. Kars, Sarıkamış, Kaynak Yaylası, ($40^{\circ}23'36"N$, $42^{\circ}29'35"E$), 2410 m, 25.06.2013, 1♀, leg. Ö. Şahsuvaroğlu. Kars, Sarıkamış, Söğütlü çeşme, ($40^{\circ}16'58"N$, $42^{\circ}34'18"E$), 2350 m, 24.06.2013, 1♀, leg. M. Yurtcan. Kars, Selim, Gürbüzler, Bayburtlar yaylası, ($40^{\circ}27'36"N$, $42^{\circ}46'48"E$), 2040 m, 18.09.2012, 1♀, leg. E. Çoban. Kars, Susuz, Kirkpinar, ($40^{\circ}53'11"N$, $43^{\circ}00'20"E$), 2155 m, 28.06.2013, 1♂, leg. E. Çoban.

Distribution: Palaearctic.

H o s t s : Lepidoptera, Noctuidae: *Agrotis segetum* DENIS & SCHIFFERMÜLLER, 1775; *Dasypolia templi* THUMBERG, 1792; *Hydraecia micacea* ESPER, 1789; *H. petasitis* DOUBLEDAY, 1847; *Mesapamea secalis* (LINNAEUS, 1758). Tortricidae: *Zeiraphera griseana* (HÜBNER, 1799).

***Macrocentrus buolianae* EADY & CLARK, 1964**

M a t e r i a l e x a m i n e d : Ardahan, Tazeköy, ($41^{\circ}1'32"N$, $42^{\circ}52'34"E$), 1934 m, 24.06.2012, 1♀, leg. E. Çoban. Erzurum, Şenkaya, Değirmendere, ($40^{\circ}43'53"N$, $42^{\circ}31'08"E$), 1820 m, 21.06.2012, 1♀, leg. Ö. Şahsuvaroğlu.

D i s t r i b u t i o n : Palaearctic.

H o s t s : Lepidoptera, Gelechiidae: *Exoteleia dodecella* (LINNAEUS, 1758). Tortricidae: *Archips oporana* (LINNAEUS, 1758); *Rhyacionia buoliana* DENIS & SCHIFFERMÜLLER, 1775.

***Macrocentrus collaris* (SPINOLA, 1808)**

M a t e r i a l e x a m i n e d : Ardahan, Çıldır, Yukarıcambaz, ($41^{\circ}6'8"N$, $43^{\circ}15'6"E$), 1980 m, 24.06.2012, 1♂, leg. A. Beyarslan. Ardahan, Göle, Eskidemirkapı, ($40^{\circ}51'9"N$, $42^{\circ}47'31"E$), 2050 m, 21.06.2012, 1♂, leg. Ö. Keleş. Ardahan, Tazeköy, ($41^{\circ}1'32"N$, $42^{\circ}52'34"E$), 1934 m, 24.06.2012, 1♂, leg. M. Yurtcan. Erzurum, Aşkale, ($39^{\circ}55'17"N$, $40^{\circ}42'24"E$), 1670 m, 18.08.2013, 1♀, leg. E. Çoban. Erzurum, Palandöken, Kayak Merkezi, ($39^{\circ}50'57"N$, $41^{\circ}16'59"E$), 2455 m, 18.08.2013, 1♀, 1♂, leg. M. Yurtcan; 1♀, 1♂, leg. A. Beyarslan. Kars, Kağızman, Akdam, ($40^{\circ}10'25"N$, $43^{\circ}16'34"E$), 1321m, 27.06.2012, 1♀, leg. A. Beyarslan. Kars, Kağızman, ($40^{\circ}07'11"N$, $43^{\circ}ix'57"E$), 1670 m, 21.09.2012, 2♀♀, M. Yurtcan. Kars, Kağızman, Morpet, ($40^{\circ}15'16"N$, $42^{\circ}58'36"E$), 1486 m, 23.08.2013, 3♀♀, leg. A. Beyarslan; 20.09.2012, 1♂, leg. M. Yurtcan. Kars, Kağızman, Paslı, ($40^{\circ}16'36"N$, $42^{\circ}57'22"E$), 1785 m, 21.09.2012, 1♀, leg. E. Çoban. Kars, Sarıkamış, Taş ocaklıları, ($40^{\circ}20'17"N$, $42^{\circ}34'23"E$), 2102 m, 19.09.2012, 1♂, leg. E. Çoban; 1♂, leg. Ö. Şahsuvaroğlu. Kars, Susuz, Kirkpinar, ($40^{\circ}53'11"N$, $43^{\circ}00'20"E$), 2155 m, 28.06.2013, 1♂, leg. E. Çoban. Muş, Mercimekkale, ($38^{\circ}56'11"N$, $41^{\circ}30'27"E$), 1263 m, 20.06.2013, 1♀, leg. M. Yurtcan.

D i s t r i b u t i o n : Ethiopia, Neotropical, Oceanic, Oriental and Palaearctic.

H o s t s : Coleoptera, Anobiidae: *Anobium punctatum* DE GEER, 1774. Elateridae: *Agriotes lineatus* LINNAEUS, 1758. Lepidoptera, Geometridae: *Lycia hirtaria* (CLERCK, 1759). Lymantriidae: *Lymantria monacha* (LINNAEUS, 1758). Noctuidae: *Acronicta tridens* SCHIFFERMÜLLER, 1776; *Agrotis clavis* (HUFNAGEL, 1766); *A. exclamatoris* (LINNAEUS, 1758); *A. ipsilon* (HUFNAGEL, 1766); *A. segetum* DENIS & SCHIFFERMÜLLER, 1775; *Apamea sordens* HUFNAGEL, 1766; *Chalciope mygdon* (CRAMER, 1777); *Chersotis rectangula* [SCHIFFERMÜLLER], 1775; *Chrysodeixis chalcites* (ESPER, 1789); *Diloba caeruleocephala* (LINNAEUS, 1758); *Euxoa cursoria* HUFNAGEL, 1766; *Helicoverpa*

armigera (HÜBNER, 1808); *Mamestra brassicae* (LINNAEUS, 1758); *Noctua pronuba* (LINNAEUS, 1758); *Polymixis xanthomista* (HÜBNER, 1819); *Spodoptera littoralis* BOISDUVAL, 1833; *S. litura* (FABRICIUS, 1775). Nymphalidae: *Polygonia c-album* (LINNAEUS, 1758). Tortricidae: *Eupoecilia ambiguella* (HÜBNER, 1796); *Notocelia roborana* (DENIS & SCHIFFERMÜLLER, 1775). Yponomeutidae: *Yponomeuta malinellus* (ZELLER, 1838).

***Macrocentrus equalis* LYLE, 1914**

M a t e r i a l e x a m i n e d : Erzurum, Tortum, Aksu Köyü, ($40^{\circ}25'41''N$, $41^{\circ}36'12''E$), 2302 m, 16.06.2012, 1♂, leg. A. Beyarslan. İğdır, Tuzluca, Gaziler, ($40^{\circ}6'10''N$, $43^{\circ}28'51''E$), 1028 m, 21.09.2012, 1♀, leg. A. Beyarslan.

D i s t r i b u t i o n : Palaearctic.

H o s t s : Lepidoptera, Noctuidae: *Agrotis segetum* DENIS & SCHIFFERMÜLLER, 1775; *Xestia ditrapezium* (DENIS & SCHIFFERMÜLLER, 1775); *X. triangulum* (HUFNAGEL, 1766). Tortricidae: *Adoxophyes orana* (FISCHER VON RÖSLERSTAMM, 1834); *Notocelia uddmanniana* (LINNAEUS, 1758); *N. uddmanniana* (LINNAEUS, 1758); *Orthotaenia undulana* DENIS & SCHIFFERMÜLLER, 1775; *Pandemis heparana* DENIS & SCHIFFERMÜLLER, 1775.

***Macrocentrus infirmus* (NEES, 1834)**

M a t e r i a l e x a m i n e d : Ardahan, Merkez, Bilbilan Yaylası, ($41^{\circ}4'19''N$, $42^{\circ}21'13''E$), 2365 m, 15.9.2012, 1♀, leg. A. Beyarslan. Ardahan, Çıldır, Eskibeyrehatun Köyü, ($41^{\circ}7'47''N$, $42^{\circ}54'32''E$), 1950 m, 24.06.2013, 2♂♂, leg. A. Beyarslan; 3♀♀, 3♂♂, leg. Ö. Şahsuvaroğlu. Erzurum, Şenkaya, Değirmenlidere Köyü, ($40^{\circ}39'8''N$, $42^{\circ}20'37''E$), 1820 m, 20.08.2013, leg. 1♀, leg. Ö. Şahsuvaroğlu. Kars, Boğatepe Köyü, ($40^{\circ}49'05''N$, $42^{\circ}52'02''E$), 2227 m, 20.08.2013, 1♀, leg. Ö. Şahsuvaroğlu; 2♀♀, 4♂♂, leg. E. Çoban. Kars, Sarıkamış, Kaynak Yaylası, ($40^{\circ}23'36''N$, $42^{\circ}29'35''E$), 2410 m, 25.06.2013, 1♂, leg. A. Beyarslan. Kars, Susuz, Kirkpınar, ($40^{\circ}53'11''N$, $43^{\circ}00'20''E$), 2155 m, 28.06.2013, 1♂, leg. M. Yurtcan.

D i s t r i b u t i o n : Palaearctic.

H o s t s : Lepidoptera, Cossidae: *Zeuzera pyrina* (LINNAEUS, 1761). Noctuidae: *Apamea monoglypha* (HUFNAGEL, 1766); *Hydraecia micacea* ESPER, 1789; *H. petasitis* DOUBLEDAY, 1847; Tortricidae: *Blastesthia mughiana* (ZELLER, 1868); *B. turionella* (LINNAEUS, 1758); *Clavigesta sylvestrana* (CURTIS, 1850); *Cydia pactolana* (ZELLER 1840); *Gypsonoma aceriana* (DUPONCHEL, 1843); *Phalaena resinella* LINNAEUS, 1758.

***Macrocentrus resinellae* (LINNAEUS, 1758)**

M a t e r i a l e x a m i n e d : Ardahan-Kent ormanı, ($41^{\circ}15'40''N$, $42^{\circ}51'10''E$), 2012 m, 16.09.2012, 3♀♀, leg. A. Beyarslan.

D i s t r i b u t i o n : Palaearctic, Oriental.

H o s t s : Coleoptera, Melandryidae: *Orchesia micans* (PANZER, 1794). Lepidoptera, Gelechiidae: *Exoteleia dodecella* (LINNAEUS, 1758). Geometridae: *Cyclophora punctaria* (LINNAEUS, 1758); Lasiocampidae: *Dendrolimus tabulaeformis* TSAI & LIU, 1962. Pyralidae: *Dioryctria rubella* HAMPSON in RAGONOT, 1891; *D. sylvestrella* RATZEBURG, 1840; Sesiidae: *Synanthedon formicaeformis* (ESPER, 1783). Tortricidae: *Adoxophyes*

orana (FISCHER VON RÖSLERSTAMM, 1834); *Aleimma loeflingiana* (LINNAEUS, 1758); *Ancylis laetana* FABRICIUS, 1775; *Archips abiephaga* (YASUDA, 1975); *A. crataegana* (HUBNER, [1796-1799]); *A. oporana* (LINNAEUS, 1758); *A. pulchra* (BUTLER, 1879); *A. similis* BUTLER, 1879; *Blastesthia posticana* ZETTERSTEDT, 1839; *B. turionella* (LINNAEUS, 1758); *Blastopetrova ketaleericola* LIU & WU, in WU, CAO & LIU, 1987; *C. diversana*, (HÜBNER, 1817); *C. murinana* (HÜBNER, 1799); *Cydia cosmophorana* (TREITSCHKE, 1835); *C. pactolana* (ZELLER, 1840); *C. zebeana* (RATZEBURG, 1840); *Dichelia histriionana* (FROLICH, 1828); *Lozotaenia coniferana* (ISSIKI, 1961) (syn. *Choristoneura coniferana* ISSIKI, in ISSIKI & MUTUURA 1961; *Petrova cristata* WALSINGHAM, 1900; *Phalaena resinella* (LINNAEUS, 1758); *Phaneta perangustana* (WALSINGHAM, 1879); *Ptycholoma lecheana* LINNAEUS, 1758; *Pyralis dorsana*" sensu TREITSCHKE, 1829; *Rhyacionia buoliana* DENIS & SCHIFFERMÜLLER, 1775; *R. perangustana* HÜBNER, 1825; *Tortrix viridana* (LINNAEUS, 1758).

This species is new to Turkey.

Orgilinae

Genus *Kerorgilus* van ACHTERBERG, 1985

Kerorgilus zonator (SZÉPLIGETI, 1896) (*Orgilus zonator* (SZÉPL.))

Material examined: Erzurum, Narman, Yanıktaş, (40°17'31"N, 41°52'26"E), 1602 m, 20.06.2012, 1♀, leg. E. Çoban.

Distribution: Palaearctic, Oriental.

Genus *Orgilus* HALIDAY, 1833

Orgilus (*Orgilus*) *abbreviator* (RATZEBURG, 1852)

Material examined: İğdir, Tigem, (39°47'10"N, 44°37'5"E), 844 m, 25.06.2012, 1?, leg. M. YURTCAN.

Distribution: Palaearctic.

H o s t s : Lepidoptera, Gelechiidae: *Recurvaria leucatella* ([DENIS & SCHIFFERMÜLLER, 1775]; *Recurvaria nanella* (DENIS & SCHIFFERMÜLLER, 1775)).

Orgilus (*Orgilus*) *dovnari* TOBIAS, 1986

Material examined: Erzurum, Olur, (40°48'46"N 42°9'37"E), 655 m, 12.09.2012, leg. 1♀, M. Yurtcan.

Distribution: Palaearctic.

Orgilus (*Orgilus*) *obscurator* (NEES, 1812) (syn. *laevigatus*)

Material examined: Erzurum, Şenkaya, İkizpinar, (40°35'31"N, 42°20'30"E), 1818 m, 21.06.2012, 1♂, leg. A. Beyarslan. Erzurum, Tortum, (40°17'57"N, 41°32'52"E), 1450 m, 12.09.2012, 1♂, leg. A. Beyarslan. Erzurum, Tortum Yolu, (40°18'32"N, 41°31'33"E), 1460 m, 12.9.2012, 2♂♂, leg. A. Beyarslan.

Distribution: Holarctic and Neotropic.

Orgilus (Orgilus) pimpinellae NIEZABITOWSKI, 1910

M a t e r i a l e x a m i n e d : Ardahan, Altaş, (41°9'22"N, 42°52'16"E), 1750 m, 14.09.2012, 1♂, leg. M. Yurtcan. Ardahan; Çamlıçatak, (41°07'18"N, 42°50'19"E), 1850 m, 15.09.2012, 1♂, leg. Ö. Şahsuvaroğlu. Ardahan, Çıldır, Eskibeyrehatun Köyü, (41°747"N, 42°54'32"E), 1950 m, 24.06.2013, 1♂, leg. M. Yurtcan. Ardahan, Hanak; Kent ormanı, (41°15'40"N, 42°51'10"E), 2012 m, 23.09.2012, 1♂, leg. A. Beyarslan; 1♂, S. Morkoç. Ardahan, Posof, (41°30'30"N, 42°44'03"E), 1445 m, 21.08.2013, 1♂, leg. A. Beyarslan. Erzurum, Aşkale, (39°55'17"N, 40°42'24"E), 1670 m, 18.08.2013, 1♂, leg. A. Beyarslan. Erzurum, Aşkale, Çayköy, (39°56'43"N, 40°48'21"E), 1715 m, 18.08.2013, 2♀♂, 1♂, leg. E. Çoban. Erzurum, Aziziye, Eskipolat, (40°04'08"N, 40°56'00"E), 1860 m, 16.08.2013, 1♀, leg. E. Çoban. Erzurum, Horasan, Orman İşletme Müd. (40°1'47"N, 42°2'48"E), 1560 m, 17.08.2013, 1♀, leg. E. Çoban; 2♂♂, leg. E. Çoban. Erzurum, İspir, Çamlıkaya, (40°37'49"N, 41°10'52"E), 950 m, 16.08.2013, 1♂, leg. M. Yurtcan. Erzurum, İspir, Çamlıkaya, Başyurt Ormanları, (40°41'41"N, 41°08'27"E), 2200 m, 16.08.2013, 1♀, 1♂, leg. E. Çoban; 1♀, 3♂♂, leg. M. Yurtcan. Erzurum, Oltu, Orçuk, (40°29'47"N, 41°49'4"E), 1560 m, 13.09.2012, 2♂♂, leg. E. Çoban; 1♂, leg. M. Yurtcan. Erzurum, Olur, (40°48'46"N, 42°59'37"E), 655 m, 12.09.2012, 1♀; leg. E. Çoban; leg. 1♀, Ö. Keleş. Erzurum, Pasinler, Övenler, (39°59'16"N, 41°34'38"E) 1740 m, 17.08.2013, 2♂♂, leg. A. Beyarslan. Erzurum, Şenkaya, İlkızpinar, (40°35'31"N, 42°20'30"E), 1818 m, 27.06.2013, 1♀, 1♂, leg. Ö. Şahsuvaroğlu. İğdir, Dilucu, Sinir Kapısı, (39°47'21"N, 44°36'56"E), 833 m, 27.06.2013, 1♀, leg. E. Çoban. İğdir, Tuzluca, Gaziler, (40°06'36"N, 43°25'31"E), 1035 m, 21.07.2012, 3♀♀, 1♂, leg.; 24.08.2013, 1♂; 21.09.2012, 1♂, leg. A. Beyarslan. İğdir, Tuzluca, Gaziler, (40°06'36"N, 43°25'31"E), 1035 m, 24.08.2013, 1♂, leg. A. Beyarslan. İğdir, Tuzluca, İncesu, (40°44'45"N, 43°7'30"E), 1760 m, 23.06.2013, 1♀, leg. Ö. Şahsuvaroğlu. Kars, Arpaçay, Çanaksu, (41°59'32"N, 43°18'04"E), 1990 m, 16.09.2012, 1♀, leg. E. Çoban. Kars, Boğatepe Köyü, (40°49'05"N, 42°52'02"E), 2227 m, 20.08.2013, 1♂, leg. A. Beyarslan; 1♂, leg. E. Çoban. Kars, Kağızman, Aydinkavak, (40°9'11"N, 43°19'14"E), 1115 m, 24.08.2013, 1♂, leg. E. Çoban. Kars, Kağızman, Paslı, (40°16'36"N, 42°57'22"E), 1785 m, 21.09.2012, 1♀, 1♂, leg. M. Yurtcan. Kars, Kağızman, Yalnızçağ, (40°13'49"N, 42°59'05"E), 1405 m, 23.08.2013, 3♀♀, 1♂, leg. A. Beyarslan. Kars, Sankamış, Bayraktepe, (40°17'29"N, 42°36'0"E), 2644 m, 24.06.2013, 1♂, leg. Ö. Şahsuvaroğlu. Kars, Sarıkamış, Tekçam, (40°23'10"N, 42°30'09"E), 2460 m, 25.06.2013, 1♂, leg. Ö. Şahsuvaroğlu. Kars, Selim, Karahamza, (40°25'36"N, 42°44'47"E), 1890 m, 19.08.2013, 1♂, leg. Ö. Şahsuvaroğlu.

D i s t r i b u t i o n : Palaearctic.

H o s t s : Lepidoptera, Acrolepiidae: *Digitivalva arnicella* (HEYDEN, 1863). Coleophoridae: *Coleophora spiraeella* REBEL, 1916. Elaschitidae: *Agonopterix bipunctosa* (CURTIS, 1850); *Depressaria pimpinellae* ZELLER, 1839. Gelechiidae: *Anacampsis populella* (CLERCK, 1759); *A. temerella* (LIENIG & ZELLER, 1846); *Argolamprotes micella* (DENIS & SCHIFFERMÜLLER, 1775). *Athrips pruinossella* (LIENIG & ZELLER, 1846); *Caryocolum tricolorella* (HAWORTH, 1812); *Coleophora discordella* ZELLER, 1849; *Dichomeris juniperella* (LINNAEUS, 1761); *Phthorimaea operculella* (ZELLER, 1873); *Scrobipalpa ocellatella* (BOYD, 1858). Tineidae: *Tinea nanella* DENIS & SCHIFFERMÜLLER, 1775. Momphidae: *Mompha miscella* ([DENIS & SCHIFFERMÜLLER], 1775).

Orgilus (Orgilus) ponticus TOBIAS, 1986

M a t e r i a l e x a m i n e d : Erzurum, Uzundere, Azort yaylası, (39°54'5"N, 41°15'35"E), 1871m, 18.06.2012, 1♂, leg. Ö. Şahsuvaroğlu.

D i s t r i b u t i o n : Palaearctic.

***Orgilus (Orgilus) radialis* JAKIMAVICIUS, 1972**

M a t e r i a l e x a m i n e d : Erzurum, Aşkale, Çayköy, (39°56'43"N, 40°48'21"E), 1715 m, 15.08.2013, 1♀, leg. E. Çoban. Erzurum, İspir, Ardiçli, (40°33'4"N, 41°13'55"E), 1809 m, 19.06.2012, 1♂, leg. A. Beyarslan. Erzurum, Oltu, İnanmış, (40°27'46"N, 41°42'27"E), 1820 m, 13.09.2012, 1♂, leg. Ö. Şahsuvaroğlu. Erzurum, Tortum, (40°17'57"N, 41°32'52"E), 1450 m, 12.09.2012, 1♂, leg. Ö. Keleş. İğdir, Tuzluca, Gaziler, (40°06'36"N, 43°25'31"E), 1035 m, 21.09.2012, 1♀, leg. Ö. Şahsuvaroğlu. Kars, Kağızman, Morpet, (40°15'16"N, 42°58'36"E), 1486 m, 20.09.2012, 1♂, leg. Ö. Keleş.

D i s t r i b u t i o n : Palaearctic.

This species is new to Turkey.

***Orgilus (Orgilus) similis* SZÉPLIGETI, 1896**

M a t e r i a l e x a m i n e d : Erzurum, Olur, (40°48'46"N 42°9'37"E), 655 m, 12.09.2012, 1♂, leg. M. Yurtcan.

D i s t r i b u t i o n : Palaearctic.

H o s t : Lepidoptera, Psychidae: *Bijugis bombycella* DENIS & SCHIFFERMÜLLER, 1775.

Discussion

The zoogeographical distributions of species are as follows: *Macrocentrus blandus*, *M. buolianae*, *M. equalis*, *M. infirmus*, *Orgilus (Orgilus) abbreviator*, *O. (O.) dovnari*, *O. (O.) pimpinellae*, *O. (O.) ponticus*, *O. (O.) radialis*, *O. (O.) similis* from Palaearctic; *Macrocentrus bicolor*, *M. resinellae*, *Kerorgilus zonator*, from Palaearctic and Oriental; *Macrocentrus collaris* from Palaearctic, Ethiopia, Neotropical, Oceanic and Oriental; *O. (O.) obscurator* from Holarctic and Neotropical region. The species of Macrocentrinae and Orgilinae are parasitoids of economically important agricultural pests. The most common species in the research region is *O. (O.) pimpinellae* which was recorded from 28 localities. However it uses as hosts 15 species of Lepidoptera. *Macrocentrus collaris* (SPINOLA) is parasitoids of economically important agricultural pests. It uses 25 species of Coleopetera (2 species), Lepidoptera (22 species). They can be considered as a potential biological control agents to Turkey. A total of seven species belonging Macrocentrus, seven species belonging *Orgilus* and one species belonging *Kerorgilus* are reported for the studied region. With this material, the number of Macrocentrinae species in Turkey has increased from 13 to 15 (1, 4, 5, 6, 13) and Orgilinae species in Turkey has increased from 21 to 22 species (1, 7, 8) and Orgilinae species in Turkey has increased from 21 to 22 species (BEYARSLAN 1996, 2011; BEYARSLAN et al. 2006, 2013; BEYARSLAN & AYDOĞDU 2012; BEYARSLAN & ÇETİN ERDOĞAN 2011; GÜCLÜ & ÖZBEK 2015; TAEGER 1989; TOBIAS 1986; van ACHTERBERG 1987, 1993, 2001; YU et al. 2012).

Zusammenfassung

Zum Zwecke faunistischer Erhebungen türkischer Braconidae, wurden adulte Exemplare von Macrocentrinae und Orgilinae aus verschiedenen Lebensräumen der Provinzen Ardahan, Erzurum, Kars und İğdir im nordöstlichen Anatolien mittels Malaise- und Lichtfallen sowie Netzfang zwischen 2012 und 2014 gesammelt. Es gelang der Nachweis von insgesamt 14 Arten aus 3 Gattun-

gen, unter denen *Macrocentrus bicolor* CURTIS, 1833 *M. resinellae* (LINNAEUS, 1758) und *Orgilus (Orgilus) radialis* JAKIMAVICIUS, 1972 Erstfunde für die Türkei darstellen.

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