A contribution to the faunistic study of Scarabaeoidea (Coleoptera) from Mazandaran Province, northern Iran

Materiały do poznania fauny Scarabaeoidea (Coleoptera) prowincji Mazandaran w północnym Iranie

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ABSTRACT: In this faunistic work, the fauna of Scarabaeoidea from Mazandaran Province (northern Iran) is studied. In total, 23 species from 13 genera were collected and identified. Pleurophorus variolosus (KOLEN.) is a new record for the fauna of Iran.

KEY WORDS: Coleoptera, Scarabaeoidea, Glaphyridae, Geotrupidae, Scarabaeidae, Northern Iran, Mazandaran prov.

Introduction

The superfamily Scarabaeoidea comprises more than 35,000 species worldwide (RATCLIFFE & PAULSEN 2008). The superfamily Scarabaeoidea includes the family Scarabaeidae – "scarab beetles," the Lucanidae – "stag beetles," Passalidae – "bess beetles," and several of the traditional subfamilies of Scarabaeidae that are now generally treated as separate families (RILEY & WOLFE 2003). Perhaps the most well-known features of adult scarabaeoids are their 3-7-segmented, fan-like or lamellate antennal club and powerful legs armed with teeth on the outer edge, an adaptation for digging (BORROR et al. 1989). Scarabaeoids feed on most...
types of dung and a wide range of plant and animal matter, from detritus through lower plants to virtually all higher plant tissues, and from carrion to predation on other insects. Their habits range from free-living through fairly sophisticated forms of brood care to sub-social behaviour (Borror et al. 1989; Scholtz 1990; Jameson & Ratcliffe 2002).


Mazandaran Province (Fig. 1) is located on the southern coast of the Caspian Sea. Mazandaran Province is geographically divided into two parts: the coastal plains and the mountainous areas.

![Map of Mazandaran Province](image)

**Fig. 1. Administrative division of Mazandaran Province.**

**Ryc. 1. Podział administracyjny prowincji Mazandaran.**

The Alborz Mountain Range surrounds the coastal strip and plains of the Caspian Sea. Given the climatic changes and varying rates of rainfall in different parts of Mazandaran Province, this region has a variety of climates, including the mild and humid climate of the Caspian shoreline and the moderate and cold climate of the mountainous regions. The
western and central plains of the province, up to the northern foothills of the Alborz Mountain Range, experience the mild climate of the Caspian region. The province contains a moderate, subtropical climate with an average temperature of 25°C in summer and about 8°C in winter. This paper presents the faunistic work on the Scarabaeoidea of Mazandaran Province in order to determine step by step the fauna of these insects in Iran.

Materials and Methods

The materials of this research were collected from some regions of Mazandaran Province (northern Iran) during occasional field surveys. The methods for collecting included sweeping net, light traps, and knockdown. All the collected specimens were put in alcohol (ethanol 75%) and determined by the authors. Information concerning the date of collection, locality, coordinates, altitude, and number of specimens are given in brackets.

The classification and nomenclature of scarab beetles suggested by Lawrence & Newton (1995), Ratcliffe et al. (2002), and Löbl & Smetana (2006) have been followed.

Results

In total, 23 species from 13 genera were collected and identified in Mazandaran Province. The list of species is given below alphabetically.

**Family: Geotrupidae Latreille, 1802**

**Subfamily: Lethrinae Mulsant et Rey, 1871**

**Genus: Lethrus Scopoli, 1777**

*Lethrus (Lethrus) acutangulus* Ballion, 1871

Distribution: Iran.
Material examined: Babol, 36°30′ N / 52°35′ E, 25 m, (2), VI 2012.

**Family: Glaphyridae Mac Leay, 1819**

**Genus: Glaphyrus Latreille, 1807**

*Glaphyrus (Glaphyrus) luristanus* Reitter, 1903

Distribution: Iran.
Material examined: Amol, 36°28′ N / 52°21′ E, 198 m, (2), VI 2012.
Family: Scarabaeidae LATREILLE, 1802
Subfamily: Aphodiinae LAECH, 1815
Tribe: Aphodiini LAECH, 1815
Genus: Aphodius ILLIGER, 1798

*Aphodius (Acanthobodilus) immundus* (CREUTZER, 1799)
Distribution: Europa, North Africa, Iran, North & Central Asia, Western China.
Material examined: Tonekabon, 36°38′ N / 50°49′ E, 55 m, (2), VIII 2011; Noor, 36°19′ N / 52°00′ E, 8 m, (2), VI 2012.

*Aphodius (Acrossus) luridus* (FABRICIUS, 1775)
Material examined: Savadkooh, 36°05′ N / 52°55′ E, 550 m, (1), IX 2009.

*Aphodius (Mesontoplatys) arabicus* HAROLD, 1875
Distribution: Egypt, Arabia, Israel, Iran.
Material examined: Savadkooh, 36°05′ N / 52°55′ E, 550 m, (3), IX 2009; Sari, 36°30′ N / 53°30′ E, 10 m, (4), IV 2013.

Tribe: Psammodiini MULSANT, 1842
Genus: Platytomus MULSANT, 1842

*Platytomus variolosus* (KOLENATI, 1846)
Distribution: Crimea, Transcaucassus, Afghanistan, Central Asia.
Material examined: Amol, 36°28′ N / 52°21′ E, 198 m, (2), VI 2012. New record for the fauna of Iran.

Subfamily: Cetoniinae LEACH, 1815
Tribe: Cetoniini LEACH, 1815
Genus: Oxythyrea MULSANT, 1842

*Oxythyrea cinctella cinctella* (SCHAUM, 1841)
Distribution: Europe SE, Transcaucassus, Turkey, Near & Middle East, Afghanistan, Kazakhstan, Central Asia, Western China.
Material examined: Ghaemshahr, 36°28′ N / 52°52′ E, (3), IX 2007; Marzanabad, 36°27′ N / 51°18′ E, (1), VIII 2008.

**Genus: Protaetia BURMEISTER, 1842**

*Protaetia (Netoecia) ungarica armeniaca* (MÉNETRIES, 1832)

Distribution: Turkey, Iran.
Material examined: Babol, 36°30′ N / 52°35′ E, 25 m, (2), VI 2012; Sari, 36°30′ N / 53°30′ E, 10 m, (1), IV 2013.

**Genus: Tropinota MULSAN, 1842**

*Tropinota (Epicometis) hirta suturalis* REITTER, 1913

Distribution: Balkans, Turkey, Near East, Iran, Iraq, Afghanistan.
Material examined: Ghaemshahr, 36°28′ N / 52°52′ E, 8 m, (1), VII 2010.

*Tropinota (Epicometis) senicula* (MÉNETRIES, 1832)

Distribution: Transcaucasssus, Turkey, Iran.
Material examined: Tonekabon, 36°38′ N / 50°49′ E, 55 m, (2), VIII 2011.

*Tropinota (Epicometis) spinifrons* REITTER

Distribution: Transcaucasssus, Syria, Iran, Central Asia, Afghanistan.
Material examined: Ghaemshahr, 36°28′ N / 52°52′ E, (3), IX 2007.

*Tropinota (Epicometis) turanica* REITTER, 1889

Distribution: Iran, Afghanistan, Central Asia, Northwest China.
Material examined: Sari, 36°30′ N / 53°30′ E, 10 m, (3), IV 2013.

**Subfamily: Melolonthinae SAMOUELLE, 1819**

**Tribe: Melolonthini SAMOUELLE, 1819**

**Genus: Polyphylla HARRIS, 1841**

*Polyphylla (Polyphylla) olivieri* LAPORTE, 1840

Distribution: Balkans, Turkey, Transcaucassus, Iran, Syria, Israel.
Material examined: Tonekabon, 36°38′ N / 50°49′ E, 55 m, (4), VIII 2011; Ramsar, 36°47′ N / 50°32′ E, 9 m, (7), VIII 2011; Amol, 36°28′ N / 52°21′ E, 198 m, (2), VI 2012; Behshahr, 36°41′ N / 53°44′ E, 57 m, (6), IV 2013; Sari, 36°30′ N / 53°30′ E, 10 m, (4), IV 2013.
Tribe: Rhizotrogini Burmeister, 1855

Genus: Holochelus Reitter, 1889

*Holochelus (Holochelus) fallax fallax* (Marseul, 1879)

Distribution: Balkans, Turkey, Transcaucasssus, Syria, Iran, Turkmenistan.

Material examined: Ramsar, 36°47′ N / 50°32′ E, 9 m, (2), VIII 2011.

Subfamily: Rutelinae MacLeay, 1819

Tribe: Adoretini Burmeister, 1844

Genus: Adoretus Laporte, 1840

*Adoretus persicus* Reitter, 1889

Distribution: Iran.

Material examined: Behshahr, 36°41′ N / 53°44′ E, 57 m, (2), IV 2013.

Subfamily: Scarabaeinae Latreille, 1802

Tribe: Coprini Leach, 1815

Genus: Copris Geoffroy, 1762

*Copris lunaris* (Linnaeus, 1758)

Distribution: Europa, Turkey, Iran, Central Asia, Western China.

Material examined: Noor, 36°19′ N / 52°00′ E, 8 m, (5), VI 2012.

Tribe: Onitini Laporte de Castelnau, 1840

Genus: Onitis Fabricius, 1798

*Onitis humerosus* (Pallas, 1771)

Distribution: Transcaucasia, Turkey, Near East, Iran, Central Asia, Western China.

Material examined: Savadkooh, 36°05′ N / 52°55′ E, 550 m, (1), IX 2009; Tonekabon, 36°38′ N / 50°49′ E, 55 m, (2), VIII 2011.

Tribe: Onthophagini Burmeister, 1846

Genus: Onthophagus Latreille, 1802

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

Distribution: Europa, Turkey, Syria, Iran.
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Material examined: Tonekabon, 36°38’ N / 50°49’ E, 55 m, (3), VIII 2011; Noor, 36°19’ N / 52°00’ E, 8 m, (2), VI 2012.

*Onthophagus (Paleonthophagus) lemur* (FABRICIUS, 1781)
Distribution: Europa, Turkey, Syria, Iran, Central Asia.
Material examined: Amol, 36°28’ N / 52°21’ E, 198 m, (4), VI 2012.

*Onthophagus (Paleonthophagus) ponticus* HAROLD, 1883
Distribution: Balkans, Crimea, Transcaucasia, Turkey, Levant, Iran, Iraq.
Material examined: Ramsar, 36°47’ N / 50°32’ E, 9 m, (3), VIII 2011.

*Onthophagus (Paleonthophagus) ruficapillus* BRULLE, 1832
Distribution: Europa, Turkey, Levant, Iran, Iraq.
Material examined: Ghaemshahr, 36°28’ N / 52°52’ E, 8 m, (2), VII 2010; Sari, 36°30’ N / 53°30’ E, 10 m, (2), IV 2013.

**Tribe: Scarabaeini LATREILLE, 1802**

**Genus: Scarabaeus LINNAEUS, 1758**

*Scarabaeus (Scarabaeus) carinatus* (GEBLER, 1841)
Distribution: Kazakhstan, Central Asia, Afghanistan, Iran.
Material examined: Ghaemshahr, 36°28’ N / 52°52’ E, 8 m, (2), VII 2010; Sari, 36°30’ N / 53°30’ E, 10 m, (1), IV 2013.

*Scarabaeus (Scarabaeus) pius* ILLIGER, 1803
Distribution: Southern Europe, Transcaucasia, Balkans, Turkey, Levant, Iran, Central Asia, Western China.
Material examined: Behshahr, 36°41’ N / 53°44’ E, 57 m, (3), IV 2013.

**Discussion**

In this research, some regions of Mazandaran Province were sampled and in total 23 species were collected. With attention to the high floral diversity and various agricultural and forest ecosystems of Mazandaran Province, the fauna of Scarabaeoidea is surely more diverse in the mentioned region. Continuing of faunistic surveys is necessary for discovering new records and new distribution data on this taxon in Mazandaran Province. In addition to the species listed in this paper, there are many other species which were given in the checklists MODARRES
AWAL (1997) and BUNALSKI et al. (2014); some of them are important agricultural pests (e.g. *Oxythyrea cinctella* (SCHAUM, 1841)).

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