

## Snout Beetles (Coleoptera: Curculionidae) of East Azerbaijan, Iran

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A study on the fauna of snout beetles (Coleoptera: Curculionidae) of East Azerbaijan Province (North-west Iran) was conducted in 2014 to 2016. A total of 19 species, belonging to 4 subfamilies (Baridinae, Entiminae, Lixinae, and Molytinae) and 18 genera were collected and identified.

**Keywords:** Coleoptera, Curculionidae, East Azerbaijan, fauna, Iran, snout beetle.

Curculionidae (Coleoptera: Curculionoidea) is the second largest family in the animal kingdom, including about 86,000 described species worldwide. They are small to very large (1 to 60 mm) in size with various habitat, shape and colour. Both adults and larvae feed on plants and the females bore into different parts of the plants where eggs are laid. This group of beetles includes a wide range of species associated with crops and stored products (Anderson, 2002; Marvaldi et al., 2005; Oberprieler et al., 2007), many of which are economically important pests. Some species are serious pests of ornamental, agricultural and forestry plants with well-known common names (for example, boll weevil, white pine weevil, strawberry root weevil and black vine weevil, etc.). Some species have become increasingly used as biological agents in the control of introduced plants (for example, *Neochetina*, *Hyllobius*, *Cyphocleonus* and *Eustenopus*, etc.) (Anderson, 2002).

Although the fauna of Iranian Curculionoidea is quite speciose, it is poorly studied. The most important lists on Iranian Curculionoidea have been published by Modarres Awal (1997) and Broumand (1998); thereafter, Legalov et al. (2010) reported 61 species new for the fauna of Iran. The East Azerbaijan Province is located in the Northwest of Iran bordered clockwise by Ardabil, Zanjan and West Azerbaijan provinces. It covers an area of 45.650 km<sup>2</sup>. The climate of the province is largely influenced by the rainy winds of the Atlantic Ocean and the Mediterranean. According to existing meteorological data, local temperatures vary within the province. The highest temperature reaches 34 °C in July, while the lowest temperature is about –16 °C in January. The East Azerbaijan Province encompasses vast and fertile plains, high mountains, rivers with high volume of water, vineyards, orchards, luxuriant forest and rangelands, mountain outskirts with wonderful flora, magnificent wildlife and beautiful shores around the lakes with different

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recreational facilities, which all together form one of the most beautiful and spectacular regions in Iran. This study provides a list of Curculionidae species in the East Azerbaijan province.

## Materials and Methods

Sampling was done in different parts of East Azerbaijan province from 2014 to 2016, including Ajabshir (37°28' N/45°53' E), Bostan Abad (37°50' N/46°49' E), Hashtrud (37°28' N/45°03' E), Horand (38°52' N/47°21' E), Jolfa (38°52' N/45°37' E), Kaleybar (38°51' N/47°2' E), Kandovan (37°47' N/46°14' E), Maragheh (37°23' N/46°29' E), Marand (38°25' N/45°44' E), Mianeh (37°25' N/47°43' E), Sarab (37°56' N/47°32' E), Shabestar (38°10' N/45°42' E), Tabriz (38°05' N/46°16' E) and Varzaqan (38°30' N/46°39' E). Specimens were collected using different sampling methods such as sweeping net, beating tray, aspirator, etc. (Lodos et al., 1978, 2003). All specimens were collected by the first author (Rasool Rahati) and identifications were made using the original descriptions and other main references. Classification and nomenclature of curculionids was followed as suggested by Roberto Caldara, Massimo Meregalli and Boris Korotyaev. All specimens are kept in the Jalal Afshar Zoological Museum, University of Tehran, Karaj, Iran.

## Results

In this study, a total of 19 Curculionidae species from 18 genera and 4 subfamilies (Baridinae, Entiminae, Lixinae and Molytinae) were collected and identified.

### **Subfamily Baridinae Schönherr, 1836**

#### **Tribe Baridini Schönherr, 1836**

#### **Genus *Malvaevora* Zaslavskij, 1956**

#### ***Malvaevora timida* (Rossi, 1792)**

Material examined: (1♂, 2♀); Shabestar city, 9 May 2015

#### **Genus *Cosmobaris* Casey, 1920**

#### ***Cosmobaris scolopacea* (Germar, 1819)**

Material examined: (3♂, 5♀); Hashtrud city, 23 June 2015

#### **Genus *Labiaticola* Alonso-Zarazaga and Lyal, 1999**

#### ***Labiaticola despicatus* (Faust, 1889)**

Material examined: (2♂); Shabestar city, 9 May 2015

### **Subfamily Entiminae Schönherr, 1823**

#### **Tribe Brachyderini Schönherr, 1826**

#### **Genus *Epiphanops* Reitter, 1895**

#### ***Epiphanops persicus* (Chevrolat, 1880)**

Material examined: (2♂); Bostan Abad city, 14 September 2015 (2♂, 1♀); Hashtrud city, 23 June 2015

**Tribe Cyphicerini Lacordaire, 1863****Genus *Ptochus* Schönherr, 1826*****Ptochus longicollis* Boheman, 1834**

Material examined: (1♂); Ajabshir city, 8 July 2015 (3♀); Jolfa city, 8 May 2015

**Genus *Chloebius* Schönherr, 1826*****Chloebius immeritus* Schönherr, 1826**

Material examined: (2♂, 5♀); Jolfa city, 8 May 2015

**Tribe Sciaphilini Sharp, 1891****Genus *Eusomus* Germar, 1824*****Eusomus ovulum* Germar, 1824**

Material examined: (4♂, 12♀); Jolfa city, 8 May 2015 (5♂, 7♀); Marand city, 9 July 2015

**Tribe Sitonini Gistel, 1848****Genus *Sitona* Germar, 1817*****Sitona hispidulus* (Fabricius, 1777)**

Material examined: (3♂); Kaleybar city, 5 July 2015

***Sitona obsoletus* (Gmelin, 1790)**

Material examined: (1♂, 2♀); Kaleybar city, 5 July 2015 (1♂); Kandovan city, 13 September 2015 (2♂, 4♀); Jolfa city, 8 May 2015

**Tribe Tanymecini Lacordaire, 1863****Genus *Chlorophanus* C. R. Sahlberg, 1823*****Chlorophanus flavescens* (Fabricius, 1787)**

Material examined: (2♂); Jolfa city, 8 May 2015

**Tribe Polydrusini Schönherr, 1823****Genus *Polydrusus* Germar, 1817*****Polydrusus inustus* Germar, 1824**

Material examined: (4♂, 6♀); Shabestar city, 9 May 2015

**Genus *Tanymecus* Germar, 1817*****Tanymecus palliatus* (Fabricius, 1787)**

Material examined: (1♂); Jolfa city, 8 May 2015

**Subfamily Lixinae Schönherr, 1823****Tribe Cleonini Schönherr, 1826****Genus *Cleonis* Dejean, 1821*****Cleonis pigra* (Scopoli, 1763)**

Material examined: (4♂, 4♀); Bostan Abad city, 14 September 2015 (2♂, 3♀); Sarab city, 17 July 2015 (1♀); Varzeqan city, 14 July 2015 (3♂, 5♀); Marand city, 9 July 2015

**Genus *Conioleonus* Motschulsky, 1860*****Conioleonus excoriatus* (Gyllenhal, 1834)**

Material examined: (1♂); Tabriz city, 30 April 2015

**Genus *Conorhynchus* Motschulsky, 1860*****Conorhynchus nigrivittis* (Pallas, 1781)**

Material examined: (1♂, 1♀); Tabriz city, 30 April 2015

**Genus *Cyphocleonus* Motschulsky, 1860**

***Cyphocleonus dealbatus* (Gmelin, 1790)**

Material examined: (1♂, 1♀); Sarab city, 17 July 2015

**Tribe Lixini Schönherr, 1823**

**Genus *Larinus* Dejean, 1821**

***Larinus turbinatus* Gyllenhal, 1836**

Material examined: (4♂, 4♀); Marand city, 9 July 2015

**Genus *Lixus* Fabricius, 1801**

***Lixus tibialis* Boheman, 1843**

Material examined: (2♂, 1♀); Marand city, 9 July 2015

**Subfamily Molytinae Schönherr, 1823**

**Tribe Mecysolobini Reitter, 1913**

**Genus *Alcidodes* Marshall, 1939**

***Alcidodes karelinii* (Boheman, 1844)**

Material examined: (2♂); Hashrod city, 23 June 2015

## Discussion

The results of this research indicated that the fauna of Curculionidae is rather diverse in the East Azerbaijan province. Among the 18 genera discussed in this paper, two species belong to the genus *Sitona*. Other genera have one species. Of these, 7 species are new records for East Azerbaijan Province (*Epiphanops persicus*, *Chloebius immeritus*, *Ptochus longicollis*, *Sitona hispidulus*, *Tanymecus palliatus*, *Coniocleonus excoriatus* and *Conorhynchus nigrivittis*).

The family Curculionidae, with over 86,000 described species, is the second largest family in the kingdom Animalia. It is self-evident that there are many other curculionid species yet to be collected in and reported from the East Azerbaijan province and of course, whole Iran; hence, it is necessary that researchers continue these faunistic works towards finding new records, and new distributional and bionomical data, especially in determining host plants and natural enemies of the Iranian Curculionidae.

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