

Preliminary studies on Scarabaeoidea (Coleoptera) fauna of Razavi Khorasan province of Iran

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Summary

In this study forty four species and five subspecies belonging to seven families of Scarabaeoidea (Coleoptera) have been determined in Razavi Khorasan province of Iran. Among those fifteen species and five subspecies are the first record for the fauna of Iran. Among the evaluated species, ***Oryctes nasicornis*** (Linnaeus, 1758), ***Tropinota hirta*** (Poda, 1761), ***Pentodon sulcifrons*** (Kuster, 1848), ***Copris hispanus*** (Linnaeus, 1764) and ***Oxythyrea cinctella*** (Schaum, 1841) were the common species in Iran.

Key words: Scarabaeoidea, Iran, fauna, Razavi Khorasan, first record

Anahtar sözcükler: Scarabaeoidea, İran, fauna, Razavi Horasan, ilk kayıt

Introduction

Scarabaeoidea fauna of Iran has not been studied in detail. The studies of Afshar (1944), Zairi (1976), Baroughi (1977), Barari et al. (1998) and Modarres Awal (2002) retain great importance. There is not any detailed study on the Scarabaeoidea fauna of Razavi Khorasan province. Material collected from the different parts of Razavi Khorasan province of Iran have been evaluated in this paper.

Material and Methods

Scarabaeid beetles were collected from Razavi Khorasan province during 1987-1998 by knock down and sweeping net methods and also in some places light traps were used. The material collected by author and housed in the collections of Agricultural Faculty of Ferdowsi University of Mashhad in Iran was also included in this study.

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Material reported the first time from Iran has been given by asterisks after scientific name of species. In this study, materials has been identified by author and confirmed by Dr. G. M. Carpaneto, Dr. E. Piattella and Dr. G. Sabatinelli in Zoology Department of Rome University in Italy.

Results and Discussion

In this study 49 species / subspecies belonging to seven families of Scarabaeoidea have been studied.

Cetoniidae Leach, 1815

Aethiessa mesopotamica Burmeister, 1842*

Material examined: Sabzevar (Feyz Adad): 4 specimens, May 1995. On grasses. New record for the fauna of Iran.

Cetonia aurata (Linnaeus, 1758)

Material examined: Qouchan: 3 specimens, June 1997; 2 specimens, August, 1995. On grasses and apples.

Note: This species sometimes causes considerable damage in sunflower fields (Balachowsky, 1962; Lodos et al., 1978). This species has been collected in coastal provinces of Caspian Sea, Azarbaijan, Tehran, Fars, Markazi, Kordestan, Kermanshah, Zanjan, Hamadan and Lorestan from rose, apple, pear, apricot, peach, white-thorn, garden plum, cherry, sourcherry, sorb, common lilac, sloe tree, tung and citrus (Modarres Awal, 2002).

Cetonischema speciosa (Adams, 1817) *

Material examined: Chenaran: 3 specimens, June 1992; 2 specimens, May 1994. New record for the fauna of Iran.

Note: The adults feed on pollen, ripe fruits and petals of host plants and larvae feed on moldy leaves and moist woods (Panchout, 2001).

Netocia funebris (Gory & Precheron, 1833) *

Material examined: Fariman: 1 specimen, July 1989; **Nishabour,** 3 specimens, May 1993. On grasses. New record for the fauna of Iran.

Netocia hungarica armeniaca (Ménétries, 1832) *

Material examined: Bojnord (Goush Gale): 1 specimen, June 1993; **Kalat:** 1 specimen, May 1992; **Mashhad:** 1 specimen, May 1996; **Mashhad (Shandiz):** 1 specimen, March, 1990; **Nishabour (Golshan):** 2 specimens, March 1994; **Shirvan (Amir Abad):** 2 specimens, July 1997. On grasses and rarely on ground. New record for the fauna of Iran.

Oxythyrea cinctella (Schaum, 1841)

Material examined: **Bojnord:** 2 specimens, April 1994; **Mashhad (Delbaran):** 2 specimens, May 1990; **Qouchan (Najaf Abad):** 4 specimens, May 1993; **Shirvan:** 1 specimen, May 1992. On grasses, wheat and apples.

Note: The adults are polyphagous and feed on plant host flowers and sometimes cause economic damage to fruit trees and other plants (Lodos et al., 1978). This species has been collected from different regions of Iran on rose, wheat, colza, apple, grapevine, peach, quince, citrus, malus, white-thorn, tung, black poplar, false acacia, alder, egyptian acacia and wild pear (Modarres Awal, 2002).

Potosia cuprea transfuga (Schaufuss, 1882) *

Material examined: **Bojnord (Baba Aman):** 1 specimen, August 1995; 1 specimen, August 1989; **Mashhad (Almajig):** 2 specimens, July 1993; **Qouchan (Daghian):** 2 specimens, June 1995; **Shirvan (Barzan Abad):** 1 specimen, July 1997. On grasses and rarely on grapevine. New record for the fauna of Iran.

Stalagmosoma albella (Pallas, 1781)

Material examined: **Nishabour (Rouh Abad):** 2 specimens, July 1985; 1 specimen, August 1995. On wild poaceous plants.

Note: This species attack roses in Esfahan and Shiraz provinces in Iran (Balachowsky, 1962).

Tropinota hirta (Poda, 1761)

Material examined: **Mashhad:** 7 specimens, April 1995; **Bojnord (Ashkhaneh):** 5 specimens, May 1997. On trees belonging to Rosaceae.

Note: The adults damage the host plant flowers specially in plants belonging to Rosaceae (Balachowsky, 1962; Lodos et al., 1978). This species has been reported in different areas of Iran from rose, wheat, pomegranate, citrus, apple, pear, malus, white-thorn, store tree, almond, cherry, garden plum, apricot, peach, black poplar, alder, egyptian acacia and false acacia (Modarres Awal, 2002).

Tropinota senicula (Ménétries, 1832) *

Material examined: **Mashhad:** 2 specimens, May 1990; **Sarakhs:** 1 specimen, May 1996; **Shirvan (Reza Abad):** 3 specimens, May 1995. On garden plums, apple and also grasses. New record for the fauna of Iran.

Dynastidae MacLeay, 1819

Oryctes nasicornis (Linnaeus, 1758)

Material examined: **Bojnord:** 1 specimen, June 1994; **Fariman:** 1 specimen, June 1996; **Mashhad:** 4 specimens, August 1995; **Mashhad (Sharif Abad):** 3 specimens, April 1990; **Nishabour (Daroud):** 3 specimens, August

1993; **Qouchan**: 1 specimen, June 1989; **Sabzevar (Safi Abad)**: 1 specimen, April 1995; **Shirvan**: 2 specimens, August 1997. On ground and rarely by light trap in fields covered by poaceous plants and also on elm trees.

Note: The larvae of this species feed on decaying plant material and dry trees remaining and also by feeding on roots of olive, citrus, grapevine and rose causes drying of trees (Balachowsky, 1962; Lodos et al., 1978). This species distributed in whole Iran and has been reported on apricot, grapevine and rose (Modarres Awal, 2002).

Pentodon algerinum bispinifrons Reitter, 1894 *

Material examined: **Mashhad**: 3 specimens, May 1990; **Mashhad (Sekke)**: 2 specimens, July 1998. On grasses. New record for the fauna of Iran.

Pentodon bidens (Pallas, 1771)

Material examined: **Mashhad**: 5 specimens, April 1990; 2 specimens, July 1998. On grasses and rose.

Pentodon quadridens distantidens Reitter, 1899 *

Material examined: **Mashhad (Vakil Abad)**: 3 specimens, June 1995. On grasses. New record for the fauna of Iran.

Pentodon sulcifrons Kuster, 1848

Material examined: **Bojnord**: 3 specimens, August 1990; **Esfaraien (Rouyin)**: 2 specimens, June 1995; **Mashhad**: 4 specimens, June 1991; 2 specimens, July 1997; **Nishabour (Godrat Abad)**: 1 specimen, June 1995. On ground and rarely on black poplar trees.

Note: This species was reported from East Azarbaijan province (Modarres Awal, 2002).

Phyllognathus excavatus (Forster, 1771)

Material examined: **Chenaran**: 1 specimen, May 1992; **Sarakhs**: 2 specimens, May 1996; **Shirvan**: 4 specimens, August 1998. On grasses, ground and by light trap in orchards.

Note: The adults and larvae of this species damage in vineyard areas from Mediterranean region (Balachowsky, 1962). This species has been collected from grapevine in Tehran province (Modarres Awal, 2002).

Podalgus cuniculus infantulus (Semenov, 1890) *

Material examined: **Mashhad (Golmakan)**: 3 specimens, May 1993. On ground. New record for the fauna of Iran.

Geotrupidae Latreille, 1802

Geotrupes spiniger (Marsham, 1802)

Material examined: Mashhad: 4 specimens, June 1990. On ground.

Geotrupes stercorarius (Linnaeus, 1785) *

Material examined: Daragaz (Bajgiran): 1 specimen, August 1988; **Mashhad (Deh Now):** 2 specimens, July 1997; **Qouchan (Daghian):** 1 specimen, July 1995. On ground and rarely on wild poaceous plants. New record for the fauna of Iran.

Lethrus acutangulatus Ballion, 1871

Material examined: Bojnord (Ashkhaneh): 1 specimen, May 1989; **Qouchan:** 1 specimen, May 1996; **Shirvan (Reza Abad):** 1 specimen, June 1998. On manure.

Note: Previously it has been reported from Mazandaran province (Modarres Awal, 2002).

Lethrus mithras Reitter, 1904 *

Material examined: Nishabour (Gadamgah): 3 specimens, May 1996. On ground. New record for the fauna of Iran.

Glaphyridae MacLeay, 1819

Amphicoma psilotrichia (Faldermann, 1835)

Material examined: Mashhad: 2 specimens, June 1989; 2 specimens, June 1997. On grasses.

Note: Although ***Amphicoma*** species are usually shown as harmful insects (Lodos et al., 1978), but no damage has been observed in the studied areas. The larvae of the species belonging to this genus feed on decaying leaves (Jameson & Ratcliffe, 2000; Carlson, 2002). Previously it has been reported from East Azarbaijan province (Baroughi, 1977).

Eulasia azarbaijanica Petrovitz, 1980 *

Material examined: Mashhad (Golmakan): 3 specimens, April 1994. On wild poaceous plants. New record for the fauna of Iran.

Eulasia bombylifformis (Pallas, 1781) *

Material examined: Mashhad: 2 specimens, June 1989; 1 specimen, July 1998. On wild poaceous plants. New record for the fauna of Iran.

Glaphyrus oxypterus (Pallas, 1771) *

Material examined: Bojnord: 1 specimen, August 1990; **Fariman:** 2 specimens, June 1996; **Mashhad:** 1 specimen, June 1992. On grasses. New record for the fauna of Iran.

Glaphyrus superbus Champenois, 1898

Material examined: **Bojnord (Goush Gale):** 1 specimen, June 1991; **Shirvan:** 2 specimens, August 1995. On grasses.

Note: This species has been reported from Fars province by Zairi (1976).

Pygopleurus psilotrichius (Faldermann, 1835)*

Material examined: **Sabzevar (Soltan Abad):** 3 specimens, June 1992. On grasses. New record for the fauna of Iran.

Melolonthidae MacLeay, 1819

Chioneosoma porosum (Fischer, 1824)

Material examined: **Fariman:** 2 specimens, June 1996; **Mashhad (Almajig):** 2 specimens, May 1995. On grasses.

Note: This species has been reported on fruit trees from Fars and Golestan provinces and some of other northern areas (Modarres Awal, 2002).

Cyphonoxia glasunovi Semenov, 1896*

Material examined: **Nishabour:** 3 specimens, July 1997. On black poplar. New record for the fauna of Iran.

Cyphonoxia weisei (Kraatz, 1888)*

Material examined: **Fariman:** 4 specimens, July 1989. On grasses. New record for the fauna of Iran.

Panotrogus myschenkovi (Ballion, 1871)*

Material examined: **Bojnord (Gifan):** 1 specimen, April 1996; **Daragaz (Bajgiran):** 1 specimen, July 1990; **Mashhad (Shandiz):** 1 specimen, May 1997; **Nishabour:** 2 specimens, May 1995. On grasses. New record for the fauna of Iran.

Polyphylla adspersa Motschulsky, 1853

Material examined: **Bojnord:** 1 specimen, July 1991; **Fariman:** 2 specimens, August 1995; **Mashhad:** 4 specimens, July 1995; **Nishabour (Gadamgah):** 1 specimen, August 1993; **Qouchan (Jafar Abad):** 1 specimen, July 1992; **Shirvan (Borzol Abad):** 2 specimens, August 1990. On ground and by light trap in orchards and rarely on elm.

Note: Larvae of this species feed on roots of host plants and are harmful to trees, cotton, potato, summer crops and also is noxious in northeast of Iran on grapevine and other fruit trees (Balachowsky, 1962). This species has been reported from Azarbaijan, Khorasan, Tehran, Mazandaran, Golestan, Yazd, Kerman and Lorestan provinces on cotton, potato, apple, grapevine and other fruit trees (Modarres Awal, 2002).

Polyphylla olivieri (Laporte de Castelneu, 1840)

Material examined: Mashhad: 5 specimens, June 1990; 2 specimens, July 1996.

Note: It has been collected in different regions of Iran on pear, apple, cherry, apricot, peach, quince, plum, cerasus, grapevine, pistachio, oriental plane, elm, ash, white poplar, pine, european privet, syringa, laurel, gladiola, gosseberry, cucumber, bean, potato, egg plant, poa, field foxtail, green foxtail, yellow foxtail and many other plants (Modarres Awal, 2002).

Rutelidae Latreille, 1802

Adoretus nigrifrons (Steven, 1809)

Material examined: Bojnord (Gifan): 1 specimen, August 1989; **Daragaz:** 1 specimen, July 1992; **Mashhad:** Many specimens, August 1995; **Nishabour:** 5 specimens, June 1998. On grasses and rarely wheat and ground.

Note: This species has been reported from eastern and southern provinces of Iran on russian olive and arthrophytum (Modarres Awal, 2002).

Anisoplia leucaspis (Laporte, 1840)

Material examined: Bojnord (Gifan): 3 specimens, July 1995; **Mashhad (Zoshk):** 4 specimens, June 1993. On wheat and rarely grasses.

Note: This species has been reported from East Azarbaijan, Zanjan, Tehran, Mazandaran, Golestan, Markazi, Kermanshah, Chahar Mahal and Bakhtiari, Kermanshah, Kordestan and Fars provinces on wheat, barley and wild poaceous plants (Modarres Awal, 2002).

Anomala splendida Ménétries, 1832

Material examined: Mashhad (Bildar): 2 specimens, June 1990; **Qouchan** (Najaf Abad): 1 specimen, August 1996. On grasses and apples.

Note: This species has been collected from Fars province without giving its host plants (Jameson, 2002).

Scarabaeidae Latreille, 1802

Copris hispanus (Linnaeus, 1764)

Material examined: Bojnord: 1 specimen, July 1987; **Chenaran (Gezel Hesar):** 1 specimen, June 1992; **Daragaz (Bajgiran):** 1 specimen, April 1995; **Fariman:** 1 specimen, June 1997; **Mashhad:** 1 specimen, April 1993; **Sarakhs (Shorgol):** 1 specimen, June 1995; **Shirvan:** 2 specimens, May 1997; **Taibad:** 1 specimen, May 1992. On manure and ground.

Note: It has been reported from East Azarbaijan and Tehran povinces without giving its host plants (Modarres Awal, 2002).

Copris lunaris (Linnaeus, 1758)

Material examined: Torbat Jam: 2 specimens, June 1992; 1 specimen, July 1995. On manure.

Note: It has been reported from Fars and Mazandaran provinces (Modarres Awal, 2002).

Euoniticellus pallipes (Fabricius, 1781)

Material examined: Mashhad (Zoshk): 2 specimens, June 1994. On manure.

Note: This species has been collected from Fars province without giving its host plants (Modarres Awal, 2002).

Gymnopleurus flagellatus (Fabricius, 1787)

Material examined: Bojnord (Garlog): 1 specimen, May 1995; **Fariman:** 2 specimens, June 1988; **Nishabour (Daroud):** 2 specimens, May 1997. On manure.

Note: This species often found on fresh manures of cow and horse (Pehlivan, 1988) and has been reported from Tehran province (Barari et al., 1998).

Gymnopleurus mopsus Pallas, 1781

Material examined: Bojnord (Goush Gale): 3 specimens, June 1990; **Mashhad:** 2 specimens, May 1988. On manure and by light trap in the fields of wheat.

Note: It has been reported from Fars and Tehran provinces (Barari et al., 1998; Modarres Awal, 2002).

Onitis humerosus (Pallas, 1771)

Material examined: Fariman: 2 specimens, May 1989; **Mashhad:** 1 specimen, May 1994. On grasses.

Note: It has been reported from Tehran, Mazandaran and Fars provinces by Barari et al. (1998) and Modarres Awal (2002).

Onthophagus gazelle (Fabricius, 1787) *

Material examined: Shirvan (Khanlog): 5 specimens, March 1996. On manure. New record for the fauna of Iran.

Onthophagus taurus (Schreber, 1759)

Material examined: Bojnord (Heidar Abad): 6 specimens, April 1994. On manure.

Note: Previously it has been reported from Tehran province by Afshar (1944).

Onthophagus transcaspicus Koenig, 1888 *

Material examined: Mashhad: 4 specimens, July 1998; **Nishabour (Rouh Abad):** 3 specimens, June 1989. On grasses, ground and by light trap from fields covered by wheat and barley. New record for the fauna of Iran.

Scarabaeus armeniacus Ménétries, 1832

Material examined: Qouchan (Ganbar Abad): 2 specimens, May 1998; **Taibad:** 3 specimens, April 1989. On manure and ground.

Note: It has been reported from East Azarbaijan province by Baroughi (1977).

Scarabaeus babori Balthasar, 1934

Material examined: Bojnord (Ashkhaneh): 1 specimen, July 1993; **Mashhad (Golmakan):** 1 specimen, May 1989; **Nishabour (Daroud):** 1 specimen, May 1995; **Sabzevar:** 1 specimen, June 1997; **Shirvan (Borzol Abad):** 1 specimen, May 1990. On manure and ground.

Note: It has been reported from Azarbaijan and Fars provinces by Modarres Awal (2002).

Scarabaeus pius Illiger, 1803

Material examined: Taibad: 3 specimens, April 1989. On manure.

Note: It has been reported from Tehran province by Afshar (1944).

Sisyphus schaefferi Linnaeus, 1758

Material examined: Bojnord (Badranlou): 1 specimen, May 1998; **Mashhad (Golmakan):** 3 specimens, May 1995. On manure and ground.

Note: It has been reported from Tehran and other northern provinces of Iran by Afshar (1944) and Barari et al. (1998).

In this study, material belonging to the following taxa have also been collected and they have been determined at genus level. Their names and data of them given as follows: ***Aphodius*** sp. [**Daragaz:** 3 specimens, June 1996. On ground]; ***Euonthophagus*** sp. [**Mashhad (Sharif Abad):** 1 specimen, June 1991; 2 specimens, July 1997. On ground]; ***Hoplia*** sp. [**Fariman:** 2 specimens, August 1990; **Mashhad (Deh Now):** 2 specimens, August 1997. On grasses and ground]; ***Xantotrogus*** sp. [**Daragaz (Gol Khandan):** 1 specimen, May 1991; **Mashhad:** 2 specimens, July 1990. On grasses]; ***Maladera*** sp. [**Bojnord:** 3 specimens, July 1992. On grasses]. It is expected that detailed further studies will continue in future on this group of insects in Iran.

Özet

Razavi Horasan Bölgesi (İran)'nin Scarabaeoidea (Coleoptera) faunası üzerine ilk çalışmalar

Bu çalışmada İran'ın Razavi Horasan Bölgesinin Scarabaeoidea (Coleoptera) üstfamilyasına bağlı yedi familya içinde yer alan 44 tür ve beş alttüre ilişkin faunistik bilgiler verilmiştir. Bunlardan onbeş tür ve beş alttür İran faunası için ilk kayıt özelliği taşımaktadır. Ayrıca **Oryctes nasicornis** (Linnaeus, 1758), **Tropinota hirta** (Poda, 1761), **Pentodon sulcifrons** (Kuster, 1848), **Copris hispanus** (Linnaeus, 1764) ve **Oxythyrea cinctella** (Schaum, 1841)'nin en yaygın bulunan türler olduğu anlaşılmıştır.

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