



Research Article

A study on the Coccinellidae (Coleoptera) from some regions of Northern Iran.

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ABSTRACT: The fauna of lady bird beetles (Coleoptera: Coccinellidae) from some regions of northern Iran is documented in this paper. Totally 35 species from 14 genera and four subfamilies (Chilocorinae, Coccinellinae, Coccidulinae, Scymninae) were collected.

KEY WORDS: Coleoptera, Coccinellidae, Predator, Fauna, Northern Iran

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INTRODUCTION

Most species of lady bird beetles (Coleoptera: Coccinellidae) are considered beneficial because they are predators of several agricultural pests. These predators contribute to the regulation of populations of their preys, and in some situations contribute a high level of regulation (Gordon, 1985; Dixon, 2000). The fauna of Iranian Coccinellidae has been poorly studied and until now about 150 species are known (Modarres Awal, 1997; Jafari *et al.*, 2008; Ghahari *et al.*, 2004, 2009; Rakhshani *et al.*, 2010). The aim of this paper is to document the fauna of Coccinellidae from some regions of northern Iran.

MATERIALS AND METHODS

The materials were collected mainly by a sweeping net (42.5 in diameter) and occasionally through an aspirator. Both the flying and perched ladybirds were collected from different regions of northern Iran (six provinces including Golestan, Guilan, Mazandaran, Qazvin, Semnan, Tehran) during 2007-2011. Additionally, some specimens of insect collections of different universities were studied. After collection, many of them were preserved in ethanol 75% and labeled (locality, date of collection) and others were killed by cyanide and then pinned and labeled. The information concerning specific name, describer and description date, locality and date of collection, place/ plant on which the species were collected, determinator and number of species was given. In this paper, classification and nomenclature suggested by Majerus & Kerans (1989) and Majerus (1994) have been followed.

RESULTS

Totally 35 coccinellid species of 14 genera and 4 subfamilies were collected from northern Iran. The list of species is given below.

Family Coccinellidae Latreille, 1807 Subfamily Chilocorinae Mulsant, 1846

Brumus octosignatus (Gebler, 1830)

Material examined: Guilan province: Rasht, 1 ♂, September 2009.

Brumus undecempunctata (Linnaeus, 1758)

Material examined: Mazandaran province: Amol, 1 ♀, on *Ricinus communis* (Euphorbiaceae), September 2008.

Chilocorus bipustulatus (Linnaeus, 1758)

Material examined: Qazvin province: Nazar-Abad, 3 ♀, 2 ♂, September 2009. Guilan province: Fooman, 1 ♀, 2 ♂, September 2009. Semnan province: Damghan, 4 ♀, 2 ♂, June 2011.

Chilocorus stigma (Say, 1835)

Material examined: Golestan province: Kordkoy, 1 ♀, June 2008.

Exochomus flavipes (Thunberg, 1781)

Material examined: Golestan province: Gonbad, 3 ♀, October 2007. Tehran province: Shahreyar, 3 ♀, 2 ♂, July 2008. Mazandaran province: Amol, 2 ♀, 1 ♂, September 2008.

Exochomus nigripennis (Erichson, 1843)

Material examined: Guilan province: Fooman, 2 ♀, September 2009.

***Exochomus nigromaculatus* (Goeze, 1777)**

Material examined: Golestan province: Gorgan, 1♀, 1♂, October 2007.

***Exochomus pubescens* Küster, 1848**

Material examined: Guilan province: Astara, 1♀, June 2007. Mazandaran province: Neka, 1♀, 1♂, July 2008. Qazvin province: Takestan, 1♀, 2♂, September 2009.

***Exochomus quadripustulatus* (Linnaeus, 1758)**

Material examined: Mazandaran province: Chalus, 2♀, 2♂, September 2008.

Subfamily Coccinellinae Mulsant, 1846***Adalia bipunctata* (Linnaeus, 1758)**

Material examined: Tehran province: Shahreyar, 2♂, July 2008. Semnan province: Shahrood, 3♀, 2♂, June 2011.

***Coccinella hieroglyphica* (Linnaeus, 1758)**

Material examined: Golestan province: Ali-Abad, 1♀, on *Tribulus terrestris* (Zygophyllaceae), June 2008.

***Coccinella magnifica* (Redtenbacher, 1843)**

Material examined: Mazandaran province: Babol, 1♀, September 2008.

***Coccinella septempunctata* Linnaeus, 1758**

Material examined: Guilan province: Astara, 3♀, 1♂, June 2007. Golestan province: Gonbad, 7♀, 2♂, October 2007. Golestan province: Kordkoy, 2♂, on *Hibiscus syriacus* (Malvaceae), June 2008. Tehran province: Shahre Rey, 5♀, 3♂, July 2008. Tehran province: Shahreyar, 3♀, 5♂, July 2008. Mazandaran province: Behshahr, 3♀, August 2008. Guilan province: Lahijan, 4♀, 1♂, September 2009. Mazandaran province: Savadkooh, 2♀, 5♂, March 2010. Mazandaran province: Babol, 6♀, 3♂, June 2010. Semnan province: Semnan, 3♀, 4♂, June 2011.

***Coccinella transversoguttata* Linnaeus, 1758**

Material examined: Golestan province: Ali-Abad, 1♀, June 2008.

***Coccinella undecimpunctata* Linnaeus, 1758**

Material examined: Golestan province: Gorgan, 2♀, 3♂, October 2007. Mazandaran province: Babol, 3♀, 1♂, September 2008. Golestan province: Minoodasht, 2♂, May 2009. Guilan province: Lahijan, 5♀, 4♂, September 2009. Semnan province: Damghan, 1♀, 2♂, June 2011.

***Hippodamia tredecimpunctata* Linnaeus, 1758**

Material examined: Guilan province: Rasht, 1♀, September 2009.

***Hippodamia variegata* (Goeze, 1777)**

Material examined: Mazandaran province: Sari, 2♀, 2♂, August 2008. Tehran province: Jajrood, 3♀, 1♂, July 2008.

***Hyperaspis polita* Weise, 1885**

Material examined: Semna province: Shahrood (Jangal-e Abr), 2♀, 1♂, June 2011.

***Oenopia conglobata* Linnaeus, 1758**

Material examined: Semnan province: Shahrood, 1♀, on *Trifolium pratensis* (Leguminosae), June 2011.

***Oenopia oncina* (Olivier, 1808)**

Material examined: Golestan province: Minoodasht, 1♂, on *Absena velvetleaf* (Malvaceae), May 2009.

***Propylea quatuordecimpunctata* Linnaeus, 1758**

Material examined: Qazvin province: Takestan, 1♀, September 2009.

Subfamily Coccidulinae Mulsant, 1846***Rodolia cardinalis* (Mulsant, 1850)**

Material examined: Mazandaran province: Qaemshahr, 2♀, 1♂, April 2007. Qazvin province: Qazvin, 1♀, September 2009.

Subfamily Scymninae Mulsant 1846***Cryptolaemus montrouzieri* Mulsant, 1853**

Material examined: Guilan province: Lahijan, 2♀, 1♂, September 2009. Mazandaran province: Ramsar, 4♀, 3♂, April 2010.

***Nephus biguttatus* Mulsant, 1850**

Material examined: Mazandaran province: Qaemshahr, 2♀, 2♂, August 2008.

***Nephus bipunctatus* (Kugelann, 1794)**

Material examined: Tehran province: Varamin, 2♀, July 2008. Semnan province: Damghan, 2♀, 3♂, June 2011.

***Scymnus apetzi* Mulsant, 1846**

Material examined: Golestan province: Gorgan, 2♂, on *Rapistrum rugrosum* (Brassicaceae), October 2007. Mazandaran province: Neka, 2♀, 1♂, July 2008.

***Scymnus flavicollis* Redtenbacher, 1843**

Material examined: Golestan province: Minoodasht, 1♀, May 2009.

***Scymnus levillanti* Mulsant, 1850**

Material examined: Mazandaran province: Behshahr, 1♂, on *Rumex scutatus* (Polygonaceae), August 2008.

***Scymnus mongolicus* (Weise, 1887)**

Material examined: Qazvin province: Nazar-Abad, 1♂, September 2009.

***Scymnus pallipes* Mulsant, 1794**

Material examined: Tehran province: Shahreyar, 1♂, July 2008. Golestan province: Minoodasht, 1♂, May 2009.

***Scymnus quadriguttatus* Capra, 1924**

Material examined: Golestan province: Gonbad, 1♀, October 2007. Mazandaran province: Qaemshahr, 1♀, 1♂, August 2008.

***Scymnus rubromaculatus* (Goeze, 1777)**

Material examined: Guilan province: Astara, 2♀, June 2007.

***Scymnus subvillosus* (Goeze, 1777)**

Material examined: Qazvin province: Takestan, 1♀, 1♂, on *Prosopis farcta* (Leguminosae), September 2009.

***Scymnus syriacus* Marseul, 1868**

Material examined: Tehran province: Shahre Rey, 2♀, July 2008. Semnan province: Shahmirzad, 1♀, 1♂, June 2011.

***Stethorus gilvifrons* (Mulsant, 1850)**

Material examined: Guilan province: Lahijan, 2♀, 1♂, September 2009.

DISCUSSION

Collecting 194 specimens of Coccinellidae from six northern Iran provinces indicates that the fauna of these beneficial insects is diverse and rich. Among the different species, *C. septempunctata* is the dominant and cosmopolitan species which was collected from almost sampled regions. Northern Iran (especially three provinces Golestan, Guilan and Mazandaran) is the main agricultural pole in Iran because of proper climate. Conservation of natural enemies, including Coccinellidae, will result in successful natural biological control. The main strategy for conservation of natural enemies is decreasing pesticide application and need-based use in IPM. Since ladybirds have efficient role in biological control of several pests (Obrycki & Kring, 1998), exact taxonomic determination of them as the local faunistic surveys is the first step in biological control programs (Majerus, 1994). Therefore, this work on local fauna must be continued by the researchers towards complete documentation of the fauna of Iranian Coccinellidae.

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