

On the fauna of ground beetles (Coleoptera, Carabidae) of Iran, with additional notes on the variability and identity of *Omophron* (s.str.) *rotundatum* Chaudoir, 1852

Saeed Azadbakhsh

Azadbakhsh S. 2016. On the fauna of ground beetles (Coleoptera, Carabidae) of Iran, with additional notes on the variability and identity of *Omophron* (s.str.) *rotundatum* Chaudoir, 1852. *Baltic J. Coleopterol.* 16 (1): 45-57.

The paper presents faunistic results for 50 species of ground beetles (Coleoptera: Carabidae) from different provinces of Iran. *Poecilus* (s.str.) *festivus* (Chaudoir, 1868) and *Bembidion* (*Ocydromus*) *hiekei* Muller-Motzfeld, 1986 are reported from Iran for the first time. The variability of *Omophron* (s.str.) *rotundatum* Chaudoir, 1852 in a population from South Iran is discussed.

Key words. Carabidae, Iran, *Omophron*, faunistics, new records.

Department of Plant Protection of Razi University, Kermanshah. Iran; e-mail: Azadbakhsh@live.com

INTRODUCTION

Iran is the 16th largest country in the world and subdivided into 31 provinces, which represent a broad range of climates. In Iran, 955 species of Carabidae are known based on the checklist of Iranian ground beetles as arranged by Azadbakhsh & Nozari (2015). Although there have been many studies on ground beetles of Iran over many years until now, Iran is a huge country with an expected rich fauna of ground beetles not entirely studied to date. Most studies on ground beetles in Iran have focused on the central or northern parts of the country while the number of studies in the South and West is limited.

The exploration of different parts of Iran, mainly in the West and the South, for the purpose of

elucidating the fauna of ground beetles and enhancing our knowledge about the distribution of ground beetles in these parts have allowed for the discovery of some interesting species that can be assumed as new records for these provinces or for Iran. Explorations done in the South of Iran (Hormozgan province) have resulted in the discovery of a new population of *O. rotundatum*, which can be different in the shape of patterns on the elytra and pronotum as mentioned by Valainis (2010). The genus *Omophron*, based on the checklist of Iranian ground beetles (Azadbakhsh & Nozari 2015), comprises two species, *O. limbatum* Fabricius, 1777 and *O. rotundatum* Chaudoir, 1852, which are reported from the northern and central parts of the country.

MATERIAL AND METHODS

The material was collected from different parts of Iran, mainly from the provinces Bushehr, Sistan va Baluchestan, Yasuj (Fig. 1), Kermanshah, and Mazandaran, between spring 2012 and summer 2015. Specimens of the genus *Omophron* were collected from the Hormozgan province (Southern Iran). All material was collected by hand from the ground, under rocks or trunks, on banks of rivers, etc. The samples are preserved in ethyl acetate vapour or in 96% alcohol. All material is deposited in the author's personal collection. The list of collected species follows the nomenclature of Lorenz (2005); distribution notes follow Löbl & Smetana (2003) and Azadbakhsh & Nozari (2015).

RESULTS

In this study, 50 species belonging to 31 genera are listed from Iran. The species *Poecilus* (*Poecilus*) *festivus* (Chaudoir, 1868) and *Bembidion* (*Ocydromus*) *hiekei* Muller-Motzfeld, 1986 are new records for Iran. The species *Omophron* (*Omophron*) *rotundatum* Chaudoir, 1852 was collected from the South of Iran for the first time and is therefore a new record for this region. Several species were again reported for Iran after a long time.

Subfamily Brachininae Bonelli, 1810

Pheropsophus (*Stenaptinus*) *catoirei* (Dejean, 1825) (Fig. 2)

Material examined. 4 specimens: Sistan va Baluchestan, Zarabeh-deh village, 15.IV.2015 (25°39'52"N 59°19'45"E), S. Azadbakhsh leg. & det.

Distribution. The species is known from Afghanistan, Bhutan, India, Nepal, and Pakistan. In Iran, it was previously reported from South Khorasan and from Fars, Zagros mts. (2 km W of Kholllar, 2200 m, at light, 29°59'N 52°12'E, 22./23.IV.2000, J. Hájek & M. Mikát leg (Coll. Wrase).

Bionomics. Specimens were collected by hand under bushes near the Oman coast. The habitat was very humid and hot.

Brachinus (*Cnecostolus*) *bayardi* Dejean, 1831 (Fig. 3)

Material examined. 1 specimen: Kermanshah province, Kermanshah city, 13.IV.2015 (34°19'29"N 47°06'12"E - 1351m) S. Azadbakhsh leg. & det.

Distribution. This species is widely distributed in Asia and known from Afghanistan, Armenia, Georgia, Greece, Iran, Israel, Italy, Kyrgyzstan, Kazakhstan, Russia, Syria, Tadjikistan, Turkmenistan, Turkey, and Uzbekistan. It was previously reported from the Mazandaran province and from Kuh-räng and Pirbakran (Esfahan province).

Bionomics. It was collected under stones on a river bank.

Subfamily Omophroninae Bonelli, 1810

Omophron (*Omophron*) *rotundatum* Chaudoir, 1852 (Fig. 4-9)

Material examined. 10 specimens: Hormozgan province, Shamil city, 10.III.2015 (27°32'51"N 56°52'46"E); 5 specimens: Hormozgan province, Haji Abbad city, 22.III.2012 (28°17'44"N 55°53'27"E); 3 specimens: Hormozgan province, Ahmadi city, Poor village, 20.II.2015 (27°59'44"N 56°49'55"E), S. Azadbakhsh leg. & det.

Distribution. This species is distributed in Afghanistan, China (Xinjiang), Iran, India (Himachal Pradesh), Iraq, Israel, Kazakhstan, Pakistan, Syria, Tadjikistan, Turkey, and Uzbekistan. In Iran, this species was cited from Esfahan and Qazvin provinces (Azadbakhsh & Nozari, 2015).

Bionomics. This species was collected near water on mud and under stones.

Geographical variability and recognition. This species was previously known from central parts of Iran and the specimens provided here are the first record for the South of Iran. The northern population represents the typical form of this species as it was illustrated and mentioned by Valainis (2010): Body length 6.00–6.50 mm and with a patch on the pronotum not reaching the margin of the base. Basal spots of elytra are small and narrow, reaching only to stria 8-9, sometimes completely reduced as in Fig. 8. Sometimes, the elytral pattern is interrupted in the middle (Fig. 4). The specimens from South Iran have different patterns on the pronotum and elytra: The patch



Figure 1. Yasuj province, oak forest (30°29' 18"N 51°28' 45"E), 12.IV.2015. Photo: S. Azadbakhsh.



Figure 3: Habitus of *Brachinus (Cnecostolus) bayardi* Dejean, 1831, dorsal view.



Figure 2. Habitus of *Pheropsophus (Stenaptinus) catoirei* (Dejean, 1825), dorsal view.

on the pronotum of some specimens reaches the margin of the pronotal base, or the elytral pattern is not interrupted in the middle, as in *O. limbatum* Fabricius, 1777. However, the aedeagus shows that this population should be referred to as *O. rotundatum* Chaudoir, 1852 (Fig. 10-13).

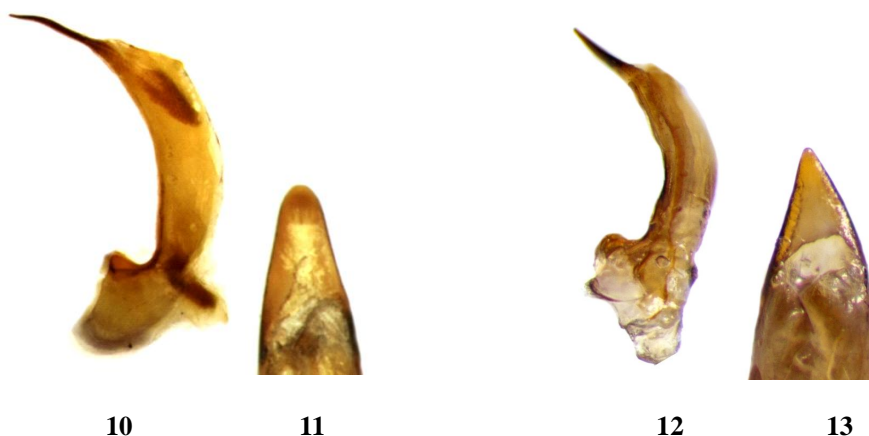
A key for identification of both Iranian species is given below. *O. limbatum* Fabricius, 1777 of the typical form and pattern is known from the northern part of the Elburz mts., *O. rotundatum* Chaudoir, 1852 with typical form is distributed in the southern parts of the Elburz mts.

– Median lobe of aedeagus longer and downward pointing, apical part of aedeagus longer and wider as in Fig. 10.....
 *O. rotundatum* Chaudoir, 1852



Figures 4-9. Habitus of *Omophron*, dorsal view: *O. rotundatum* Chaudoir, 1852, typical form. and southern population.

– Median lobe of aedeagus smaller and straight, apical part of aedeagus shorter, narrow as in Fig. 12 *O. limbatum* Fabricius, 1777



Figures 10-11. Aedeagus of *Omophron rotundatum* Chaudoir, 1852: 10 – lateral view; 11 – apical part of aedeagus, dorsal view.

Figures 12-13. Aedeagus of *O. limbatum* Fabricius, 1777: 12 – lateral view, 13 – apical part of aedeagus, dorsal view.

Subfamily Cicindelinae Latreille, 1802

***Cylindera (Eugrapha) pygmaea laetula* (Tschitscherine, 1903) (Fig. 14)**

Material examined. 4 specimens: Sistan va Baluchestan, Zarabeh-deh village, 15.IV.2015 (25°39'52"N 59°19'45"E), S. Azadbakhsh leg. & J. Gebert det.

Distribution. This subspecies was described from Bampur (Sistan va Baluchestan province) by Tschitscherine (1903) and recorded from Iranshahr (Sistan va Baluchestan province, 800 m) by Mandl (1959).



Figure 14. Habitus of *Cylindera (Eugrapha) pygmaea laetula* (Tschitscherine, 1903), dorsal view.



Figure 15. Habitus (dorsal view) of *Myriochila (Myriochila) melancholica melancholica* (Fabricius, 1798).



Figure 16. Habitus (dorsal view) of *Lophyra (Lophyra) histrio* Tschitscherine, 1903.

Bionomics. It was collected near the water using a net. The habitat was very hot and humid.

***Myriochila (Myriochila) melancholica* (Fabricius, 1798) (Fig. 15)**

Material examined. 3 specimens: Sistan va Baluchestan, Zarabeh-deh village, 15.IV.2015 (25°39'52"N 59°19'45"E); 1 specimen: Kermanshah, Sarab Niloofar Lake, 13.IV.2015 (34.404993 N, 46.857494 E), S. Azadbakhsh leg. & J. Gebert det.

Distribution. This species is widely distributed in the Palaearctic region, mostly in Europe and the West of Asia. It has been previously reported from different parts of Iran.

Bionomics. It was collected in both sites near the water using a net.

***Lophyra (Lophyra) histrio* (Tschitscherine, 1903) (Fig. 16)**

Material examined. 4 specimens: Sistan va Baluchestan, Nikshahr city (Fig. 17), 15.IV.2015 (26°13'07"N 60°12'57"E), S. Azadbakhsh leg. & det.

Distribution. The species is distributed in the United Arab Emirates, Afghanistan, Iran, India (Rajasthan), Oman, Pakistan, and Saudi Arabia. In Iran, this species was previously reported from Iranshar and the Sistan va Baluchestan province by Mandl (1959) as well as the Dalaki, Bushesehr province, Deh-now and Senderek (Hormozgan province), and 20 km north of Ahwaz and Rahmanie (Khuzestan province) by Naviaux (1983).

Bionomics. It was collected on a river side near fresh water. The habitat was very hot and humid.

***Cephalota (Taenidia) zarudniana zarudniana* (Tschitscherine, 1903)**

Material examined. 2 specimens: Iran, Bushehr, Borazjan environs, (Fig. 18), 13.IV.2015 (29°28'8"N 51°16'34"E), S. Azadbakhsh leg. & J. Gebert det.

Distribution. This species is distributed in Iran, Iraq, Israel, Saudi Arabia, Syria, and Yemen. In Iran, this species was recorded from the South. It was described from Neybandan (Fars province) and Kushah (Hormozgan province) by Tschitscherine (1903) and recorded from Zabol (Sistan va Baluchestan province) by Rivalier (1967) as well as from Niibandand (South Khorasan province) and Bandar Abbas (Hormozgan province) by Mandl (1976).

Bionomics. It was collected on a river side near salty/sulphurous water.

***Cicindela (Cicindela) talychensis talychensis* Chaudoir, 1846 (Fig. 19)**

Material examined. 4 specimens: Mazandaran, Khirood forest, 24.VI.2012 (36°59'06"N 51°56'68"E), S. Azadbakhsh leg. & J. Gebert det.

Distribution. This species is known from Azerbaijan and Iran. In Iran, this species is distributed from the provinces East Azarbaijan to Golestan and was recorded from Ramsar and Chalus (Mazandaran province) and Bojnourd (North Khorasan province) by Rivalier (1967).

Bionomics. It was collected by hand in a forest among bushes.

Subfamily Carabinae Latreille, 1802

***Carabus (Mimocarabus) maurus osculatii* Osculati, 1844**

Material examined. 1 specimen: Fars, Fasa environs, 14.IV.2015 (29°22'37"N, 52°48'32"E), S. Azadbakhsh leg. & det.

Distribution. This subspecies is known from Iran and was recorded from the Shiraz environment by Osculati (1844) and Mandl (1967).

Bionomics. It was collected by hand in a garden among bushes.

Subfamily Nebrinae Laporte, 1834

***Nebria (Nebria) hemprichi* Klug, 1832**

Material examined. 14 specimens: Yasuj, 10 km S of Yasuj, 12.IV.2015 (30°29'18"N 51°28'45"E – 1955 m), S. Azadbakhsh leg. & det.

Distribution. This species is known from Iran, Israel, Syria, and Turkey. In Iran, this species is distributed in the West of the country (Azadbakhsh & Nozari 2015).

Bionomics. It was collected by hand under bark in a forest.

Subfamily Scaritinae Bonelli, 1810

***Scarites (Parallelomorphus) subcylindricus* Chaudoir, 1843**

Material examined. 2 specimens: Bushehr, Borazjan environs, 13.IV.2015 (29°28'8"N 51°16'34"E), S. Azadbakhsh leg. & det.

Distribution. This species is known from Afghanistan, Algeria, Cyprus, Egypt (Sinai), Greece, Iran, India (Uttar Pradesh), Ireland, Israel, Kazakhstan, Libya, Pakistan, Saudi Arabia, Spain, Turkmenistan, Turkey, and Yemen. It was re-

corded from Sabzawaran (Kerman province) by Mandl (1963).

Bionomics. It was collected by hand near the bankside of a sulphurous river under stones and mud.

Subfamily Melaeninae Alluaud, 1934

***Cymbionotum semelederi* (Chaudoir, 1861)**

Material examined. 1 specimen: Sistan va Baluchestan, Zarabeh-deh village, 15.IV.2015 (25°39'52"N 59°19'45"E), S. Azadbakhsh leg. & det.

Distribution. This species is distributed mostly in the Middle East and some African countries. It was recorded from Geshm island (Hormozgan province) by Azadbakhsh et al. (2015).

Bionomics. It was collected by hand under mud near a marsh; the habitat was very humid with sparse tamarisk trees, completely dry in summer.

Subfamily Broscinae Hope, 1838

***Broscus cephalotes* (Linnaeus, 1758)**

Material examined. 1 specimen: Kermanshah province. University of Agriculture, 13.IV.2015 (34°19'29"N 47°06'12"E - 1351m), S. Azadbakhsh leg. & det.

Distribution. This species is distributed in Europe and Western Asia. In Iran, it is known from the Aq Qaleh village (Ardabil province).

Bionomics. It was collected by hand among bushes on a farm.

Subfamily Trechinae Bonelli, 1810

***Bembidion (Nepha) kermanum* (Bonavita & Rébl, 2013)**

Material examined. 3 specimens: Kerman province, Laleh-zar environs, 4.VI.2014 (29°31'22"N 56°48'18"E), S. Azadbakhsh leg. & L. Toledano det.

Distribution. This species was recently described from Iran (Maimand, 160 km W of Kerman, Kerman province).

Bionomics. It was collected by hand on the bank of a river.

***Bembidion (Notaphocampa) niloticum hamatum* Kolenati, 1845**

Material examined. 1 specimens: Busher, Borazjan to Dalki, 13.IV.2015 (29°20'33"N

51°15'18"E – 68 m), S. Azadbakhsh leg. & L. Toledano det.

Distribution. This species is distributed from the East to the West of Asia. No comprehensive information exists about the distribution of this species in Iran.

Bionomics. It was collected on a bank of river.

***Bembidion (Ocydromus) hiekei* Muller-Motzfeld, 1986**

Material examined. 8 specimens: Kerman province, Koh-payeh, 2.VI.2014 (30°31'18"N 57°09'44"E), S. Azadbakhsh leg. & L. Toledano det.

Distribution. This species was described from Turkmenistan. **It is a new species for Iran.**

Bionomics. It was collected on the bank of a river.

***Bembidion (Ocydromus) atlanticum megaspilum* (Walker, 1871)**

Material examined. 1 specimen: Busher, Dalki river, 13.IV.2015 (29°28'08"N 51°16'34"E – 102 m), S. Azadbakhsh leg. & L. Toledano det.; 6 specimens: Busher province, Gachsaran to Dilam, 12.IV.2015 (30°16'56"N 50°35'27"E – 416 m), S. Azadbakhsh leg. & L. Toledano det.; 1 specimen: East Azarbaijan province, Talkhe river, 17.VI.2014 (38°07'45"N 46°16'3"E), S. Azadbakhsh leg. & L. Toledano det.

Distribution. This species is distributed in the Middle East and the West of Asia. In Iran, it was recorded from Kerman (Kerman province) by Mandl (1963) as well as from Damavand (Tehran province) and Chadegan (Chahar Mahal va Bakhtiari province) by Azadbakhsh & Nozari (2015).

Bionomics. It was collected on the bank of a river.

***Bembidion (Peryphus) abbreviatum pulpani* Fassati, 1955**

Material examined. 4 specimens: Kerman province, Mahan, 31.V.2014 (29°58'56"N 57°20'56"E), S. Azadbakhsh leg. & L. Toledano det.

Distribution. This species is known from Afghanistan, Iran, Kyrgyzstan, Tadzhikistan, Turkey, and Uzbekistan. In Iran, it was recorded from



Figure 17. Sistan va Baluchestan province, Nikshahr environs (26°13'07"N 60°12'57"E), 15.IV.2015. Photo: S. Azadbakhsh.



Figure 18. Bushehr province, Borazjan environs, (29°28'8"N 51°16'34"E), 13.IV.2015. Photo: S. Azadbakhsh



Figure 19. Habitus of *Cicindela (Cicindela) talychensis* Chaudoir, 1846, dorsal view.



Figure 20. Habitus of *Chlaenius (Chlaenius) festivus festivus* Panzer, 1796, dorsal view.



Figure 21. Habitus of *Stenolophus (Stenolophus) steveni* Krynicky, 1832, dorsal view.



Figure 22. Mazandaran province, Nowshahr city, Khirood forest (36°55'58.10"N, 51°49'28.02"E), deciduous forest, small stream, 23.V.2012. Photo: S. Azadbakhsh.



Figure 23. Habitus of *Anchomenus (Anchomenus) dorsalis* (Pontoppidan, 1763), dorsal view.

the provinces Qom and Chahar Mahal va Bakhtiari by Azadbakhsh & Nozari (2015).

Bionomics. It was collected on the bank of a river.

***Bembidion (Euperyphus) fluviatile basale* (Motschulsky, 1844)**

Material examined. 6 specimens: Kerman province, Sirch, 30.V.2014 (30°10'56"N 57°24'49"E), S. Azadbakhsh leg. & L. Toledano det.

Distribution. This species is known from Georgia and Iran. In Iran, it was recorded from Pirbakran (Esfahan province) by Mandl (1963).

Bionomics. It was collected on the bank of a river.

***Bembidion (Testediolum) kokandicum* Solsky, 1874**

Material examined. 13 specimens: Kerman province, Koh-payeh, 2.VI.2014 (30°31'18"N 57°09'44"E), S. Azadbakhsh leg. & L. Toledano det.

Distribution. This species is known from Afghanistan, Kyrgyzstan, Kazakhstan, Russia, Tadjikistan, and Uzbekistan. In Iran, it was recorded from Damavand mt., Laleh-zar (Kerman province) as well as the Elburz mts., Kuh-e Kahar and Gatch-sar (Elburz province).

Bionomics. It was collected by hand on the bank of a river.

***Bembidion (Emphanes) quadriplagiatum* Motschulsky, 1844**

Material examined. 5 specimens: East Azarbaijan province, Talkhe river, 17.VI.2014 (38°07'45"N 46°16'3"E), S. Azadbakhsh leg. & L. Toledano det.

Distribution. This species is known from Afghanistan, Georgia, Iran, Kyrgyzstan, Kazakhstan, South Russia, Turkmenistan and Uzbekistan. In Iran, it was previously reported from Shadegan (Khuzestan province) by Fassati (1961).

Bionomics. It was collected by hand on the bank of a river.

***Bembidion (Diplocampa) loeffleri* Jedlička, 1963**

Material examined. 6 specimens: Kerman province, Koh-payeh, 2.VI.2014 (30°31'18"N 57°09'44"E), S. Azadbakhsh leg. & L. Toledano det.

Distribution. This species is known from Iran (Laleh-zar, Kerman province).

Bionomics. It was collected by hand on the bank of a river.

***Bembidion (Testedium) bipunctatum alii* Marggi & C. Huber, 1999**

Material examined. 6 specimens: Kerman province, Laleh-zar environs, 4.VI.2014 (29°31'22"N 56°48'18"E), S. Azadbakhsh leg. & L. Toledano det.

Distribution. This subspecies is distributed in Iran (Zagros mt., Sisakht, Yasuj province; Azadbaksh & Nozari 2015).

Bionomics. It was collected by hand on the bank of a river.

***Elaphropus (Tachyura) euphraticus* (Reitter, 1885)**

Material examined. 1 specimen: Bushehr province, Dalki river, 13.IV.2015 (29°28'8"N 51°16'34"E), S. Azadbakhsh leg. & det.

Distribution. This species is known from Azerbaijan, Georgia, Iran, Iraq, Israel, Kyrgyzstan, Kazakhstan, Pakistan, Syria, Tadjikistan, Turkmenistan, Turkey, and Uzbekistan. In Iran, it was recorded from the provinces Sistan va Baluchestan, Kerman, Razavi Khorasan, Hormozgan, Kermanshah, Fars, Yazd, North Khorasan, Semnan, Golestan, West Azarbaijan, Fars, and Qom (Azadbakhsh & Nozari 2015).

Bionomics. It was collected by hand on the bank of a river.

***Elaphropus (Tachyura) diabrachys* (Kolenati, 1845)**

Material examined. 1 specimen: East Azarbaijan province, Talkhe river, 17.VI.2014 (38°07'45"N 46°16'3"E), S. Azadbakhsh leg.

Distribution. This species is widely distributed in the Palaearctic region and was recorded from different parts of Iran.

Bionomics. It was collected by hand on the bank of a river.

Subfamily Pterostichinae Bonelli, 1810

***Abacetus guttula* Chaudoir, 1869**

Material examined. 4 specimens: Sistan va Baluchestan, Zarabeh-deh village, 15.IV.2015 (25°39'52"N 59°19'45"E); 1 specimen: Bushehr province, Dalki river, 13.IV.2015 (29°28'8"N 51°16'34"E), S. Azadbakhsh leg. & det.

Distribution. This species is known from Afghanistan, Myanmar (Burma), Iran, India (Uttarakhand), and Sri Lanka. No comprehensive information exists about the distribution of this species in Iran.

Bionomics. It was collected by hand under stones or bushes in a garden in Zarabeh-deh (Sistan va Baluchestan province) as well as on the bank of a river in the Bushehr province.

***Pterostichus (Pseudomaseus) nigrita* (Paykull, 1790)**

Material examined. 2 specimens: Yasuj, 10 km S of Yasuj, 12.IV.2015 (30°29'18"N 51°28'45"E – 1955 m), S. Azadbakhsh leg. & det.

Distribution. This species is widely distributed in the Palaearctic region. In Iran, it was recorded from Kurusch-göl (East Azarbaijan province) by Mandl (1963).

Bionomics. It was collected by hand under bark in a forest.

Note. In the checklist of Iranian ground beetles by Azadbakhsh & Nozari (2015) we incorrectly mentioned this species as *Pterostichus (Melanius) nigrita* (Fabricius, 1792).

***Poecilus (Poecilus) festivus* (Chaudoir, 1868)**

Material examined. 1 specimen: Yasuj, 5 km S of Yasuj, 12.IV.2015 (30°31'30"N 51°31'01"E – 2087 m), S. Azadbakhsh leg. & det.

Distribution. This species was recorded from Azerbaijan, Armenia, and Turkey. It is a new record for Iran.

Bionomics. It was collected by hand under stones near the bankside of a river.

***Zabrus (Zabrus) tenebrioides* Goeze, 1777**

Material examined. 1 specimen: Kermanshah, University of Agriculture, 20.VI.2015 (34°19'29"N 47°06'12"E – 1351 m), S. Azadbakhsh leg. & det.

Distribution. This species is widely distributed in the Palaearctic region. It is known from different parts of Iran.

Bionomics. It was collected by hand under stones on a farm.

***Amara (Amara) aenea* (DeGeer, 1774)**

Material examined. 2 specimens: Kermanshah province, Bisotoon city, 13.IV.2015 (34°19'29"N 47°06'12"E) S. Azadbakhsh leg. & det.

Distribution. This species is widely distributed in the Palaearctic region. It was recorded from different parts of Iran by Azadbakhsh & Nozari (2015).

Bionomics. It was collected under stones on the bank of a river.

Subfamily Licininae Bonelli, 1810

***Chlaenius (Stenochlaenius) dostojevskji* Tschitscherine, 1895**

Material examined. 10 specimens: Bushehr province. Gachsaran to Dilam. 12.IV.2015 (30°16'56"N 50°35'27"E), S. Azadbakhsh leg. & det.

Distribution. This species is known from Afghanistan, Iran, Kashmir, Kazakhstan, Tadjikistan, and Uzbekistan. It is distributed in the South of Iran: Mandl (1972) cited the species from Bandar Abbas (Hormozgan province).

Bionomics. It was collected by hand under stones by a freshwater river.

***Chlaenius (Chlaenius) festivus festivus* Panzer, 1796 (Fig. 20)**

Material examined. 8 specimens: Iran, Yasuj, 5 km S of Yasuj, 12.IV.2015 (30°31'30"N 51°31'01"E – 2087 m), S. Azadbakhsh leg. & det.

Distribution. This species is known from the Western Mediterranean part of the Palaearctic to Central Asia. In Iran, this species is already known from Sabzawaran and Qualeh-e Asghard (Kerman province), Pirbakran (Esfahan province), Zanjan (Zanjan province), and Basmenj (East Azarbaijan province).

Bionomics. It was collected by hand under stones near the bank of a river.

***Chlaenius (Chlaeniellus) vestitus* (Paykull, 1790)**

Material examined. 10 specimens: Iran, Kermanshah province, Kermanshah city, 13.IV.2015 (34°19'29"N 47°06'12"E - 1351m) S. Azadbakhsh leg. & det.

Distribution. This species is widely distributed in the Palaearctic region and Iran.

Bionomics. It was collected under a stone on the bank of a river.

Subfamily Harpalinae Bonelli, 1810

Acinopus (Acinopus) laevigatus Menetries, 1832

Material examined. 4 specimens: Yasuj, 10 km S of Yasuj, 12.IV.2015 (30°29'18"N 51°28'45"E - 1955 m), S. Azadbakhsh leg. & det.

Distribution. This species is distributed in Western Asia. It was recorded from and is well-known in most parts of Iran.

Bionomics. It was collected by hand under bark in a forest.

Stenolophus (Stenolophus) proximus Dejean, 1829

Material examined. 2 specimens: Kermanshah, Sarab Nilofar lake, 13.IV.2015 (34.404993 N, 46.857494 E), S. Azadbakhsh leg. & det.

Distribution. This species is widely distributed in the Palaearctic region.

Bionomics. It was collected by hand near water.

Stenolophus (Stenolophus) steveni Krynicki, 1832 (Fig. 21)

Material examined. 1 specimen: Kermanshah province, Bisotoon city, 13.IV.2015 (34°19'29"N 47°06'12"E - 1351m) S. Azadbakhsh leg. & det.

Distribution. This species is distributed in Western Asia. In Iran, it was recorded from Mazandaran (East Azarbaijan and Gilan provinces; Azadbakhsh & Nozari 2015).

Bionomics. It was collected under stones on a river bank.

Stenolophus (Stenolophus) abdominalis persicus Mannerheim In Chaudoir, 1844

Material examined. 10 specimens: Kermanshah province, Kermanshah city, 13.IV.2015 (34°19'29"N 47°06'12"E - 1351m) S. Azadbakhsh leg. & det.

Distribution. This subspecies is widely distributed in Iran and known from Anbar-abad (Kerman province), the Gorgan environs (Golestan province), and Miankouh (Gilan province).

Bionomics. It was collected under stones on a river bank.

Parophonus (Ophonomimus) hirsutulus (Dejean, 1829)

Material examined. 1 specimen: Mazandaran province, Nowshahr city, Khirood forest (Fig. 22), 24.IV.2012, S. Azadbakhsh leg. & det.

Distribution. This species is known from Bulgaria, Greece, Italy, Kazakhstan, Malta, Morocco, Portugal, Romania, Spain, Turkey, and Iran. In Iran, it is known from the Gilan province (Azadbakhsh & Nozari 2015).

Bionomics. It was collected among leaf litter in a forest.

Acupalpus (Acupalpus) maculatus (Schaum, 1860)

Material examined. 1 specimen: Kermanshah province, Bisotoon city, 13.IV.2015 (34°19'29"N 47°06'12"E - 1351m) S. Azadbakhsh leg. & det.

Distribution. This species is widely distributed in the Palaearctic region. It is known from different parts of Iran (Azadbakhsh & Nozari 2015).

Bionomics. It was collected under stones on a river bank.

Subfamily Platyninae Bonelli, 1810

Platyderus (Platyderus) chodjii Morvan, 1974

Material examined. 1 specimen: Mazandaran province, Nowshahr city, Khirood forest 24.IV.2012, S. Azadbakhsh leg. & det.

Distribution. In Iran, this species was described from Takhte-soliman and Rodbarak (Mazandaran province; Morvan 1974).

Bionomics. The adult specimen was collected under stones in a forest.

Laemostenus (Laemostenus) caspius (Meneuries, 1832)

Material examined. 2 specimens: Mazandaran province, Nowshahr city, Khirood forest, 24.IV.2012, S. Azadbakhsh leg. & det.

Distribution. This species is known from Azerbaijan, Iran, and Russia (West Caucasus). It is known from Northern Iran and was recorded from the provinces Mazandaran, Gilan, Ardabil, and Gorgan by Azadbakhsh & Nozari (2015).

Bionomics. The adult specimens were collected under stones in a forest.

***Laemostenus (Laemostenus) luristanus* Casale, 1988**

Material examined. 1 specimen: Yasuj province, Yasuj to Gajasaran, 12.IV.2015 (30°29'18"N 51°28'45"E – 1955 m), S. Azadbakhsh leg. & det.

Distribution. In Iran, this species was described from the Lurstan province by Casale (1988). It is a new record for the Yasuj province.

Bionomics. It was collected under stones in the mountains.

***Anchomenus (Anchomenus) dorsalis* (Pontoppidan, 1763) (Fig. 23)**

Material examined. 10 specimens: Kermanshah province, Kermanshah city, 13.IV.2015 (34°19'29"N 47°06'12"E - 1351m), S. Azadbakhsh leg. & det.

Distribution. This species is widely distributed in the Palaearctic region. In Iran, it is known from Anbar-abad (Kerman province), Kurusch-göl (East Azarbaijan province), Nir (Semnan province), and the Khirood forest (Mazandaran province).

Bionomics. It was collected under stones on a river bank.

***Olisthopus elburzensis* (Morvan, 1977)**

Material examined. 4 specimens: Kermanshah province, Bisotoon city, 13.IV.2015 (34°19'29"N 47°06'12"E - 1351m), S. Azadbakhsh leg. & det.

Distribution. In Iran, this species was described from Gasre Shirin (Kermanshah province) by Morvan (1977).

Bionomics. It was collected under stones on a river bank.

***Calathus (Neocalathus) hyrcanus* Hainz, 1970**

Material examined. 8 specimens: Mazandaran, Khirood forest, 24.VI.2012 (36°59'06''N 51°56'68''E), S. Azadbakhsh leg. & R. Felix det.

Distribution. In Iran, this species was described from the Mazandaran province by Hainz (1970).

Bionomics. It was collected by hand among leaf litter in a forest.

***Calathus (Calathus) syriacus* Chaudoir, 1863**

Material examined. 5 specimens: Yasuj, 10 km S of Yasuj, 12.IV.2015 (30°29'18"N 51°28'45"E – 1955 m), S. Azadbakhsh leg. & det.

Distribution. This species is widely distributed in the West of Asia and well-known from most parts of Iran.

Bionomics. It was collected by hand under bark in a forest.

***Calathus (Calathus) libanensis pluriseriatus* (Putzeys, 1873)**

Material examined. 4 specimens: Yasuj, 10 km S of Yasuj, 12.IV.2015 (30°29'18"N 51°28'45"E – 1955 m), S. Azadbakhsh leg. & det.

Distribution. This subspecies is known from Azerbaijan, Armenia, Iraq, Turkmenistan, and Turkey. It was recorded from most parts of Iran.

Bionomics. It was collected by hand under bark in a forest.

Subfamily Lebiinae Bonelli 1810

***Tetragonoderus (Tetragonoderus) intermedius* Solsky, 1874**

Material examined. 2 specimens: Busher, Borazjan to Dalki, 13.IV.2015 (29°20'33"N 51°15'18"E – 68 m), S. Azadbakhsh leg. & det; 2 specimens: Sistan va Baluchestan, Zarabeh-deh village, 15.IV.2015 (25°39'52"N 59°19'45"E), S. Azadbakhsh leg. & det.

Distribution. This species is known from Afghanistan, Iraq, Iran, and Tadjikistan. In Iran, it was recorded from Hasan Langi (Hormozgan province) by Wrase (2005).

Bionomics. It was collected by hand under bushes on farms.

***Syntomus lateralis lateralis* (Motschulsky, 1855)**

Material examined. 1 specimen: Bushehr province. Gachsaran to Dilam. 12.IV.2015 (30°16'56"N 50°35'27"E), S. Azadbakhsh leg. & det.

Distribution. This species is known from Algeria, Canary Islands, Egypt, Iran, Iraq, Israel, Libya,

Morocco, Saudi Arabia, Syria, and Tunisia. In Iran, it was recorded from Iranshahr (Sistan va Baluchestan province) and Anbar-abad (Kerman province) by Jedlička (1961).

Bionomics. It was collected by hand under stones on the bank of a freshwater river.

***Syntomus fuscomaculatus* (Motschulsky, 1844)**

Material examined. 1 specimen: Bushehr province. Gachsaran to Dilam. 12.IV.2015 (30°16'56"N 50°35'27"E), S. Azadbakhsh leg. & det.

Distribution. This species is widely distributed in the Western and Southern Palaearctic to Central Asia. In Iran, it was reported among other places from Saguch (Kerman province), Sabzawar (Razavi Khorasan province), and the Gorgan environs (Golestan province) by Azadbakhsh & Nozari (2015).

Bionomics. It was collected by hand under stones on the bank of a river.

DISCUSSION

For this study, 50 species belonging to 31 genera of the family Carabidae were collected and reported from Iran, of which the species *Poecilus* (*Poecilus*) *festivus* (Chaudoir, 1868) and *Bembidion* (*Ocydromus*) *hiekei* Muller-Motzfeld, 1986 are new records, reported for the first time from Iran. Studies on specimens of the genus *Omophron* showed that *Omophron* (*Omophron*) *rotundatum* Chaudoir, 1852 is present in the South of Iran, which makes this the first record of this species in this region. Although the species *Poecilus* (*Poecilus*) *festivus* (Chaudoir, 1868) is known from Azerbaijan, Armenia, and Turkey, it was never before reported from Iran. *Bembidion* (*Ocydromus*) *hiekei* Muller-Motzfeld, 1986 is already known from Turkmenistan and Afghanistan while these data suggest a fairly wide distribution of this species. The species *Cymbionotum semeleleri* (Chaudoir, 1861) as previously reported from Qeshm island (Azadbakhsh & Nozari 2015) is widely distributed mainly in the coastal region of the South of Iran according to this record from the Sistan va Baluchestan province. The species *Stenolophus* (*Stenolophus*) *proximus* Dejean, 1829 was previ-

ously cited for Iran by Jaeger & Kataev (2003) without any localities mentioned, so this is the first concrete record of this species from the West of Iran. In addition, the species *Abacetus guttula* Chaudoir, 1869, previously only cited for Iran by Bousquet (2003) without any locality mentioned, but later reported from the Hormozgan province by Azadbakhsh et al. (2015), was now collected from another two south coastal provinces, Bushehr and Sistan va Baluchestan, showing that this species is distributed all over the southern part of Iran.

ACKNOWLEDGEMENTS

Sincere thanks are due to Jörg Gebert (Schleife-Rohne/Germany) and Dr. Luca Toledano (Verona/Italy) for help with identifying some of my specimens. I would also like to thank Ron Felix (Berkel Enschoot/The Netherlands) and Dr. Matthias Hartmann (Erfurt/Germany) for their unstinting support.

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Received: 16.05.2016.

Accepted: 30.06.2016.

HUMANITY SPACE

International Almanac

Publications about Cerambycidae

ISSN 2226 - 0773

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**Editor in chief: Dr. Maxim A. Lazarev,
head of Department of pedgogy and psychology
International Academy of Education, Moscow, Russia**