

Contribution to the study of darkling beetles (Coleoptera: Tenebrionidae) from Golestan Province, Northern Iran

Materiały do poznania czarnuchowatych (Coleoptera: Tenebrionidae) prowincji Golestan w północnym Iranie

Marek BUNALSKI¹, Hassan GHAHARI²

¹Department of Entomology and Environmental Protection, University of Life Sciences, Dąbrowskiego 159, 60-594 Poznań, Poland; email: marek.bunalski@up.poznan.pl

²Young Researchers and Elites Club, Yadegar-e- Imam Khomeini (RAH) Shahre Rey Branch, Islamic Azad University, Tehran, Iran; email: hghahari@yahoo.com

ABSTRACT: This paper deals with a faunistic research on Tenebrionidae (Coleoptera) from Golestan Province. In total, nine species from five subfamilies of Diaperinae, Lagriinae, Opatrinae, Pimeliinae, and Tenebrioninae were collected and identified. *Blaps gigas* (LINNAEUS, 1767) is a new species for Iranian fauna.

KEY WORDS: Coleoptera, Tenebrionidae, darkling beetles, fauna, Iran, Golestan Prov.

Introduction

Darkling beetles (Coleoptera: Tenebrionidae) are mostly rather large and flightless, although a few species living in rotten wood and in stored products are small. With more than 15.000 known species, darkling beetles are one of the most common members of the beetle, or coleopteran, community (SOLDATI & SOLDATI 2003, MATTHEWS & BOUCHARD 2008). They can be found in desert or semidesert regions all over the world. They burrow under the stones, bark, and leaf litter. The great majority of these insects are scavengers (SCHAWALLER 1996; BOUCHARD & al. 2005). The fauna of Iranian Tenebrionidae has been poorly studied so far with 67 reported species by different researchers (MODARRES AWAL 1997; MEDVEDEV & MERKL 2005; TARAVATI & FERRER 2007, SAKENIN & al. 2009; GHAHARI & al. 2010a, 2010b, 2012; GHAHARI & BUNALSKI 2011;

MAKHAN 2012a, 2012b, 2013; MAKHAN & al. 2012; MAKHAN & SAEIZAD 2013; SAEIZAD & MAKHAN 2013a, 2013b; BUNALSKI & al. 2014).

Golestan Province is located in the north of Iran and south of the Caspian Sea (Fig.). Geographically, Golestan is divided into two sections, the plains and the mountains of the Alborz range. In the eastern section of Alborz, the mountains have a north-easterly aspect and gradually decrease in height. The highest point of the province is Shavar – 3945 m above sea level. The climate of Golestan is temperate for most of the year. The aim of this paper is present the faunistic research on Tenebrionidae in some regions of Golestan Province.



Fig. Map of Iran showing Golestan Province (source: Wikipedia)

Materials and methods

The specimens were collected from under the stones and on the ground by hand, knockdown, sweeping of vegetation, and pitfall traps from different regions of Golestan Province. The information concerning specific systematic names, the classifier, identification date, locality, date of collection, and the number of specimens (in brackets) are given. The classification and nomenclature of Tenebrionidae suggested by WATT (1974), DOYEN & LAWRENCE (1979), LAWRENCE & NEWTON (1995), IWAN (2001), SOLDATI & SOLDATI (2003) and LÖBL & SMETANA (2008) have been followed.

Results

In total, nine species from the family Tenebrionidae were collected in Golestan Province, one of which—*Blaps gigas*—is new for Iranian fauna. The list of species is given below alphabetically with the distribution data.

Subfamily: Diaperinae LATREILLE, 1832

Tribe: Crypticini BRULLÉ, 1832

Genus: *Crypticus* LATREILLE, 1817

Crypticus (Crypticus) quisquilius quisquilius (LINNAEUS, 1760)

Distribution: Europe, Turkey, Central Asia, Mongolia, Western China.

Material examined: Golestan Province, Golestan National Park, 1575 m, (2), on the ground, September 2011.

Subfamily: Lagriinae LATREILLE, 1802

Tribe: Laenini SEIDLITZ, 1896

Genus: *Laena* DEJEAN, 1821

Laena hopffgarteni WEISE, 1878

Distribution: Balkans, Turkey, Iran.

Material examined: Golestan Province, Golestan National Park, 1565 m, (3), on the ground, September 2011.

Subfamily: Opatrinae BRULLÉ, 1832

Tribe: Dendarini SEIDLITZ, 1889

Genus: *Dendarus* DEJEAN, 1821

Dendarus (Pandarinus) coelatus BRULLÉ, 1832

Distribution: Italy, Balkans, Turkey, Iran.

Material examined: Golestan Province, Maraveh Tappeh, 215 m, (2), under a stone, April 2011.

Tribe: Opatrini BRULLÉ, 1832
Genus: *Gonocephalum* SOLIER, 1834

Gonocephalum (*s. str.*) *setulosum setulosum* (FALDERMANN, 1837)

Distribution: Southern Europe, North & Central Africa, Near East, Turkey, Iraq, Iran, Central Asia, Western China.

Material examined: Golestan Province, Kalaleh, 149 m, (3), under a stone, July 2011; Golestan Province, Ali-Abad, 128 m, (2), under the stone, August 2011; Golestan Province, Ali-Abad, 130 m, (2), on the ground, August 2011.

Subfamily: Pimeliinae LATREILLE, 1802
Tribe: Tentyriini ESCHSCHOLTZ, 1831
Genus: *Dailognatha* ESCHSCHOLTZ, 1829

Dailognatha caraboides (ESCHSCHOLTZ, 1831)

Distribution: Balkans, Turkey, Syria, Transcaucasia, Iran, Iraq.

Material examined: Golestan Province, Gorgan, 89 m, (1), on the ground, June 2009.

Genus: *Tentyria* LATREILLE, 1802

Tentyria tessulata tessulata TAUSCHER, 1812

Distribution: Turkey, Transcaucasia, Iran.

Material examined: Golestan Province, Kalaleh, 146 m, (2), on the ground, July 2011.

Subfamily: Tenebrioninae LATREILLE, 1802
Tribe: Blaptini LEACH, 1815
Genus: *Blaps* Fabricius, 1775

Blaps (*Blaps*) *gigas* (LINNAEUS, 1767)

Distribution: Southern and Central Europe, Turkey, Iraq, Kazakhstan.

Material examined: Golestan Province, Ramyan, 228 m, (2), on the ground, April 2011.

New for Iranian fauna.

Tribe: Triboliini MULSANT, 1854
Genus: *Latheticus* WATERHOUSE, 1880
Latheticus oryzae WATERHOUSE, 1880

Distribution: cosmopolite.

Material examined: Golestan Province, Gorgan, 96 m, (1), under a stone, June 2009; Golestan Province, Maraveh Tappeh, 218 m, (1), on weed (*Malvaceae*), April 2011.

Discussion

The results of the present and also the previous faunistic researches on Iranian Tenebrionidae (see references) indicate that Golestan has featured a diverse and interesting fauna of Tenebrionidae. Of course, in this research a few regions of the province were sampled and if sampling-collection is continued systematically in all those areas, especially in the Golestan National Park, several other species will be discovered. The Golestan National Park was the first area in Iran to be designated as a national park. It is located at 37,16° to 37,36° north latitude and 55,44° to 56,17° east longitude and has an area of about 91,000 hectares. The terrain is mountainous with altitude varying between 380 and 2819 meters. The park contains a rich diversity of flora and fauna, unique in many respects (HASSAN ZADEH & al. 1993). However, in order to find new species and distributional records, more studies should be conducted in this large natural ecosystem. We suggest that other Iranian researchers, especially taxonomists, should start faunistic research in different regions of Iran in order to discover several unknown data about the fauna of Iranian Tenebrionidae. Among the different subfamilies of Iranian Tenebrionidae, only Alleculinae was catalogued by NOVÁK & GHAHARI (2015). Darkling beetles are probably useful as indicators of environmental quality in that their presence signifies that the places where they occur are relatively undisturbed. By nature, they are quite content to feed on dried or rotting plant residue (WATT 1974; SCHAWALLER 1996).

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STRESZCZENIE

W trakcie badań faunistycznych prowadzonych w latach 2009 i 2011 w prowincji Golestan w północnym Iranie stwierdzono występowanie 9 gatunków należących do rodziny Tenebrionidae. Jeden spośród nich – *Blaps gigas* – nie był wcześniej podawany z Iranu.

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