

New records of Geotrupidae and Scarabaeidae dung beetles (Insecta, Coleoptera) from Iran

O. Montreuil

UMR 7179 MNHN/CNRS, MECADEV, Muséum National d'Histoire Naturelle, Entomologie, CP 50, 45 rue Buffon, 75231 Paris cedex 05.

*Corresponding author, E-mail: omontreuil@mnhn.fr

Abstract

New locality data are given for eight species of Geotrupidae and 65 species and sub-species of Scarabaeidae dung beetles from Iran. The species *Onthophagus* (*Palaeonthophagus*) *anatolicus* Petrovitz, 1962, and *Onitis alexis* ssp. *septentrionalis* Balthasar, 1942, are recorded for the first time from Iran.

Keywords: Geotrupini, Bolbelasmini, Lethrini, Coprini, Onitini, Sisyphini, Oniticellini, Onthophagini, Gymnopleurini, Iran.

گزارش‌های جدید از خانواده‌های *Geotrupidae* و *Scarabaeidae* برای فون ایران (Insecta, Coleoptera)

اولیویه مونتروی

چکیده

اطلاعات پراکنشی جدیدی برای هشت گونه سوسک *Geotrupidae* و ۶۵ گونه و زیرگونه سوسک سرگین غلتان *Scarabaeidae*

در ایران ذکر می‌شود که در میان آن‌ها دوگونه *Onthophagus* (*Palaeonthophagus*) *anatolicus* Petrovitz, 1962, and *Onitis alexis* ssp. *septentrionalis* Balthasar, 1942,

برای اولین بار از کشور گزارش می‌شوند.

واژگان کلیدی: ایران، *Geotrupini*, *Bolbelasmini*, *Lethrini*, *Coprini*, *Onitini*, *Sisyphini*, *Oniticellini*, *Onthophagini*, *Gymnopleurini*

Introduction

Three families of Coleoptera Lamellicornia are known to exploit all kinds of dung and feces: Scarabaeidae, Aphodiidae and Geotrupidae (Cambefort, 2001a; Cambefort & Hanski, 2001; Hanski, 2001). They are all worldwide groups showing different rate of diversification in different biogeographic areas (Cambefort, 2001b).

Geotrupidae are well-represented in Palaearctic region including Iran where Geotrupini with two species of the genus *Geotrupes* Latreille, 1797 and one of the genus *Trypocopris* Motschulsky, 1860, Lethrini with five species of *Lethrus* Scopoli, 1777, Athyreini with one species of *Pseudoathyreus* Howden & Martinez, 1963, Bolbelasmini with one species of *Bolbelasmus* Boucomont, 1911, and one of *Bolbogonium* Boucomont, 1911, Eubolbitini with two species of *Eubolbitus* Reitter, 1892 have been recorded (Baraud, 1992; Nikolajev *et al.*, 2016).

Iranian Scarabaeidae dung beetles are relatively rich and diverse in the Palaearctic region as most of the recorded genera from western Palaearctic area exist in Iran (Kabakov, 2006; Bezd k, 2016; Král & Bezd k, 2016; Ziani & Bezd k, 2016). Thus, Iran appears to be a crossroad between the scarab fauna of Mediterranean Basin, Caucasus and Central Asia on the one hand and Afrotropical and Oriental regions on the other hand as two African and southeastern Asian genera are well-represented in Africa and South-Eastern Asia, extend

their distribution limit to Iran (Montreuil, 2011, 2016). Iranian Coprini as they were redefined by Montreuil (1998) are represented by six species in four genera, *Synopsis* Bates, 1868, *Metacatharsius* Montreuil, 1998, *Copris* Müller, 1764, and *Heliocopris* Hope, 1837; Onitini by twelve species in three genera, *Onitis* Fabricius, 1798, *Cheironitis* van Lansberge, 1875, and *Bubas* Mulsant, 1842; Sisyphini by only one species of the genus *Sisyphus* Latreille, 1807; Oniticellini by four species in *Euoniticellus* Janssens, 1953, and *Paroniticellus* Balthasar, 1963; Onthophagini with about 80 species belonging to the genera *Caccobius* Thomson, 1859, *Onthophagus* Latreille, 1802, and *Euonthophagus* Balthasar, 1959. Recent studies on Iranian Gymnopleurini revealed nine species of the genus *Gymnopleurus* Illiger, 1803 (Montreuil, 2011), and 13 species of the genus *Scarabaeus* Linnée, 1758, within the tribe Scarabaeini (Montreuil, 2016).

Barari (2001) has given a general overview of the distribution of Aphodiidae, Geotrupidae and Scarabaeidae dung beetles of Iran. Since then, more Iranian scarab dung beetles have been found and reported (Modarres Awal, 2006; Moradi Gharakhloo & Ziani, 2010; Roessner *et al.*, 2010; Ziani & Gudenzi, 2006, 2007, 2009; Montreuil, 2006, 2011, under press; Montreuil & Ziani, 2011; Ziani & Moradi Gharakhloo, 2010, 2011; Ziani, 2006, 2008, 2011, 2012a, 2012b; Ziani *et al.*, 2012; Hillert & Sechi, 2014). In this paper, new locality data for eight species of

Geotrupidae and 64 species of Scarabaeidae dung beetles in Iranian fauna are provided.

Materials and Methods

The material for this study have been collected between 2002 and to 2015 through collecting expeditions across Iran in joint with Coleopterists of the Iranian Research Institute of Plant Protection and Iranian Research Institute of Forests and Rangelands. The material housed in Muséum national d'Histoire naturelle, Hayk Mirzayans Insects Museum and private collections are added as well. Misidentified specimens Barari (2001) in HMIM, particularly for the genera *Copris* and *Euonthophagus*, were spotted and corrected through this study.

The referred specimens are preserved in the collections with following acronyms:

CDK: Denis Keith collection (Chartres, France)

COM: collection of the author (Fleury-les-Aubrais, France)

CPP: Philippe Ponel collection (France).

HMIM: Hayk Mirzayan Insect Museum, Insect Taxonomy Research Department, Iranian Research Institute of Plant Protection (Tehran, Iran)

MNHN: Muséum national d'Histoire naturelle (Paris, France)

The distribution of each species in Iran is given from the data and citations in the text. The general distribution out of Iran is provided from Nikolajev *et al.* (2016) [Geotrupinae], Král & Bezd k (2016) [Coprini and Scarabaeini], Bezd k (2016) [Gymnopleurini, Oniticellini, Onitini and Sisyphini], and Ziani & Bezd k (2016) [Onthophagini]. The classification follows these references and Baraud (1992).

Results

GEOTRUPIDAE

BOLBOCERATINAE

BOLBELASMINI

Bolbelasmus nireus Reitter, 1895

Material examined. Iran – Fars: Kazerun, Chahchenar, 21.V.1976 (HMIM).

Remarks. Keith (2005) and Miessen (2011) recorded this species from Fars and Kermanshah respectively.

General distribution. Southwestern Iran. Middle East.

GEOTRUPINAE

GEOTRUPINI

Geotrupes olgae (Olsoufieff, 1918)

Material examined. Iran – Ardabil: Khalkhal, 2100 m, 29.VI.2002 (COM).– Gilan: Masuleh, 2100 m, 15.VI.2002 (COM).– Azerbaijan-Sharghi: Sabelan, 2700 m, 14.VII.1999 (CDK), 2800-3800, 25.VI.1973 (HMIM).– Mazandaran: Chorteh, 1700 m, 15.VI.2001 (CDK).– Golestan: Bandar-e Gaz, 27.V.2001 (CDK).

Remarks. Petrovitz (1954) and Modarres Awal (2006) recorded this species under the name *G. stercorarius* (Linnée) from Mazandaran and from Khorasan respectively. Contrary to *G. spiniger*, this species seems to live only in grassland area in high elevations.

General distribution. Northern Iran. Caucasus.

Geotrupes spiniger (Marsham, 1802)

Material examined. Iran – Golestan: Cheschmeh Olya, 14.VI.2011 (COM); Chemaran, Maraveh Tappeh, 950 m, 30.IX.2000 (HMIM); PM Golestan, accueil, 20-21.IX.2007 (CPP); Gorgan, 26.V.1970 (HMIM); Khanbebin, Shir Abad, 80 m, 05.VII.2001 (HMIM); P.M. Golestan, Koylar, 1100 m, 06.VIII.1998 (HMIM), 1250 m, 23.VII.1996 (HMIM), 1350 m, 30.VII.2001 (HMIM).– Mazandaran: Lajim, 28.VI.1958 (HMIM); Dodangeh, 03.VIII.2006 (COM); Mangol, Pashakolaychenaw, 1125 m, IX.2003 (HMIM); Kordkuy, Radkan, Jahan-Nama, 1600 m, 24.IX.1992 (HMIM); Sari, Kordekhil, 45 m, 05.V.2000 (HMIM); Javaherdeh, 1700 m, 08.IX.1990 (HMIM); Kelardasht, Hassankif, Mazuchal, 1800 m, 2-3.VII.2000 (HMIM); Kelardasht, Rudbarak, Akapol, 1800 m, 01.IX.1990 (HMIM); Ramsar, 18.III.2006 (COM); Tonekabon, Dohezar, Daryasar, 2000 m, 04.IX.1990 (HMIM); Tonekabon, Sehezar, Jirbolan, 1100 m, 07.IX.1990 (HMIM); Kojur, Nichkuh, 1900 m, 12.IX.1990 (HMIM); Varand, 03.VIII.2006 (COM); Firuzkuh, Hessarbon, 1600 m, 5-6.X.1981 (HMIM); Ramsar, 12.X.1955 (HMIM), 19.I.1967 (HMIM); Galugah, Sud, 800 m, 23.VII.2001 (COM); Kalendar Cheshmeh Arzat, 01.VIII.2006 (COM).– Gilan: Khaleh-Sara, 29.V.2000 (COM); Assalem, Sheikh-Mahal, 160 m, 28-30.VI.1977 (HMIM); Assalem, 07.VIII.1972 (HMIM), 20.V.1965 (HMIM), 30.VI.1965 (HMIM), 250 m, 12-13.VIII.1992 (HMIM).– Ardabil: Nour Lake, 2393-2400 m,

21.VI.1973 (HMIM).– **Tehran:** Damavand, 10.VII.1966 (HMIM).

Remarks. Petrovitz (1954) recorded this species from Mazandaran and Tehran, Modarres Awal (2006) from Khorasan. This species lives in low to medium altitude place in forested area.

General distribution. Northern Iran. Europe, Caucasus.

***Trypocopris fausti* (Reitter, 1890)**

Material examined. Iran – Mazandaran: Kelardasht, 17.VIII.1966 (HMIM); Kelardasht, Mazuchal, 1200 m, 12.VII.2000 (HMIM); Chalus, 24.VI.1965 (HMIM); Vallée de Chalus, 29.V.2000 (COM); SE Kiasar, 1600 m, 24-31.VII.1999 (CDK); Nahar Khoran, 26.VII.1999 (CDK); Amol, 400 m, 08.VI.2001 (CDK); Alamdeh, 800 m, VI.1999 (COM); Alasht, 1500 m, 03.VIII.2006 (COM); Javaherdeh, 900 m, 12.VII.2000 (HMIM); Tonekabon, Essel Mahale, 2100 m, 27.VI.2002 (COM); Amol, Baladeh, Keresi, 1840 m, 20.IX.2001 (HMIM); Javaherdeh, Dormod, 06.VIII.2000 (HMIM); Dohezar, Hartang, 2000-2250 m, 10.VIII.1999 (HMIM); Javaherdeh, 14.VI.2007 (COM); Pisesoun, 22.VII.2006 (COM), 09.VIII.1970 (HMIM); Tonekabon, Dahezar, Daryasar, 04.IX.1990 (HMIM); Tonekabon, Sehezar, Jirbalon, 07.IX.1990 (HMIM); Ramsar, Eshkatechal, 1200 m, 28.V.2003 (HMIM).– **Gilan:** Rudbar, Arbenal-Dorfak, 2400-2700 m, 29-31.VII.1999 (HMIM); Damash, 1800 m, 13.VI.2002 (COM); Deylaman, 1000 m, 20.VII.1999 (CDK); Deylaman, Khasekhani, 1250 m, 1-3.VIII.1999 (HMIM); Masuleh, 16.VI.2002 (COM); Assalem, 11.VII.2000 (HMIM), 07.VIII.1972 (HMIM), 07.V.1965 (HMIM), 20.V.1965 (HMIM), 30.VI.1965 (HMIM), 03.VII.1965 (HMIM), 10.V.1967 (HMIM); Assalem, Paresar, 750, 13.VIII.1974 (HMIM); Siahsal, Khasekhani, 28.VIII.2001 (HMIM); Rudbar, 1500 m, VI.2003 (COM).– **Golestan:** Deraznow, 21.VI.2007 (COM), 26.VI.2007 (COM); Ianehsar, 26.VI.2007 (COM); Golestan Forest, 06.V.1993 (HMIM); Golestan Forest, Tang-e Gol, 17.V.1993 (HMIM); Ruyan, Kordisar, 15.VII.2000 (HMIM); Bandar-e Gaz, 27.V.2001 (CDK).– **Tehran:** Varamin, Abardej, 26.VII.1985 (HMIM).

Remarks. This species is common in forested area along the Caspian Sea coast in lowland areas as in high altitudes.

General distribution. Northern Iran. Azerbaijan.

LETHRINAE

***Lethrus* (s. str.) *acutangulus* Ballion, 1871**

Material examined. Iran – Golestan: Karim Ishan, 500 m, 05.IV.2001 (COM); P.M. Golestan, Koylar, 1250 m, 16.VI.2000 (HMIM); P.M. Golestan, Tang-e Gol, 930 m, 07.V.2000 (HMIM), 17.V.1993 (HMIM); P.M. Golesta, Chechmeh Bibi, 1700 m, 13.VI.2000 (HMIM).– **Mazandaran:** Sorkh Geriveh, 20.VI.2007 (COM), 26.VI.2007 (COM).

General distribution. Northeastern Iran.

***Lethrus* (s. str.) *baiocchi* Hillert & Sechi, 2014**

Material examined. Iran – Mazandaran: 10 km S. Alamdeh, 02.V.1981 (HMIM); Chorteh, 1700 m, 15.VI.2001 (CDK); SE Kiasar, 1600 m, 24-31.VII.1999 (CDK).

Remarks. This species was described from Kiasar (Mazandaran).

General distribution. Northern Iran.

***Lethrus* (*Scelolethrus*) *chorassanicus* Semenov & Medvedev, 1935**

Material examined. Iran – Mazandaran: Karim Ishan, 07.IV.1999 (CDK).

General distribution. Northeastern Iran.

***Lethrus* (*Scelolethrus*) *mithras* Reitter, 1904**

Material examined. Iran – Khorasan-e Shomali: Asadli, 03.IV.1999 (CDK).

General distribution. Northeastern Iran. Turkmenistan.

SCARABAEIDAE

SCARABAEINAE

GYMNOLEURINI

***Gymnopleurus* *flagellatus* ssp. *asperatus* Motschulsky, 1849**

Material examined. Iran – Zanjan: Armaghankhane, Mari, 36°59'52"N 48°28'39"E, 2380 m, 20.VI.2015 (COM).– **Azerbaijan-e Sharghi:** Marzrud, to Kalan pass, 2100-2300 m, 25.VI.2015 (COM); Marzrud, Kalan pass, 38°46'07"N 46°49'38"E, 2600 m, 25.VI.2015 (COM).

General distribution. Western and southwestern Iran (Montreuil, 2011). Middle East, Caucasus.

***Gymnopleurus* *flagellatus* ssp. *serratus* Fischer, 1821**

Material examined. Iran — Azerbaijan-e

Sharhi: Marjashin, Col 3km N, 37°44'17"N 46°09'20"E, 2220 m, 27.VI.2015 (COM).

General distribution. Eastern and northwestern Iran (Montreuil, 2011). Central Asia.

***Gymnopleurus geoffroyi* (Fuessly, 1775)**

Material examined. Iran – **Kordestan:** Dezli, 2 km NE, 36°22'35"N 46°09'36"E, 1380 m, 30.VI.2015 (COM); Sarv Abad, Ahmad Abad, 35°19'31"N 46°20'10"E, 1260 m, 30.VI.2015 (COM).

General distribution. Western and northern Iran (Montreuil, 2011). North Africa, Europe, Middle East.

***Gymnopleurus mopsus* (Pallas, 1781)**

Material examined. Iran – **Kordestan:** Daraki, 2 km NO, 36°20'10"N 46°10'52"E, 1720 m, 30.VI.2015 (COM).– **Azerbaijan-e Sharhi:** Heris, Khoshkenab, N, 38°14'23"N 47°11'58"E, 1935 m, 22.VI.2015 (COM).

Remarks. This species is a common species in Iran (Baraud, 1968; Zairi, 1976; Petrovitz, 1981; Modarres Awal, 2006; Montreuil, 2011).

General distribution. Northern, western, central and southern Iran. North Africa, Europe, Central Asia, Far East.

***Gymnopleurus quros* Montreuil, 2011**

Material examined. Iran – **Kordestan:** Daraki, 2 km NO, 36°20'10"N 46°10'52"E, 1720 m, 30.VI.2015 (COM).– **Azerbaijan-e Sharhi:** Heris, Khoshkenab, N, 38°14'23"N 47°11'58"E, 1935 m, 22.VI.2015 (COM); Marjashin, pass 3km N, 37°44'17"N 46°09'20"E, 2220 m, 27.VI.2015 (COM).

General distribution. Northern, western and southern Iran (Montreuil, 2011). Middle East, Caucasus.

SISYPHINI

***Sisyphus scaefferi* ssp. *boschniaki* (Fischer, 1824)**

Material examined. Iran – **Mazandaran:** Kandovan Tunnel, 2500 m, 29.VI.2002 (COM); Lac Valasht, 13.VI.2007 (COM); Beznesom, 01.VIII.2006 (COM), Chalus, Dasht Nazir, 1200 m, 11.VIII.1968 (COM); Dodangeh, 03.VIII.2006 (COM); Kalendar Cheshmeh Arzat, 02.VIII.2006 (COM); Polur, 19.VI.1973 (MNHN); Ramsar, 14.V.1965 (HMIM); Ramsar, Naydasht, 300 m, 12.VII.2000 (HMIM).– **Tehran:** Polur, 10.VIII.2006 (COM).– **Golestan:**

Shirin Abad, 23.VI.2007 (COM); Cheschmeh Olya, 14.VI.2011 (COM); PM Golestan, Almehr, 1650 m, 14.IV.1997 (HMIM); PM Golestan, Dasth-e Shad, 1400 m, 23.VII.2001 (HMIM); PM Golestan, Tang-e Gol, 800 m, 15.IV.1997 (HMIM); PM Golestan, Sulgerd, 1050, 14.IV.1997 (HMIM).– **Khorasan-e Shomali:** Sarparchin, Kuh-e Shah Jahan, 18.VI.2011 (COM); Chaham Bid, 1530 m, 15.VI.2011 (COM).– **Gilan:** Eskolak, Sefidroud Dam, 13.VI.2002 (COM); Khaleh-Sara, 29.V.2000 (COM); Rezvanshahr, 26.VI.2006 (HMIM); Assalem, 250 m, 13.VIII.1992 (HMIM); Hashtpar, 18.V.1965 (HMIM); Astara-Namin Rd, Tange Heyran, 1044 m, 27.VI.2003 (HMIM); Eshkevar, Siakashan, 350 m, 27.VI.1997 (HMIM).– **Ardabil:** Heyran, 1700 m, 19.VI.2002 (COM), 1600 m, 18.VI.2002 (COM).– **Azerbaijan-e Sharhi:** Marjashin, pass 3km N, 37°44'17"N 46°09'20"E, 2220 m, 27.V.2015 (COM).– **Hamedan:** Darreh-e Moradbeyk, 2350 m, 05.VII.1998 (HMIM).– **Kermanshah:** Paveh, 28.V.2007 (COM).– **Kordestan:** Dezli, 2 km NE, 36°22'35"N 46°09'36"E, 1380 m, 30.VI.2015 (COM).– **Lorestan:** Dorud, Darb Astaneh, 30.VI.2005 (COM); Dorud, 2700 m, 19-21.VI.1999 (CDK); Oshtoran Kuh, Gahar Lake, 01.VII.2005 (COM).– **Fars:** Kakan, 12.VI.2012 (COM).– **Kohgiluyeh va Boyer-Ahmad:** Gange Gun, 19.VI.2005 (COM); Sisakth, 22.VI.2005 (COM); Yasuj, Sisakth, Kuhgol, 2300 m, 14.IX.1998 (HMIM).– **Chaharmahal va Bakhtiari:** Gandomkar, 26.VI.2005 (COM); Ardal, Sabzkuh, 2250 m, 05.VII.2004 (HMIM).

Remarks. This subspecies, retained by Balthasar (1963) and Baraud (1992) and is widely distributed in Iran (Petrovitz, 1954, 1981; Baraud, 1968; Zairi, 1976; Barari, 2001; Modarres Awal, 2006).

General distribution. Northern, western and southern Iran, Middle East. Central Asia, Caucasus.

COPRINAE

COPRINI

***Synopsis tmolus* (Fischer, 1821)**

Material examined. Iran – **Golestan:** Gorgan, 03.05.1967 (HMIM); Maraveh Tappeh, 09.05.1956 (HMIM). **Khorasan-e Razavi:** Mesh-Torogh, 22.04.1971 (HMIM); Sarakhs, 03.07.1970 (HMIM).

Remarks. Petrovitz (1980) and Barari (2001) recorded this species from several locations in Golestan.

General distribution. Northeastern Iran. Central Asia.

***Metacatharsius inermis* (Castelnau, 1840)**

Material examined. Iran – **Sistan va Baluchestan:** Tiss, 03.03.1974 (HMIM).– **Hormozgan:** Grovk, 07.03.1995 (HMIM); Minab, 24.04.1949 (HMIM), 11.04.1950 (HMIM); Hassan Lengeh, 24.03.1949 (HMIM).– **Fars:** Firuz Abad, 27.05.1951 (HMIM).

Remarks. Petrovitz (1958) recorded this species from Sistan va Belutshestan and Baraud (1968) and Barari (2001) from Hormozgan. Barari (2001) collected this species from Fars.

General distribution. Southeastern Iran. India, Pakistan.

***Copris lunaris* (Linné, 1758)**

Material examined. Iran – **Gilan:** Assalem, 25.VI.2002 (COM); Darreh-Dasht, 1100 m, 11-12.VI.2002 (COM); Delaman, 15.VI.2007 (COM); Eskolak, Sefidroud Dam, 13.VI.2002 (COM), 25.VI.2002 (COM), 15.VII.2006 (COM); Heyran, 1600 m, 18.VI.2002 (COM); Khaleh-Sara, 29.V.2000 (COM); Lazerdeh, 16.VII.2006 (COM); Masuleh, 1550 m, 15-16.VI.2002 (COM); Assalem, Gissun, 18.08.1980 (HMIM); Assalem, 19.05.1965 (HMIM), 23.08.1977 (HMIM); Eshkevar, Gilanchankan, 27.06.1997 (HMIM); Eshkevar, Siakashan, 27.06.1997 (HMIM); Assalem, Kharjajil, 25.08.1994 (HMIM); Lahijan, Siahkal Bala Rud, 12.08.1980 (HMIM).– **Mazandaran:** Chorteh, 1700 m, 15.VI.2001 (CDK); Kelardasht, 07.VI.2011 (COM); Kelardasht, 1200 m, 12.V.1965 (MNHN); Nowshahr, 26.V.1965 (MNHN); Surk, Vandorbon, 7-8.VI.2011 (COM); Tonekabon, Essel Mahale, 2100 m, 27.VI.2002 (COM); Ruyan, Kordisar, 15.07.2000 (HMIM); Marzan Abad, 06.07.1995 (HMIM); Amol, Behak, 07.08.1980 (HMIM); Amol, Sangechal, 18.06.1995 (HMIM); Javaherdeh, 900 m, 12.VII.2000 (HMIM); Tonekabon, 25.09.1971 (HMIM).– **Golestan:** Minudasht, 700 m, 28.VII.99 (CDK); Bandar-e Gaz, 27.V.2001 (CDK); Almehr, 24.06.1997 (HMIM); Damghan-Sari Rd, Kiasar, 23.06.2000 (HMIM); Koylar, 06.08.1998 (HMIM).– **Tehran:** Varamin, 05.1943 (HMIM).– **Azerbaijan-e Gharbi:** Rezaieh, 03.06.1975 (HMIM); Peykham, 10 km O., 38°45'30"N 46°57'28"E, 1645 m,

25.VI.2015 (COM); Vinagh, Vinagh-Tazekand, 23.VI.2015 (COM); Vinagh, Tazekand, 38°58'56"N 46°53'24"E, 1200 m, 23.VI.2015 (COM), 24.VI.2015 (COM).– **Ghazvin:** Avan, 01.VI.2008 (COM), 20.V.2011 (COM).

Remarks. Petrovitz, (1965, 1981), Baraud, (1968), Barari (2001) and Modarres Awal (2006) recorded this species from several provinces of northern and western Iran.

General distribution. Northern and western Iran. Europe, Caucasus, Turkey, Central Asia.

***Copris armeniacus* Faldermann, 1835**

Material examined. Iran – **Mazandaran:** Kandovan Tunnel, 2500 m, 15.VI.2008 (COM), 08.VI.2011 (COM); Vali Abad, 26.V.2000 (COM).– **Semnan:** Shahrud, Shahkuh, Gondab, 2500 m, 01.VI.1982 (HMIM).– **Tehran:** Polur (MNHN); Rudehen, Morabak Abad 08.VI.1982 (HMIM).– **Alborz:** Gachsar, 2100 m, 09.VI.2002 (COM).– **Azerbaijan-e Sharghi:** Sahand, 10.06.1973 (HMIM).– **Ardabil:** Sabalan, Ghotur, 28.06.1985 (HMIM).– **Chahar Mahal va Bakhtiyari:** Shalamzar, Tang Chezghan, 10.07.1983 (HMIM).

Remarks. Petrovitz (1980) recorded this species from Azerbaijan-e Sharghi.

General distribution. Northwestern Iran. Armenia, Turkey.

***Copris hispanus ssp. cavolinii* (Petagna, 1792)**

Material examined. Iran – **Tehran:** Lavasan, Naran, 31.4.1991 (HMIM).– **Azerbaijan-e Sharghi:** Mohgan, 10.05.1961 (HMIM); Mohgan, Sarband, 18.05.1961 (HMIM).– **Ardabil:** Moghan, Shaman, 65 m, 19.VI.2007 (HMIM).– **Gilan:** Rasht, 21.07.1973 (HMIM).– **Ghazvin:** Avan, 01.VI.2008 (COM).– **Golestan:** Gorgan, 02.05.1965 (HMIM), 13.04.1976 (HMIM); Gonbad, 21.06.1956 (HMIM), 30.04.1956 (HMIM); Almehr, 29.05.1986 (HMIM).– **Khorasan-e Razavi:** Sarakhs, Bezangan, Kolbib, 08.04.1997 (HMIM); Mesh-Torogh, 08.05.1972 (HMIM).– **Khuzestan:** Dezful, Shahiun, Salenkuh, 08.05.2001 (HMIM); Ahvas, 14.11.1956 (HMIM); Masjedsoleyman, Lali, Cheshmeh, Tarkhum, 08.05.1994 (HMIM).– **Lorestan:** Khorram Abad, Badr Abad, 13.05.1994 (HMIM); Sarab-e Dowreh, Tashkan, Sarab-e Raftkhan, 1300 m, 12-13.VI.2000 (HMIM); Zagheh, 21.V.1977 (MNHN); Kamandan, 24.07.1981

(HMIM).– **Kermanshah:** Bidsorkh, 1790 m, 21.V.2007 (COM); Jalilvand, Panjsavar, 22.V.2007 (COM); Paveh, 28.V.2007 (COM); Quri Qaleh, 27.V.2007 (COM).– **Fars:** Kazerun, Gavkoshak, 24.04.1975 (HMIM), 07.05.1975 (HMIM), 18.03.1976 (HMIM), 30.03.1976 (HMIM), 01.04.1976 (HMIM), 10.04.1976 (HMIM); Kazerun, Chahchenar, 21.05.1976 (HMIM), 28.05.1976 (HMIM), 08.06.1976 (HMIM), 23.06.1976 (HMIM).– **Kohgiluyeh va Boyerahmad:** Yasuj, Tolegorgi, 04.05.1985 (HMIM).– **Chahar Mahal va Bakhtiyari:** Shalamzar, Tang Chezghan, 10.07.1983 (HMIM).– **Ilam:** Soltan Gholi Stolfa, 09.V.2008 (COM).

Remarks. Barari (2001) recorded this subspecies from northern and western Iran. Petrovitz (1958) recorded it from Khuzestan, Petrovitz (1954) from Esfahan and Baraud (1968) from Khorasan.

General distribution. Western, northern and central Iran. Balkan, Middle East, Iraq, Central Asia.

Heliocopriss gigas (Linnée, 1758)

Material examined. Iran – **Kerman:** Jiroft, 20.XI.1967 (HMIM).

Remarks. Petrovitz (1954) and Barari (2001) recorded this species from Kerman and Sistan va Belutschestan.

General distribution. Southeastern Iran. eastern Africa, Arabia.

ONITICELLINI

Euoniticellus fulvus (Goeze, 1777)

Material examined. Iran – **Tehran:** Polur, 10.VIII.2006 (COM).– **Mazandaran:** Kalendar Cheshmeh Arzat, 02.VIII.2006 (COM); Babolsar, V.1966 (MNHN).– **Semnan:** Bastam, 27.VI.1965 (MNHN).– **Gilan:** Lemir, 17.VI.2002 (COM); Darreh-Dasht, 1100 m, 11.VI.2002 (COM).– **Ardabil:** Heyran, 1700 m, 19.VI.2002 (COM), 1600 m, 18.VI.2002 (COM).– **Azerbaidjan-e Sharghi:** Nir, 1900 m, 21.VI.2002 (COM); Gara Goch Olya, Araxe Vallée, 19.VII.2006 (COM); Vinagh, Vinagh-Tazekand, 23.VI.2015 (COM).– **Lorestan:** Dorud, Darb Astaneh, 28.VI.2005 (COM), 30.VI.2005 (COM).– **Chahar Mahal va Bakhtiyari:** Gandomkar, 26.VI.2005 (COM).– **Kohgiluyeh va Boyerahmad:** Yasuj, 17.VI.2005 (COM).– **Fars:** Kakan, 12.VI.2012 (COM).

Remarks. This species was recorded from several Iranian provinces (Baraud, 1968; Zairi, 1976; Petrovitz, 1981; Barari, 2006; Ziani & Moradi Gharakhloo, 2011).

General distribution. Northern, western and southern Iran. Europe, Caucasus, Middle East, northern Africa.

Euoniticellus pallipes (Fabricius, 1781)

Material examined. Iran – **Mazandaran:** Sorkh Geriveh, 20.VI.2007 (COM).– **Gilan:** Piri Valley, 500 m, 12.VI.2002 (COM); Lemir, 17.VI.2002 (COM).– **Kermanshah:** Ghaleh Shahin, 670 m, 26.V.2007 (COM).– **Azerbaidjan-e Sharghi:** Gara Goch Olya, Araxe Vallée, 19.VII.2006 (COM).– **Ilam:** Sarableh, Mishakan, 09.V.2008 (COM).– **Kerman:** Boluk, 27.V.2008 (COM); Hormak, 26.V.2008 (COM).

Remarks. Petrovitz (1954) recorded this species from Kerman, Barari (2001) from Gilan, Zairi (1976) from Fars and Modarres Awal (2006) from Khorasan.

General distribution. Northern, western and southern Iran. Southern Europe, Morocco, Middle East, Central Asia, India, Pakistan.

Paroniticellus festivus (Steven, 1809)

Material examined. Iran – **Mazandaran:** Surk, Vandorbon, 07.VI.2011 (COM); Kandovan Tunnel, 2500 m, 15.VI.2008 (COM), 08.VI.2011 (COM).– **Ardabil:** Lac Neour, 17.VII.2006 (COM).– **Azerbaidjan-e Sharghi:** Kaleybar, Makidi, 18.VII.2006 (COM).– **Tehran:** Kandovan, 13.VI.2007 (COM).

General distribution. Northern Iran. Caucasus, Turkey, Turkmenistan.

ONITINI

Cheironitis haroldi (Ballion, 1870)

Material examined. Iran – **Ardabil:** Lac Neour, 17.VII.2006 (COM).– **Ghazvin:** Avan, 01.VI.2008 (COM).– **Tehran:** Damavand 19-30.VI.2000 (CDK).– **Alborz:** Taleghan, 28.VIII.1996 (HMIM), 05.VII.2011 (COM); Taleghan, Jahestan, 05.VII.2011 (COM).– **Mazandaran:** Lasem, 23.VII.2015 (COM).– **Golestan:** Cheschmeh Olya, 14.VI.2011 (COM).– **Zanjan:** 10 km W Aveg, 2500 m, 23.VI.99 (CDK); Armaghankhane, Mari,

36°59'52"N 48°28'39"E, 2380 m, 20.VI.2015 (COM).– **Azerbaijan-e Sharghi:** Qaleh Malek, 38°31'25"N 47°10'18"E, 1520 m, 22.VI.2015 (COM).– **Kordestan:** Daraki, 2 km NO, 36°20'10"N 46°10'52"E, 1720 m, 30.VI.2015 (COM).– **Lorestan:** Oshtoran Kuh, Gharle Lake, 30.VI.2005 (COM), 01.VII.2005 (COM); Dorud, Darb Astaneh, 30.VI.2005 (COM).– **Kermanshah:** Bidsorkh, 1790 m, 21.V.2007 (COM); Ghaleh Shahin, 670 m, 26.V.2007 (COM). Khorasan, Chaham Bid, 1530 m, 15.VI.2011 (COM).– **Fars:** Kakan, 12.VI.2012 (COM) – **Ilam:** Soltan Gholi Solfa, 09.V.2008 (COM).

Remarks. This species was recorded from Mazandaran and Kerman by (Barari 2001).

General distribution. Northern, western and southwestern Iran. Balkan, Middle East, Central Asia.

Cheironitis pamphilus (Ménétriés, 1849)

Material examined. Iran – Tehran: Firuzkuh, 31.VII.2006 (COM); Tar-Damavand, 08.VIII.1967 (HMIM); Polur, 10.VIII.2006 (COM).– **Alborz:** Gachsar, 2100 m, 13.VII.2006 (COM).– **Mazandaran:** Kuh-e Damavand, 10.VIII.2006 (COM).– **Ardabil:** Lac Neour, 17.VII.2006 (COM), 23.07.2008 (CPP); Qeshlaq Shaverdy, 21.VII.2006 (COM) – **Golestan:** Bandar e Gaz, 27.V.2001 (CDK); Cheschmeh Olya, 14.VI.2011 (COM); Gukjeh, 14.VI.2011 (COM).– **Azerbaijan-e Sharghi:** Kaleybar, Makidi, 18.VII.2006 (COM).– **Esfahan:** Kouhrang, Zardkouh 26.07.1974 (HMIM) – **Chahar Mahal va Bakhtiyari:** Gandomkar, 26.VI.2005 (COM).– **Kordestan:** Daraki, 2 km NO, 36°20'10"N 46°10'52"E, 1720 m, 30.VI.2015 (COM); Dezli, 2 km NE, 36°22'35"N 46°09'36"E, 1380 m, 30.VI.2015 (COM).– **Lorestan:** Dorud, Darb Astaneh, 30.VI.2005 (COM); Dorud, 2700 m, 21.VI.99 (CDK).– **Fars:** Shiraz, Sarvestan, 05.VI.1973 (HMIM).

Remark. This species was recorded by Barari (2001) from several provinces in northern and western Iran (Kordestan and Kohgiluyeh va Boyerahmad).

General distribution. Northern, western and southwestern Iran. Balkan, Middle East, Afghanistan.

Onitis alexis ssp. *septentrionalis* Balthasar, 1942

Material examined. Iran – Kermanshah: Ghaleh Shahin, 670 m, 26.V.2007 (COM).

General distribution. South-Western Iran (**first country record**). Mediterranean Basin, Middle East.

Onitis damoetas Steven, 1806

Material examined. Iran – Ghazvin: Avan, 01.VI.2008 (COM), 20.V.2011 (COM).– **Kermanshah:** Paveh, 28.V.2007 (COM).– **Ilam:** Soltan Gholi Solfa, 09.V.2008 (COM).

General distribution. Northwestern and western Iran. Balkan, Middle East, Caucasus.

Onitis humerosus (Pallas, 1771)

Material examined. Iran – Alborz: Taleghan, 05.VII.2011 (COM) – **Ghazvin:** Avan, 01.VI.2008 (COM), 20.V.2011 (COM).– **Kordestan:** Daraki, 2 km NO, 36°20'10"N 46°10'52"E, 1720 m, 30.VI.2015 (COM).– **Lorestan:** Oshtoran Kuh, Gharle Lake, 01.VII.2005 (COM).– **Khorasan:** Chaham Bid, 1530 m, 15.VI.2011 (COM).– **Kermanshah:** Ghaleh Shahin, 670 m, 26.V.2007 (COM); Paveh, 28.V.2007 (COM). *Kohgiluyeh va Boyerahmad:* Kakan, 12.VI.2012 (COM).– **Ilam:** Soltan Gholi Solfa, 09.V.2008 (COM).– **Chahar Mahal va Bakhtiyari:** Lac Sulegan, 2410 m, 06.VI.2009 (CPP) – **Azerbaijan-e Gharbi:** Rezaiyeh (HMIM).– **Kohgiluyeh va Boyerahmad:** Yasuj, Tolegorgi, 04.V.1985 (HMIM).

Remark. This species was recorded from several Iranian provinces (Petrovitz, 1954, 1958, 1981; Barari, 2001; Modarres Awal, 2006).

General distribution. Northern, western and southwestern Iran. Middle East, Central Asia, Caucasus, Afghanistan.

ONTHOPHAGINI

Caccobius histeroides (Ménétriés, 1832)

Material examined. Iran – Gilan: Piri Valley, 500 m, 12.VI.2002 (COM).– **Ghazvin:** Avan, 20.V.2011 (COM).– **Mazandaran:** Dodangeh, 03.VIII.2006 (COM).– **Kermanshah:** Paveh, 28.V.2007 (COM).– **Kordestan:** Daraki, 2 km NO, 36°20'10"N 46°10'52"E, 1720 m, 30.VI.2015 (COM).– **Lorestan:** Dorud, 2700 m, 19-21.VI.1999 (CDK).– **Fars:** Shiraz, 27.IV.1999 (CDK).

Remarks. Petrovitz (1954, 1981) recorded this species from Kerman and Mazandaran; Zairi (1976) and Barari (2001) from Fars.

General distribution. Northern, western and southern Iran. Balkan, Caucasus, Middle East, Turkmenistan.

***Caccobius mundus* (Ménétriés, 1839)**

Material examined. Iran – **Kohgiluyeh va Boyerahmad:** Sisakht, 22.VI.2005 (COM); Gange Gun, 18-19.VI.2005 (COM). Ghazvin, Avan, 01.VI.2008 (COM).– **Chahar Mahal va Bakhtiyari:** Gandomkar, 26.VI.2005 (COM); Mashyer Bakhtian, Dopolan, 24-25.VI.2005 (COM).– **Fars:** Kakan, 12.VI.2012 (COM).– **Azerbaidjan-e Sharghi:** Mardaneghom, 20.VII.2006 (COM).– **Kermanshah:** Paveh, 28.V.2007 (COM).– **Lorestan:** Dorud, Darb Astaneh, 28.VI.2005 (COM), 30.VI.2005 (COM); Dorud, 2700 m, 19-21.VI.1999 (CDK).

Remarks. Barari (2001) recorded this species from Gilan; Moradi Gharakhloo & Ziani (2010) from Khorasan and Sistan va Baluchestan and Yazd.

General distribution. Western and southern Iran. Middle East, Caucasus.

***Caccobius schreberi* (Linné, 1767)**

Material examined. Iran – **Mazandaran:** Beznesom, 01.VIII.2006 (COM); Dodangeh, 03.VIII.2006 (COM); Kalendar Cheshmeh Arzat, 02.VIII.2006 (COM).– **Golestan:** Chesmeh Olya, 14.VI.2011 (COM).– **Khorasan-e Shomali:** Haver, 16.VI.2011 (COM).– **Gilan:** Darreh-Dasht, 1100 m, 11.VI.2002 (COM); Khaleh-Sara, 29.V.2000 (COM); Masuleh, 17.IV.1999 (CDK); Lemir, 17.VI.2002 (COM).– **Azerbaidjan-e Sharghi:** Vinagh, Tazekand, 38°58'56"N 46°53'24"E, 1200 m, 23.VI.2015 (COM); Kaleybar, Babak Castel, 2100 m, 23.VI.2002 (COM); Mardaneghom, 20.VII.2006 (COM).

Remarks. Barari (2001) recorded this species from Golestan and Tehran; Ziani & Moradi Gharakhloo (2011) from Ghazvin, Zanjan and Gilan.

General distribution. Northern and western Iran. Europe, Caucasus, Middle East, Morocco, Egypt.

***Euonthophagus amyntas* ssp. *auchenia* (Redtenbacher, 1840)**

Material examined. Iran – **Kordestan:** Sananadj, 22.VI.1951 (HMIM); Dezli, 2 km NE, 36°22'35"N 46°09'36"E, 1380 m, 30.VI.2015 (COM).– **Kermanshah:** Sarmast, 1530 m, 23.V.2007 (COM); Sarmiel, 24.V.2007 (COM); Sar Khedizeh, 24.V.2007 (COM); Paveh, 28.V.2007 (COM); Chaharzebar, 22.V.2007 (COM).– **Lorestan:** Dorud, Darb Astaneh, 28.VI.2005 (COM); Zagheh, 21.V.1977 (MNHN); Oshtoran Kuh, Gharle Lake, 01.VII.2005 (COM).– **Chahar Mahal va Bakhtiyari:** Margh Malek, 3200 m,

01.VII.1970 (HMIM); Lac Sulegan, 2410 m, 06.VI.2009 (CPP); Gandomkar, 26.VI.2005 (COM).– **Kohgiluyeh va Boyerahmad:** Sisakht, 2350 m, 13-16.VI.1973 (HMIM).– **Fars:** Dasht Arjan, 20.III.1965 (HMIM), 30.IV.1971 (MNHN), 25.V.1969 (MNHN); Kakan, 12.VI.2012 (COM).

Remarks. This subspecies, endemic to Iran, was recorded from several provinces in central and southern Iran by Ziani (2006), Moradi Gharakhloo & Ziani (2010) and Ziani & Moradi Gharakhloo (2011). Bortesi & Zunino (1974) recorded this species from Iran, but did not separate the subspecies.

General distribution. Central and southern Iran.

***Euonthophagus amyntas* ssp. *subviolaceus* (Ménétriés, 1832)**

Material examined. Iran – **Mazandaran:** Kandovan Tunnel, 2500 m, 29.VI.2002 (COM), 08.VI.2011 (COM); Kuh-e Damavand, 14.VII.2006 (COM); Beznesom, 01.VIII.2006 (COM); Lac Valasht, 13.VI.2007 (COM); Chalus, Marzan Abad, 23.V.1965 (HMIM); Kalendar Cheshmeh Arzat, 02.VIII.2006 (COM); Sorkh Geriveh, 20.VI.2007 (COM).– **Zanjan:** Meydanak, 20.V.2008 (COM); Taham, 20.V.2008 (COM); Zanjan, 5 km N., 21.V.2008 (COM); Armaghankhane, Mari, 36°59'52"N 48°28'39"E, 2380 m, 20.VI.2015 (COM).– **Gilan:** Piri Valley, 500 m, 12.VI.2002 (COM); Delaman, 15.VI.2007 (COM).– **Ghazvin:** Avan, 01.VI.2008 (COM), 16.VI.2011 (COM); Rezdjerd 06.VI.2011 (COM).– **Tehran:** Gachsar, 2100 m, 09.VI.2002 (COM), 13.VII.2006 (COM); Kamard, 26.V.2011 (COM); Taleghan, Jahestan, 05.VII.2011 (COM); Tochal, 13.VI.2008 (COM), 26.VI.2008 (COM), 01.VII.2011 (COM); Polur, 19.VI.2015 (COM).– **Ardabil:** Khalkhal, Kuh-e Almas, Bachman, 30.VI.1997 (HMIM); Lac Neour, 17.VII.2006 (COM); Heyran, 1700 m, 19.VI.2002 (COM).– **Azerbaidjan-e Sharghi:** Kaleybar, 1400 m, 22.VI.2002 (COM); Kaleybar, Babak Castel, 2100 m, 23.VI.2002 (COM); Qaleh Malek, 38°31'25"N 47°10'18"E, 1520 m, 22.VI.2015 (COM); Sarab, 13.VI.1978 (HMIM); Nir, (1900 m, 21.VI.2002 (COM).– **Markazi:** Kharazan, 04.VI.2011 (COM).– **Khorasan-e Shomali:** Chaham Bid, 1530 m, 15.VI.2011 (COM); Haver, 16.VI.2011 (COM); Sarparchin, Kuh-e Shah Jahan, 18.VI.2011 (COM).– **Golestan:** Chesmeh Olya, 13.VI.2011 (COM); Shirin Abad, 23.VI.2007 (COM).

Remarks. This sub-species was recorded from Northern Iran by Ziani (2006) and Ziani & Moradi Gharakhloo (2011).

General distribution. Northern Iran. Caucasus, Central Asia.

Euonthophagus atramentarius (Ménétriés, 1832)

Material examined. Iran – Lorestan: Borujerd, 31.V.1977 (MNHN); Zagheh, 21.V.1975 (MNHN).– **Kohgiluyeh va Boyerahmad:** Sisaht, 2400 m, 12.V.1998 (CDK).– **Fars:** Shiraz, 27.IV.1999 (CDK).

Remarks. This species was recorded from several Iranian provinces by Petrovitz (1958), Baraud (1968), Moradi Gharakhloo & Ziani (2010) and Ziani & Moradi Gharakhloo (2011).

General distribution. Northern, western, central and southern Iran. Balkan, Middle East, Afghanistan.

Euonthophagus dorbignyi (Olsoufieff, 1900)

Material examined. Iran – Fars: Dasht Arjan, 20.III.1965 (HMIM).– **Kerman:** Rayen, 13.VI.73 (CDK).

Remarks. This species was described from Semnan (Shahrud, type locality) and recorded from Lorestan (Zunino & Tascherio, 1972) and Tehran (Baraud, 1968).

General distribution. Northeastern and central Iran. Afghanistan.

Euonthophagus gibbosus (Scriba, 1790)

Material examined. Iran – Mazandaran: Kandovan Tunnel, 2500 m, 29.VI.2002 (COM), 08.VI.2011 (COM); Kuh-e Damavand, 14.VII.2006 (COM), 21.VII.1970 (HMIM); Reineh, 19.VII.1971 (HMIM); Beznesom, 01.VIII.2006 (COM); Kalendar Cheshmeh Arzat, 02.VIII.2006 (COM); Sorkh Geriveh, 20.VI.2007 (COM); Polur, 19.VI.1973 (MNHN); Lasem, 23.VII.2015 (COM).– **Tehran:** Polur, 10.VIII.2006 (COM); Kamard, 26.V.2011 (COM); Firuzkuh, 31.VII.2006 (COM), 24.VI.2011 (COM); Tochal, 2800 m, 26.VI.2008 (COM), 01.VII.2011 (COM), 19.VII.2015 (COM). – **Alborz:** Karadj, Azadbar, 2350 m, 27-28.VIII.1996 (HMIM); Gachsar, 2100 m, 13.VII.2006 (COM), 09.VI.2002 (COM); Gachsar, Azadbar, 2200 m, 10.VI.2002 (COM); Kandovan, 13.VII.2006 (COM), 10-11.VIII.1970 (HMIM); Taleghan, Jahestan, 05.VII.2011 (COM).– **Gilan:** Darreh-Dasht, 1100 m

11.VI.2002 (COM), 13.VI.2002 (COM); Kelishom, 01.VIII.1999 (CDK); Masuleh, 2100 m, 15.VI.2002 (COM).– **Golestan:** PM Golestan, Almehr, 1600 m, 23-24.IV.1997 (HMIM); Deraznow, 26.VI.2007 (COM); Tangeh, 22.VI.2007 (COM).– **Khorasan-e Shomali:** Chaham Bid, 1530 m, 15.VI.2011 (COM); Haver, 16.VI.2011 (COM); Sarparchin, Kuh-e Shah Jahan, 18.VI.2011 (COM).– **Khorasan-e Razavi:** Shahid Abad, 21.VI.2011 (COM).– **Zanjan:** Sendan, Mt 2400 m, 19.VI.2000 (CDK); Meydanak, 20.V.2008 (COM).– **Ghazvin:** Avan, 01.VI.2008 (COM), 20.V.2011 (COM).– **Ardabil:** Lac Neour, 2510 m, 23.VII.2008 (CCP), 17.VII.2006 (COM), 2363-2450 m, 21.VI.1973 (HMIM); Khalkhal, 2100 m, 25.VI.2002 (COM); Khalkhal, Kuh-e Almas, Bachman, 1900 m, 30.VI.1997 (HMIM); Heyran, 1700 m, 19.VI.2002 (COM).– **Azerbaijan-e Sharghi:** Sarab, 13.VI.1978 (HMIM); Kaleybar, 1400 m, 22.VI.2002 (COM); Kaleybar, Babak Castel, 2100 m, 23.VI.2002 (COM); Azizkandeh, 37°27'46"N 46°55'18"E, 1620 m, 21.VI.2015 (COM); Marzrud, to Kalan pass, 2100-2300 m, 25.VI.2015 (COM); Vinagh, Tazekand, 38°58'56"N 46°53'24"E, 1200 m, 23.VI.2015 (COM); Marzrud, Kalan pass, 38°46'07"N 46°49'38"E, 2600 m, 25.VI.2015 (COM); Qaleh Malek, 38°31'25"N 47°10'18"E, 1520 m., 22.VI.2015 (COM).– **Kordestan:** Daraki, 2 km NO, 36°20'10"N 46°10'52"E, 1720 m, 30.VI.2015 (COM).– **Lorestan:** Oshtoran Kuh, Gharle Lake, 01.VII.2005 (COM); Dorud, Darb Astaneh, 28.VI.2005 (COM), 30.VI.2005 (COM); Dorud, 2700 m, 19-21.VI.99 (CDK), 2500 m, 21.VI.99 (CDK).– **Kermanshah:** Paveh, 28.V.2007 (COM).– **Hamedan:** Khakadan, 2200 m, 21.VI.2000 (CDK); Barat, 08.VIII.1997 (HMIM).– **Esfahan:** Kouhrang, 26.VII.1974 (HMIM).– **Kohgiluyeh va Boyerahmad:** Sisakht, 13-16.VI.1973 (HMIM); Gange Gun, 18-19.VI.2005 (COM); Yasuj, 17.VI.2005 (COM).– **Chahar Mahal va Bakhtiyari:** Lac Sulegan, 2410 m, 06.VI.2009 (CCP); Gandomkar, 26.VI.2005 (COM); Gandomkar, 26.VI.2005 (COM).– **Fars:** Sarvestan, 05.VI.1973 (HMIM); Dasht Arjan (HMIM); Neyriz, 29.IV.1971 (MNHN).

Remarks. This species was recorded from some provinces in northern and southern Iran (Zunino & Tascherio, 1972; Bortesi & Zunino, 1974; Petrovitz, 1981; Moradi Gharakhloo & Ziani, 2010; Ziani & Moradi Gharakhloo, 2011).

General distribution. Northern, western and southern Iran. Europe, Middle East, Caucase, Central and eastern Asia.

***Euonthophagus loeffleri* (Petrovitz, 1965)**

Material examined. Iran – Sistan va Baluchestan: Kuh-e Taftan, 20.IV.1971 (CDK).– Khuzestan: Izeh, Susan, 910 m, 02.VI.1998 (HMIM).– Markazi: Salafchegan, 02.V.1971 (MNHN), 27.V.1967 (MNHN).– Kerman: Dorahi-e Shahdad, 16.VI.1973 (MNHN).– Fars: Dasht Arjan, 25.V.1969 (MNHN).

Remarks. This species was described from Kerman (Jiroft, type locality) and recorded from some provinces in southern Iran by Petrovitz (1965), Zunino & Tascherio (1972) and Palestrini *et al.* (1979).

General distribution. Southern Iran. Iraq.

***Euonthophagus mostafatsairi* Palestrini, Varola & Zunino, 1979**

Material examined. Iran – Ghazvin: Avan, 20.V.2011 (COM).– Zanjan: Zanjan, 5 km N., 21.V.2008 (COM).– Azerbaidjan-e Sharghi: Tabriz, Sardarand, 14.V.65 (CDK).– Azerbaijan-e Gharbi: Kaniborazan, 36°59'00"N 45°45'59"E, 1280 m, 28.VI.2015 (COM).– Lorestan: Oshtoran Kuh, Gharle Lake, 01.VII.2005 (COM); Dorud, Darb Astaneh, 30.VI.2005 (COM); Dorud, Pir-e Abdallah, 29.VI.2005 (COM).– Kermanshah: Chaharzebar, 27.V.2007 (COM); Chalabeh, 22.V.2007 (COM); Paveh, 28.V.2007 (COM); Sarmast, 1530 m, 23.V.2007 (COM).– Ilam: Sarableh, Mishakan, 09.V.2008 (COM); Soltan Gholi Stolfa, 09.V.2008 (COM); Darehshahr, pass, Kebir Kuh, 06.V.2008 (COM).– Kohgiluyeh va Boyerahmad: Gange Gun, 19.VI.2005 (COM).– Chahar Mahal va Bakhtiari: Lac Sulegan, 2410 m, 06.VI.2009 (CPP).– Fars: Shiraz 27.IV.1999 (CDK); Dasht Arjan, 25.V.1969 (MNHN), 29.IV.1971 (MNHN); Neyriz, 29.IV.1971 (MNHN); Lac Bakhtegan, 29.IV.1971 (MNHN).– Hormozgan: Minab, 25.IV.1971 (HMIM).– Kerman: Sabzevaran, 22.IV.1971 (MNHN); Delfard, 07.VI.1973 (MNHN)/

Remarks. This species was described from Fars (Dasht Arjan, type locality) and recorded from Kerman and Tehran (Palestrini *et al.*, 1979).

General distribution. Northern, western and central Iran. Iraq.

***Euonthophagus sulcicollis* (Reitter, 1892)**

Material examined. Iran – Sistan va Baluchestan: Deh Pabid, 21.IV.1973 (HMIM); Kuh-e Taftan, 20.IV.1971 (MNHN).– Khorasan-e Jonubi: Birjand, Nowkhan, 1850 m, 16.IV.1997 (HMIM).– Kerman: Dorahi-e Shahdad, 11.IV.1971 (MNHN).

Remarks. This species was recorded from Fars by Baraud (1968) and Kabakov (1977).

General distribution. Northeastern and central Iran. Turkey, Afghanistan, Central Asia.

***Onthophagus (Eremonthophagus) heydeni* Harold, 1875**

Material examined. Iran – Khuzestan: Ahvaz, 26.V.1977 (MNHN), 30.VI.1975 (MNHN); Shushtar, Karun Co, 400 m, 02.VI.1998 (HMIM); Jazireh-e Minu, 14.IV.2002 (HMIM).

Remarks. This species was recorded from several provinces in southern Iran (Petrovitz, 1958; Baraud, 1968; Ziani & Gudenzi, 2000; Ziani *et al.*, 2012).

General distribution. Southwestern Iran. Iraq.

***Onthophagus (Eremonthophagus) sticticus* Harold, 1867**

Material examined. Iran – Hormozgan: Bashagerd, Gru, 30.IV.1996 (HMIM); Bandar Abbas, 20.IX.1950 (HMIM); Jazireh-e Hengam, 03.III.1999 (HMIM).– Busher: Dayyer, Jazireh-e Gorm, 22-23.IV.1999 (HMIM).– Tehran: Varamin, 05.IV.1948 (HMIM).

Remarks. Petrovitz (1965, 1981) and Baraud (1968) recorded this species from some provinces in northern and southern Iran.

General distribution. Southern, northern and central Iran. Africa, Arabia.

***Onthophagus (Furconthophagus) furcatus* (Fabricius, 1781)**

Material examined. Iran – Alborz: Karadj, Arangeh, Sarziarat, 1750 m, 10-11.VII.1996 (HMIM); Taleghan, Lanbaran, 1850 m, 29.VIII.1996 (HMIM).– Gilan: Piri Valley, 500 m, 12.VI.2002 (COM).– Ardabil: Khalkhal, Kivi Bala, 1500 m, 16.VIII.1970 (HMIM).– Azerbaidjan-e Sharghi: Mardanehgom, 20.VII.2006 (COM); Sarab, 13.VI.1978 (HMIM).– Hamedan: Darreh-e Moradbeyk, 2350 m, 05.VII.1998 (HMIM).– Zanjan: Zanjan, 5 km N., 21.V.2008 (COM).– Ghazvin: Avan, 01.VI.2008 (COM).–

Golestan: Cheschmeh Olya, 14.VI.2011 (COM).–
Khorasan-e Shomali: Haver, 16.VI.2011 (COM).–
Kermanshah: Chaharzebar, 22.V.2007 (COM).–
Lorestan: Mamulan, 04.V.2008 (COM); Dorud, Darb
 Astaneh, 30.VI.2005 (COM).

Remarks. This species was recorded from
 some provinces in northern Iran by Petrovitz (1981),
 Ziani & Gudenzi (2000), Ziani & Moradi Gharakhloo
 (2011) and Barari (2001).

General distribution. Northern, western and
 southwestern Iran. Europe, Morocco, Caucasus,
 Middle East, Central Asia, Arabia.

Onthophagus (Furconthophagus) variegatus
(Fabricius, 1798)

Material examined. Iran – Busher: 10km NO
 Kangan, 70 m, 21.IV.1977 (HMIM).– **Hormozgan:**
 Schemil, 29.III.1949 (HMIM); Bandar-Lengeh,
 23.III.1965 (HMIM); Minab, 100 m, 04.IV.1973
 (HMIM), 14.IV.1994 (HMIM); Sirik, 100 m,
 30.IV.1996 (HMIM); Bandar Abass, 07.IV.1950
 (HMIM), 20.IV.1952 (HMIM); Bandar Abass, Issin,
 240 m, 06.IV.1973 (HMIM).– **Esfahan:** Esfahan,
 01.VI.1948 (HMIM).– **Fars:** Shiraz, 24.III.1973
 (HMIM).– **Kerman:** Boluk, 27.V.2008 (COM); Jiroft,
 11.V.1950 (HMIM); Hormak, 26.V.2008 (COM).–
Sistan va Baluchestan: Bahukalat, 08.III.1974
 (HMIM); Qasr-Qand, 450 m, 08.XI.1991 (HMIM);
 Bampur, Ghasem Abad, 12.IV.1973 (HMIM);
 Chahbahar, Tiss, 50 m, 12.XI.1991 (HMIM); Tiss,
 03.III.1974 (HMIM).– **Tehran:** Varamin, V.1949
 (HMIM).– **Golestan:** Minudasht, 03.VII.1956
 (HMIM).

Remarks. Ziani & Gudenzi (2000) and Barari
 (2001) recorded this species from some provinces in
 southern Iran.

General distribution. Southern Iran. Africa, Arabia,
 India.

Onthophagus (Indonthophagus) nitidulus Klug, 1845

Material examined. Iran – Hormozgan:
 Minab, 31.V.1973 (MNHN).– **Kerman:** Jiroft,
 10.VI.1973 (MNHN).

Remarks. This species was recorded from
 Sistan va Baluchestan and Hormozgan (Baraud,
 1968).

General distribution. Southern Iran. Africa,
 Pakistan, Afghanistan.

Onthophagus (s. str.) illyricus (Scopoli, 1763)

Material examined. Iran – Gilan: Khaleh-
 Sara, 29.V.2000 (COM).– **Azerbaidjan-e Sharghi:**
 Sarab, 13/06/1978 (HMIM).– **Kermanshah:** Khariz,
 22.VII.1977 (HMIM).– **Golestan:** P.M. Golestan,
 Almehr, 1650 m, 14.IV.1997 (HMIM).

Remarks. This species was recorded from
 several Iranian provinces by Baraud (1968), Petrovitz
 (1981) and Ziani & Gudenzi (2000).

General distribution. Northern and western
 Iran. Central and southern Europe, Caucasus, Middle
 East.

Onthophagus (s. str.) taurus (Schreber, 1759)

Material examined. Iran – Mazandaran:
 Kelardasht, 12.VII.1969 (HMIM); Mahmud Abad
 (HMIM); Nur, 9-21.X.2005 (CPP); Lac de Mola, 48
 km SE Sari, 17.IX.2007 (CPP); Qaemshahr, Shirgah,
 Ghoran Talar, Laforak, 250 m, 23.V.2005 (HMIM);
 Lac Valasht, 13.VI.2007 (COM); Chalus, 200 m,
 29.VI.2002 (COM); Kalendar Cheshmeh Arzat,
 02.VIII.2006 (COM); Tonekabon, Essel Mahale, 2100
 m, 27.VI.2002 (COM); Surk, Vandorbon, 07.VI.2011
 (COM).– **Tehran:** Damavand, 24.VII.1970 (HMIM);
 Varamin, 19.V.1948 (HMIM); Kamard, 26.V.2011
 (COM); Polur, 10.VIII.2006 (COM).– **Ghazvin:** Avan,
 01.VI.2008 (COM).– **Golestan:** Ramian, Paghale,
 Cheshmeh Tuksai, 1350 m, 26.VI.2000 (HMIM);
 Tuska Tchal, 15 km SE Minudasht, étang Sargol,
 19.IX.2007 (CPP); Gukjeh, 14.VI.2011 (COM).–
Khorasan-e Razavi: Shahid Abad, Radamgah,
 20.VI.2011 (COM).– **Khorasan-e Shomali:** Chaham
 Bid, 1530 m, 15.VI.2011 (COM).– **Gilan:** Assalem,
 04.VII.1965 (HMIM), 19.V.1969 (HMIM); Khaleh-
 Sara, 29.V.2000 (COM); Lemir, 17.VI.2002 (COM);
 Eskolak, Sefidroud Dam, 13.VI.2002 (COM),
 15.VII.2006 (COM); Assalem, 25.VI.2002 (COM).–
Azerbaidjan-e Sharghi: Sarab, 13.VI.1978 (HMIM);
 Mardaneghom, 20.VII.2006 (COM).– **Hamedan:**
 Moradbeyk, 2370 m, 22.VI.2004 (HMIM).–
Kordestan: Kordestan, Dezli, 2 km NE, 36°22'35"N
 46°09'36"E, 1380 m, 30.VI.2015 (COM).–
Kermanshah: Khariz, 22.VII.1977 (HMIM); Ghaleh
 Shahin, 670 m, 26.V.2007 (COM); Sarmast, 1530 m,
 23.V.2007 (COM).– **Ilam:** Soltan Gholi Stolfa,
 09.V.2008 (COM); Sarableh, Mishakan, 09.V.2008
 (COM).– **Chahar Mahal va Bakhtiari:** Gandomkar,
 26.VI.2005 (COM).– **Kohgiluyeh va Boyerahmad:**

Yasuj, 17.VI.2005 (COM).– **Fars**: Kakan, 12.VI.2012 (COM); Sarvestan, 05.VI.1973 (HMIM).

Remarks. This species was recorded from Iranian provinces by Petrovitz (1954, 1981), Baraud (1968), Ziani & Gudenzi (2000), Barari (2001) and Modarres Awal (2006).

General distribution. Northern, western and southwestern Iran. North Africa, Europe, Middle East, Afghanistan.

Onthophagus (Palaeonthophagus) aleppensis
Redtenbacher, 1843

Material examined. Iran – **Chahar Mahal va Bakhtiari**: Gandomkar, 26.VI.2005 (COM); Mashyer Bakhtian, Dopolan, 25.VI.2005 (COM).– **Zanjan**: Zanjan, 5 km N., 21.V.2008 (COM).– **Azerbaidjan-e Sharghi**: Maraghe, 1400 m, 28.IV.2001 (CDK).– **Lorestan**: Dorud, Darb Astaneh, 28.VI.2005 (COM), 30.VI.2005 (COM).– **Fars**: Firuz Abad, 28.VI.1975 (MNHN)

Remarks. Petrovitz (1954, 1981), Barari (2001), Ziani & Gudenzi (2000), Moradi Gharakhloo & Ziani (2010) and Ziani & Moradi Gharakhloo (2011) recorded this species from some provinces in southern and western Iran.

General distribution. Western and southwestern Iran. Middle East, Syria, Cyprus.

Onthophagus (Palaeonthophagus) anatolicus
Petrovitz, 1962

Material examined. Iran (first country record) – **Azerbaidjan-e Sharghi**: Kaleybar, 1700 m, 22.VI.2002 (COM).

General distribution. Western Iran. Turkey.

Onthophagus (Palaeonthophagus) angorensis
Petrovitz, 1963

Material examined. Iran – **Golestan**: Karim Ishan, 500 m, 05.IV.2001 (CDK).

Ziani & Gudenzi (2000) recorded this species from Khorasan.

General distribution. Northern Iran. Balkan, Middle East.

Onthophagus (Palaeonthophagus) cruciatus
Ménétriés, 1832

Material examined. Iran – **Kermanshah**: Paveh, 28.V.2007 (COM); Vanai, 30.V.1977 (MNHN).

Zanjan: Zanjan, 5 km N., 21.V.2008 (COM).– **Lorestan**: Zagheh, 21.V.1977 (MNHN).

Remarks. Barari (2001) recorded this species from Kerman, Moradi Gharakhloo & Ziani (2010) from Khorasan, Ziani & Moradi Gharakhloo (2011) from Lorestan.

General distribution. Western Iran. Transcaucasia, Middle East.

Onthophagus (Palaeonthophagus) dorsosignatus
d'Orbigny, 1898

Material examined. Iran – **Mazandaran**: Chalus, 17.VI.1999 (CDK); Kandovan Tunnel, 2500 m, VI.2011 (COM); Beznesom, 01.VIII.2006 (COM).– **Alborz**: Gachsar, 2100 m, 09.VI.2002, 13.VII.2006 (COM).– **Zanjan**: Meydanak, 20.V.2008 (COM); Zanjan, 5 km N., 21.V.2008 (COM).– **Markazi**: Kharazan, 04.VI.2011 (COM).– **Lorestan**: Khorram Abad, 5-10.VI.1999 (CDK); Oshtoran Kuh, Gharle Lake, 01.VII.2005 (COM).– **Chahar Mahal va Bakhtiari**: Gandomkar, 26.VI.2005 (COM).– **Kerman**: Hormak, 26.V.2008 (COM).– **Fars**: Lac Bakhtegan, 05.V.1968 (MNHN).

Remarks. Petrovitz (1954), Ziani & Gudenzi (2000), Moradi Gharakhloo & Ziani (2010) and Ziani & Moradi Gharakhloo (2011) recorded this species from several provinces in northern and western Iran.

General distribution. Northern, western and southern Iran, Middle East, Armenia, Iraq.

Onthophagus (Palaeonthophagus) fissicornis Steven,
1809

Material examined. Iran – **Mazandaran**: Sorkh Geriveh, 20.VI.2007 (COM); Behshahr, 13.V.1976 (MNHN).– **Golestan**: Karim Ishan, 500 m, 05.IV.2001 (CDK); Sulgerd, 14.IV.1997 (HMIM); Tang-e Gol, 15.IV.1997 (HMIM); Almeh, 14.IV.1997 (HMIM); Cheschmeh Olya, 14.VI.2011 (COM); Shahpasand, 05.VI.1969 (MNHN).– **Khorasan-e Shomali**: Asadli 31.III.1999 (CDK); Mayoun, 01.III.2006 (COM).– **Ghazvin**: Avan, 01.VI.2008, 20.V.2011 (COM).– **Zanjan**: Sendan Mt, 19.VI.2000 (CDK); Meydanak, 20.V.2008 (COM); Zanjan, 5 km N., 21.V.2008 (COM).– **Gilan**: Delaman, 15.VI.2007 (COM).– **Ardabil**: Heyran, 1700 m, 19.VI.2002 (COM).– **Azerbaidjan-e Sharghi**: Kaleybar, 1400 m, 22.VI.2002 (COM); Kaleybar, Babak Castel, 2100 m, 23.VI.2002 (COM); Kaleybar, 1700 m, 22.VI.2002 (COM).– **Kermanshah**: Chaharzebar, 22.V.2007

(COM); Paveh, 28.V.2007 (COM).– **Chahar Mahal va Bakhtiyari:** Lac Sulegan, 2410 m, 06.VI.2009 (CPP).– **Fars:** Dasht Arjan, 25.V.1969 (MNHN); Neyriz, 29.IV.1971 (MNHN).

Remarks. Baraud (1968), Petrovitz (1954, 1980), Ziani & Gudenzi, 2000, Barari (2001), Moradi Gharakhloo & Ziani (2010) and Ziani & Moradi Gharakhloo (2011) recorded this species from several Iranian provinces.

General distribution. Northern, western and southern Iran. Balkan, Middle East, Caucasus.

***Onthophagus (Palaeonthophagus) flagrans* Reitter, 1892**

Material examined. Iran – **Esfahan:** Mzdeh, Karkas Kuh, 15.VI.2005 (COM).– **Ilam:** Zarrin Abad, 07.V.2008 (COM).– **Fars:** Neyriz, 29.IV.1971 (MNHN); Sarvestan, 29.IV.1971 (MNHN).– **Markazi:** Salafchegan, 27.V.1969 (MNHN).– **Tehran:** Polur, 19.VI.1973 (MNHN).– **Alborz:** Taleghan, Avonak, 2300 m, 11.VI.1975 (MNHN).– **Lorestan:** Zagheh, 21.V.1971 (MNHN).– **Khorasan-e Shomali:** Bojnurd, 1100 m, 29.IV.1965 (MNHN).

Remarks. Ziani & Gudenzi (2000) and Barari (2001) recorded this species from some provinces in southern Iran.

General distribution. Southwestern, northeastern and central Iran. Central Asia.

***Onthophagus (Palaeonthophagus) formaneki* Reitter, 1897**

Material examined. Iran – **Tehran:** Tochal, 26.VI.2008 (COM).

Remarks. This species was recorded from Mazandaran and Tehran by Ziani *et al.* (2012).

General distribution. Northern Iran. Middle East.

***Onthophagus (Palaeonthophagus) fracticornis* (Preyssler, 1790)**

Material examined. Iran – **Mazandaran:** 10 km SW Rudbarrak, 2400 m 01.V.2000 (CDK); Kelardasht, Rudbarak, 1800-2400 m, 13.VIII.1970 (HMIM); Kelardasht, Rudbarak, 1500 m, 12.VIII.1970 (HMIM); Beznosom, 01.VIII.2006 (COM); Surk, Vandorbond, 08.VI.2011 (COM); Galugah, Tooska Cheshmeh, 01.VIII.2006 (COM).– **Golestan:** Deraznow, 26.VI.2007 (COM).– **Tehran:** Polur,

10.VIII.2006 (COM).– **Alborz:** Kandovan, 13.VII.2006 (COM); Gachsar, 2100 m, 13.VII.2006 (COM).– **Gilan:** Kelishom, 01.VIII.1999 (CDK); Assalem, 07.VI.1972 (HMIM); Lazerdeh, 16.VII.2006 (COM); Masuleh, 2100 m, 15.VI.2002 (COM), 17.IV.1999 (CDK); Heyran, 1600 m, 18.VI.2002 (COM); Darreh-Dasht, 1100 m, 11.VI.2002, 13.VI.2002 (COM); Delaman, 15.VI.2007 (COM).– **Ardabil:** Khalkhal, 2100 m, 25.VI.2002 (COM); Meshginshahr, Shahbil, 02.VIII.1970 (HMIM).– **Azerbaijan-e Sharghi:** Kaleybar, Babak Castel, 2100 m, 23.VI.2002 (COM); Kaleybar, 1700 m, 22.VI.2002 (COM); Marzrud, Kalan pass, 38°46'07"N 46°49'38"E, 2600 m, 25.VI.2015 (COM).

Remarks. Baraud (1968), Petrovitz (1981), Ziani & Gudenzi (2000) and Ziani & Moradi Gharakhloo (2011) recorded this species from several provinces in northern Iran.

General distribution. Northern Iran. Europe, Middle East.

***Onthophagus (Palaeonthophagus) gibbulus ssp. rostrifer* Reitter, 1893**

Material examined. Iran – **Mazandaran:** Kandovan Tunnel, 2500 m, 15.VI.2008, 08.VI.2011 (COM); Surk, Vandorbond, 7-8.VI.2011 (COM).– **Alborz:** Kandovan, 13.VII.2006 (COM).– **Zanjan:** Armaghankhane, Mari, 36°59'52"N 48°28'39"E, 2380 m, 20.VI.2015 (COM).– **Ardabil:** 18km NE Khalkhal, Kuh-e Almas, 2160 m, 30.VII.1977 (HMIM); Lac Neour, 17.VII.2006 (COM), 2363-2450 m, 22.VI.1973 (HMIM).– **Azerbaijan-e Sharghi:** Kaleybar, Babak Castel, 2100 m, 22.VI.2002 (COM).

Remarks. Petrovitz (1981) recorded this subspecies from Tehran.

General distribution. Northern Iran. Middle East.

***Onthophagus (Palaeonthophagus) lemur* (Fabricius, 1781)**

Material examined. Iran – **Tehran:** Tochal, 13.VI.2008 (COM).– **Alborz:** Gachsar, 2100 m, 09.VI.2002, 13.VII.2006 (COM).– **Mazandaran:** Sorkh Geriveh, 20.VI.2007 (COM).– **Golestan:** Razin, 23.VI.2011 (COM).– **Azerbaijan-e Sharghi:** Kaleybar, 1700 m, 22.VI.2002 (COM).

Remarks. This species was recorded by Baraud (1968) and Ziani & Gudenzi (2000) from some provinces in northern Iran.

General distribution. Northern Iran. Europe, Middle East, Caucasus.

Onthophagus (Palaeonthophagus) lemuroides d'Orbigny, 1898

Material examined. Iran – Hamedan: Gyan, 02.VI.2007 (COM).– **Kermanshah:** Sar Khedizeh, 24.V.2007 (COM).– **Alborz:** Kandovan, 2300 m, 26.IV.2001 (CDK).

Remarks. This species was recorded by Ziani (2012) from several provinces in southern Iran.

General distribution. Southern and central Iran. Turkey.

Onthophagus (Palaeonthophagus) lucidus (Illiger, 1800)

Material examined. Iran – Kermanshah: Chaharzebar, 22.V.2007 (COM); Jalilvand, Panjsavar, 23.V.2007 (COM); Paveh, 28.V.2007 (COM); Sar Khedizeh, 24.V.2007 (COM); Sarmast, 1530 m, 23.V.2007 (COM); Sarmiel, 24.V.2007 (COM).– **Ilam:** Sarableh, Mishakan, 09.V.2008 (COM); Soltan Gholi Stolfa, 09.V.2008 (COM).– **Buyer Ahmad o Kuhgiluye:** Sisakht, 2350 m, 16.VI.1973 (HMIM).– **Lorestan:** Zagheh, 21.V.1977 (MNHN).– **Fars:** Dasht Arjan, 30.IV.1971 (MNHN).

Remarks. Ziani & Gudenzi (2000) and Barari (2001) recorded this species from Fars, Moradi Gharakhloo & Ziani (2010) from Kerman, Khorasan, Azerbaijan-e *Sharghi* and Sistan va Baluchestan.

General distribution. Southwestern Iran. Balkan, Transcaucasia, Middle East.

Onthophagus (Palaeonthophagus) medius (Kugelann, 1792)

Material examined. Iran – Gilan: Darreh-Dasht, 1100 m, 11.VI.2002 (COM), 13.VI.2002 (COM).– **Alborz:** Gachsar, 2100 m, 09.VI.2002 (COM); Kandovan pass, 08.VI.2011 (COM).– **Zanjan:** Meydanak, 20.V.2008 (COM); Taham, 20.V.2008 (COM).

Remarks. Roessner *et al.* (2010) recorded this species from some provinces in northern and western Iran. See comment for *Onthophagus vacca* (Linnée, 1758).

General distribution. Northern Iran. Europe, Caucasus, Turkey.

Onthophagus (Palaeonthophagus) opacicollis Reitter, 1893

Material examined. Iran – Kermanshah:

Ghaleh Shahin, 670 m, 26.V.2007 (COM).

Remarks. Ziani & Gudenzi (2000) recorded this species from Khuzestan.

General distribution. Southwestern Iran. Northern Africa, southern Europe, Middle East.

Onthophagus (Palaeonthophagus) osellai Pittino, 1982

Material examined. Iran – Kermanshah: Chaharzebar, 22.V.2007 (COM), 27.V.2007 (COM); Jalilvand, Panjsavar, 22-23.V.2007 (COM); Paveh, 28.V.2007 (COM); Quri Qaleh, 27.V.2007 (COM).

Remarks. Martin Piera & Zunino (1986) recorded this species from Khuzestan.

General distribution. Southwestern Iran. Turkey.

Onthophagus (Palaeonthophagus) persianus Olsoufieff, 1900

Material examined. Iran – Lorestan: Oshtoran Kuh, Gharle Lake, 01.VII.2005 (COM).– **Ghazvin:** Avan, 01.VI.2008 (COM), 20.V.2011 (COM).– **Azerbaijan-e Sharghi:** Marageh, 1400 m, 28.IV.2001 (CDK).– **Kerman:** Sabzevaran, 10.IV.1970 (MNHN).– **Fars:** Dasht Arjan, 26.IV.1968 (MNHN).

Remarks. This species was described from Khorasan (Radkan, type locality), and recorded from Kerman by Ziani & Gudenzi (2000).

General distribution. Southern and central Iran. Caucasus, Afghanistan.

Onthophagus (Palaeonthophagus) ponticus Harold, 1883

Material examined. Iran – Golestan: Karim Ishan, 500 m, 05.IV.2001 (CDK).– **Khorasan:** 10 km S. Bodjnurd, 1400 m, 07.IV.2001 (CDK).

Remarks. This species was recorded from several Iranian provinces by Ziani & Gudenzi (2000, 2006), Ziani & Moradi Gharakhloo (2011) and Ziani *et al.* (2012).

General distribution. Northern Iran. Balkan, Ukraine, southern Russia, Armenia, Middle East.

***Onthophagus (Palaeonthophagus) ruficapillus ssp. guilanensis* Pittino, 1982**

Material examined. Iran – Gilan: Piri Valley, 500 m, 12.VI.2002 (COM); Darreh-Dasht, 1100 m, 11.VI.2002 (COM), 13.VI.2002 (COM); Eskolak, Sefidroud Dam, 13.VI.2002 (COM); Lazerdeh, 16.VII.2006 (COM); Heyran, 1600 m, 18.VI.2002 (COM); Rasht, 07.V.1965 (MNHN); Assalem, 08.V.1965 (MNHN), 10.V.1965 (MNHN), 20.V.1965 (MNHN), 04.VII.1965 (MNHN).– **Khorasan-e Shomali:** Chaham Bid, 1530 m, 15.VI.2011 (COM); Haver, 16.VI.2011 (COM).– **Kermanshah:** Paveh, 28.V.2007 (COM); Rijab, 25.V.2007 (COM); Sarmast, 1530 m, 23.V.2007 (COM); Ghaleh Shahin, 670 m, 26.V.2007 (COM); Chaharzebar, 22.V.2007 (COM).– **Kordestan:** Daraki, 2 km NO, 36°20'10"N 46°10'52"E, 1720 m, 30.VI.2015 (COM); Dezli, 2 km NE, 36°22'35"N 46°09'36"E, 1380 m, 30.VI.2015 (COM).– **Lorestan:** Dorud, Darb Astaneh, 28.VI.2005 (COM), 30.VI.2005 (COM).– **Fars:** Kakan, 12.VI.2012 (COM).

Remarks. This subspecies was described from Gilan (Nav's Valley, type locality) and recorded from some provinces in northern and central Iran by Pittino (1982), Ziani & Gudenzi (2000), Barari (2001), Moradi Gharakhloo & Ziani (2010) and Ziani & Moradi Gharakhloo (2011), under the name *Onthophagus ruficapillus* Brullé, 1832 whose synonymy was established by Martin Piera & Zunino (1986). With respect to Pittino (1982), I consider the Pittino's subspecies for the Iranian population.

General distribution. Western, northern and southwestern Iran. Middle East.

***Onthophagus (Palaeonthophagus) sericatus* Reitter, 1893**

Material examined. Iran – Gilan: Heyran, 1600 m, 18.VI.2002 (COM).– **Azerbaijan-e Sharghi:** Kaleybar, 1700 m, 22.VI.2002 (COM).– **Kermanshah:** Paveh, 28.V.2007 (COM); Sar Khedizeh, 24.V.2007 (COM).

General distribution. Western Iran. Balkan, Middle East, Caucasus.

***Onthophagus (Palaeonthophagus) speculifer* Solsky, 1876**

Iran – Khorasan: 50 km NE Mashad, 2000 m, 24.IV.2000 (COM).– **Golestan:** Cheskmeh Olya,

14.VI.2011 (COM).– **Alborz:** Taleghan, Jahestan, 05.VII.2011 (COM).

Remarks. Petrovitz (1954, 1981) recorded this species from Kerman and Lorestan and Barari (2001) from Azerbaijan-e Gharbi and Fars.

General distribution. Northern Iran. Middle East, Transcaucasia, Turkmenistan.

***Onthophagus (Palaeonthophagus) suturellus* Brullé, 1832**

Material examined. Iran – Mazandaran: Kuh-e Damavand, 14.VII.2006 (COM), 10.VIII.2006 (COM), 2500 m, 21.VII.1970 (HMIM); Beznesom, 01.VIII.2006 (COM); Sorkh Geriveh, 20.VI.2007 (COM).– **Golestan:** Cheskmeh Olya, 14.VI.2011 (COM); Tangeh, 22.VI.2007 (COM).– **Ghazvin:** Avan, 01.VI.2008 (COM).– **Ardabil:** Heyran, 1700 m, 19.VI.2002 (COM).– **Azerbaijan-e Sharghi:** Nir, 1900 m, 21.VI.2002 (COM); Maraghe, 1400 m, 28.IV.2001 (CDK); Marjashin, pass 3km N, 37°44'17"N 46°09'20"E, 2220 m, 27.VI.2015 (COM); Qaleh Malek, 38°31'25"N 47°10'18"E, 1520 m, 22.VI.2015 (COM).

Remarks. This species was recorded from Azerbaijan-e Gharbi (Baraud, 1968), Ardabil and Mazandaran (Petrovitz, 1981; Ziani & Moradi Gharakhloo, 2011) and from Yazd (Moradi Gharakhloo & Ziani, 2010).

General distribution. Northern and western Iran. Balkan, Turkey, Caucasus.

***Onthophagus (Palaeonthophagus) truchmenus* Kolenati, 1846**

Material examined. Iran – Mazandaran: Kandovan Tunnel, 2500 m, 29.VI.2002 (COM), 08.VI.2011 (COM); Sorkh Geriveh, 20.VI.2007 (COM); Kuh-e Damavand, 2580 m, 1-2.VII.2000 (CDK) 17-18.VII.2000 (CDK) Surk, Vandorbon, 07.VI.2011 (COM); 10 km S. chalus, 2300 m, 23.V.1965 (MNHN).– **Golestan:** Deraznow, 26.VI.2007 (COM); Karim Ishan, 500 m, 05.IV.2001 (CDK).– **Khorasan-e Shomali:** Sarparchin, Kuh-e Shah Jahan, 18.VI.2011 (COM); Chaham Bid, 1530 m, 15.VI.2011 (COM).– **Tehran:** Tochal, 13.VI.2008, 26.VI.2008 (COM); Polur, 19.VI.1973 (MNHN).– **Alborz:** Gachsar, Azadbar, 2200 m, 10.VI.2002 (COM); Gachsar, 2100 m, 09.VI.2002, 13.VII.2006 (COM); Taleghan, Jahestan, 05.VII.2011 (COM).– **Gilan:** Masuleh, 2100 m, 15.VI.2002 (COM).–

Zanjan: Taham, 20.V.2008 (COM); Zanjan, 5 km N., 21.V.2008 (COM); Mt Sendan 2400 m, 19.VI.2000 (CDK); Armaghankhane, Mari, 36°59'52"N 48°28'39"E, 2380 m, 20.VI.2015 (COM).– **Ardabil:** Lac Neour, 17.VII.2005 (COM), 23.VII.2008 (CPP); Heyran, 1700 m, 19.VI.2002 (COM).– **Azerbaidjan-e Sharghi:** Nir, 1900 m, 21.VI.2002 (COM); Marzrud, Kalan pass, 38°46'07"N 46°49'38"E, 2600 m, 25.VI.2015 (COM).– **Kermanshah:** Paveh, 28.V.2007 (COM); Sarmiel, 24.V.2007 (COM) – **Chahar Mahal va Bakhtiyari:** Gandomkar, 26.VI.2005 (COM); Gandomkar, 26.VI.2005 (COM); Lac Sulegan, 2410 m, 06.VI.2009 (CPP).– **Fars:** Kakan, 12.VI.2012 (COM); Shiraz, 27.IV.1999 (CDK).

Remarks. Ziani & Moradi Gharakhloo (2011) recorded this species from several Iranian provinces. The subspecies *O. truchmenus* ssp. *xerxes* Petrovitz, 1965, described from Esfahan (Esfahan, Kuhrang, type locality), and *O. truchmenus* ssp. *iranicus* Kabakov, 2006 (described from Lorestan) require detailed revision to confirm their taxonomic status.

General distribution. Iran. Middle East, Caucasus, Central Asia.

***Onthophagus (Palaeonthophagus) vacca* (Linné, 1767)**

Material examined. Iran – Gilan: Khaleh-Sara, 29.V.2000 (COM).

Remarks. Moradi Gharakhloo & Ziani (2010) recorded this species from several Iranian provinces. Roessner *et al.* (2010) distinguished *O. (Palaeonthophagus) medius* (Kugelann, 1792) which was synonymized with *O. vacca*, that occurs in Iran too. They recorded *O. vacca* only from Golestan and Lorestan. It is necessary to reexamine all the material recorded under the name *O. vacca* to accurately determine the distribution range for both species in Iran.

General distribution. Northern Iran. Europe, Morocco, Algeria, Caucasus, Middle East.

***Onthophagus (Palaeonthophagus) viridis* Ménétrié, 1832**

Material examined. Iran – Mazandaran: Javaherdeh, 14.VI.2007 (COM).– **Azerbaidjan-e Sharghi:** Kaleybar, 1700 m, 22.VI.2002 (COM).– **Gilan:** Masuleh, 550 m, 15.VI.2002 (COM).– **Golestan:** Razin, 22.VI.2011 (COM); 10 km S

Gorgan, 350 m, 31.III.2001 (CDK); Bandar-e Gaz, 27.V.2001 (CDK); Gorgan, Naharkhoran, 18.V.1976 (MNHN).

Remarks. This species was recorded from some provinces in northern Iran by Baraud (1968) and Ziani & Gudenzi, (2000). It occurs in forests.

General distribution. Northern Iran. Azerbaijan.

***Onthophagus (Palaeonthophagus) viriditinctus* Reitter, 1892**

Material examined. Iran – Kerman: Rayen, VI.1968 (MNHN).– **Fars:** Dasht Arjan (MNHN).

Remarks. This species was described from Fars (Dasht-Arjan, type locality) and recorded from Kerman by Ziani (2012b).

General distribution. Southern Iran.

***Onthophagus (Palaeonthophagus) zuvandi* Qarjagdy, 1939**

Material examined. Iran – Khuzestan: Ahwaz, 27.V.1977 (MNHN).– **Lorestan:** Zagheh, 21.V.1977 (MNHN).

Remarks. This species was described from Azerbaijan and redescribed twice under the names *Onthophagus rechingeri* Petrovitz, 1980, from Iran, Tehran, and *Onthophagus kryzhanovskii* Kabakov, 1982, from Afghanistan, Herat. Shokin (2014) established the synonymies for this species. The species has been recorded from Iranian provinces under the name *O. rechingeri* by Ziani & Gudenzi (2000), Ziani & Moradi Gharakhloo (2011) and Ziani *et al.* (2012).

General distribution. Southwestern Iran. Afghanistan, Azerbaijan, Turkey, Turkmenistan.

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