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A Preliminary Study on the Miridae (Hemiptera) Fauna in Mazandaran Province in Northern Iran

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Abstract

During spring and summer of 2010, in the course of faunistic survey of Mirid bugs (Hemiptera: Miridae) in some areas of the East Mazandaran province (North of Iran), seventeen species were collected and identified.

Key words: Heteroptera, Miridae, Mazandaran, Taxonomy, fauna.

Zusammenfassung

Im Rahmen von Aufsammlungen im Frühling und Sommer 2010 im Osten der nordiranischen Provinz Mazandaran konnten 17 Weichwanzen-Arten (Hemiptera: Miridae) nachgewiesen werden.

Introduction

An approximately 10.000 species of mirid bugs represent almost a third of all described heteropterans. Members of this diverse family, which has persisted at least since the Jurassic, distributed in all major zoogeographic regions. Most of mirids are plant feeders, but perhaps one half of the species feed as scavengers or facultative predators. Some species are almost exclusively predacious (SCHAEFER & PANIZZI 2000). The bugs' status – injurious or beneficial – on a crop can depend on locality, season, host cultivar and stage of growth, availability of prey or alternative food sources such as nectar and pollen, and pesticide applications (WHEELER 2001). Mazandaran is located on the Southern coast of Caspian Sea, it is bordered clockwise by Golestan, Semnan and Tehran provinces. Province also lays Qazvin and Guilan to the west. Mazandaran province is geographically divided into two parts: the coastal plains, and the mountainous areas.. There is often snowfall during most of the seasons in the Alborz regions, which run parallel to the Caspian Sea's southern coast, dividing the province into many isolated valleys. The province enjoys a moderate, subtropical climate with an average temperature of 25 °C in summer and about 8 °C in winter.

So far, about 204 species of Miridae from Guilan and the adjacent provinces (Iran) were reported by HOSSEINI & LINNAVUORI (2000), HOSSEINI et al. (2002), LINNAVUORI & HOSSEINI (1998), LINNAVUORI (2008), LINNAVUORI (2010). The aim of this study was to continue the previous study about the Miridae fauna of Northern Iran.

Material and Methods

The article is based on a study in selected area of Mazandaran (including Noor, Sisangan, Royan, Mahmood abad, Fereydonkenar, Babolsar, Babol, Amol, Ghaem shahr, Zirab and Sari) during in 2010. All species were collected by beating method and sweeping net. The collected materials were identified and deposited in the insects collection of Museum of Zoology, University of Guilan.

If the exact number of the collected specimens is not given, the following approximations are used: several = 5-10, many = 11-20 and numerous = more than 20 specimens.

Results

Seventeen species belonging to four subfamilies of the Miridae (Heteroptera) have been collected in this survey.

Subfamilie *Mirinae* HAHN 1833

Tribe *Mirini* HAHN 1833

Lygus gemellatus gemellatus (HERRICH-SCHAEFFER 1835)

Material examined: several specimens, Babol, April 2010 (36°19' 53.75" N - 52°31' 24.43" E, Elev: 195), Amol, March 2010 (36°23' 39.32" N - 52°20' 48.83" E, Elev: 228). Ghaemshahr, March 2010 (36°23' 35.04" N - 52°49' 53.71" E, Elev: 198).

Comments: On weeds.

This species has been collected from different regions in Iran (LINNAVUORI 2008) and from Chalus (Mazandaran) in 2002 (LINNAVUORI 2008).

Lygus pratensis (LINNAEUS 1758)

Material examined: Babol, July 2010, 3 specimens (36°29' 51.12" N - 52°46' 12.68" E, Elev: 10) and Ghamshahr (Nezami road: 26°26' 09.01" N - 52°49' 42.91" E, Elev: 68).

Comments: On undergrowth in deciduous forests.

This species has been collected from different regions in Iran (LINNAVUORI 2008) and from an unknown place in Mazandaran on 6-7 vii.1995 (LINNAVUORI 2008).

Lygus rugulipennis POPPIUS 1911

Material examined: Many specimens: Babol, April 2010 (36°30' 24.93" N - 52°44' 47.40" E, Elev: 6); Mahmud abad (36°31' 52.47" N - 52°19' 21.85" E, Elev: 21), Amol (36°30' 05.41" N - 52°31' 31.55" E, Elev: 5), July 2010.

Comments: On *Medicago* (Alfalfa).

The European tarnished plant bug is common and widespread in the Palearctic region, ranging from Great Britain and Spain east to Far East Russia and Japan (SCHWARTZ & FOOTITT 1998). *Lygus rugulipennis* can be a pest of field and forage crops such as alfalfa, clover (*Trifolium* spp.), rape (*Brassica napus* L.), sugar beet, and sunflower; wheat and other small grains; conifer seedlings and floral crops; cabbage (*B. oleracea* L.), potato, and other vegetables; and peach, pear, strawberry, and other fruits (HOLOPAINEN & VARIS 1991, VARIS 1997, WHEELER 2001).

Creontiades pallidus (RAMBUR 1839)

Material examined: Babol (Kia Cola), 4 specimens, March 2010.

Comments: On *Brassica napus* L. (Rapeseed).

Mainly a species of the Mediterranean region, northern and central Africa, and the Middle East, *C. pallidus* also is known from Brazil (SCHUH 1995). This plant bug is sometimes called the boll (or bud) shedder bug (WHEELER 2001). As the common name suggests, this mirid is most important as a cotton pest (GOODMAN 1955). Also another hosts such as grain sorghum (RATNADASS et al. 1994), pistillate inflorescences of corn (*Zea mays* L.) (WILLCOCKS 1925). In this study, this specimen was collected from rapeseed that is new reported host for this specimen.

***Eurystylus bellevoeyi* (REUTER 1879)**

M a t e r i a l e x a m i n e d : Noor (36°34' 51.86" N - 52°02' 57.35" E, Elev:-12); Sisangan (36°34' 56.84" N - 51°48' 47.78" E, Elev:-9); Amol (36°18' 16.86" N - 52°22' 02.45" E, Elev: 341) 3 specimens, April 2010.

C o m m e n t s : On *Medicago* (Alfalfa)

Tribe *Stenodemini* CHINA 1943

***Stenodema (Brachystira) calcarata* (FALLÉN 1807)**

M a t e r i a l e x a m i n e d : Mazandaran: Zirab (Lajim region: 36°15' 08.37" N - 53°05' 37.44" E, Elev: 724); Lajim, Atu village (36°14' 10.77" N - 53°02' 13.37" E, Elev: 850): 6 specimens, May 2010.

C o m m e n t s : On undergrowth in deciduous forests.

***Trigonotylus pulchellus* (HAHN 1834)**

M a t e r i a l e x a m i n e d : Mazandaran: Babol (30°31' 46.09" N - 52°19' 43.74" E, Elev: 23; 36°32' 45.04" N - 52°19' 44.84" E, Elev: 12), 4 specimens, June 2010. Sari (Shahid Zaree Park: 36°33' 19.15" N - 53°07' 34.29" E, Elev: 85), 2 specimens, July 2010.

C o m m e n t s : On *Salix*.

This species has been collected from different regions of Iran (LINNAVUORI 2008) and Mazandaran (Chalus, 12-13.vii.2003) by LINNAVUORI (2008).

Subfamily *Deraeocorinae* DOUGLAS & SCOTT 1865

Tribe *Deraeocorini* DOUGLAS & SCOTT 1865

***Deraeocoris (Plexaris) pilipes* (REUTER 1879)**

M a t e r i a l e x a m i n e d : Rooyan (36°31' 32.88" N - 51°56' 31.83" E, Elev: 59), 5 specimens, September 2010. Chamestan (36°29' 03.35" N - 52°06' 20.34" E, Elev: 102), 1 specimens, July 2010.

C o m m e n t s : On *Salix*.

***Deraeocoris (Camptobrochis) punctulatus* (FALLÉN 1807)**

M a t e r i a l e x a m i n e d : Mazandaran: Babol (36°22' 55.61" N - 52°49' 35.61" E, Elev: 176), 3 specimens, July 2010. Chamestan (36°29' 03.35" N - 52°06' 20.34" E, Elev: 102).

C o m m e n t s : On *Juglans*.

***Deraeocoris (Knightocapsus) lutescens* (SCHILLING 1837)**

M a t e r i a l e x a m i n e d : Babol (Nezami road: 36°23' 57.41" N - 52°49' 55.68" E, Elev: 165), 2 specimens, April 2010. Chamestan (36°28' 33.73" N - 52°05' 58.13" E, Elev: 123), 2 specimens, April 2010. Chamestan (36°29' 03.35" N - 52°06' 20.34" E, Elev: 102), 3 specimens, July 2010.

C o m m e n t s : On *Ulmus*.

This species has been collected from different regions of Iran (LINNAVUORI 2008) and Mazandaran: Chalus, 12.-13.vii.2003; Hassan Abad, 15.-16.vii.2002, by LINNAVUORI (2008).

***Deraeocoris (Camptobrochis) serenus* (DOUGLAS & SCOTT 1868)**

M a t e r i a l e x a m i n e d : Babol (36°22' 55.61" N - 52°49' 35.61" E, Elev: 176; 36°30' 24.93" N - 52°44' 47.40" E, Elev: 6); Sari (Shahid Zaree Park: 36°33' 19.15" N - 53°07' 34.29" E, Elev:85), 3 specimens, July 2010.

C o m m e n t s : On *Juglans*.

This species has been collected from different regions of Iran (LINNAVUORI 2008), in Mazandaran the species has been collected in Hassan Abad, 15-16 vii. 2002. by Linnavuori (LINNAVUORI 2008).

***Deraeocoris (Deraeocoris) rutilus* (HERRICH-SCHAEFFER 1839)**

M a t e r i a l e x a m i n e d : Mazandaran: Babol, 2 specimens, June 2010. Amol (36°18' 16.86" N - 52°22' 02.45" E, Elev: 341), 2 specimens, July 2010. Mahmood abad (36°33' 07.05" N - 52°17' 36.54" E, Elev: 1), 1 specimens, July 2010. Ghaem shahr, 1 specimen, April 2010. Chamestan (36°29' 06.37" N - 52°06' 09.38" E).

C o m m e n t s : On weeds in meadows.

Subfamily B r y o c o r i n a e BAERENSPRUNG 1860

Tribe D i c y p h i n i REUTER 1883

***Macrolophus melanotoma* (A. COSTA 1853)**

M a t e r i a l e x a m i n e d : Ghaem shahr, 2 specimens, September 2010.

C o m m e n t s : On undergrowth in deciduous forests.

A polyphagous predator found mostly on plants of the Asteraceae and Solanaceae (SCHELT et al. 1996), and an important native host is the herbaceous composite *Inula viscosa* (L.) AIT. (CARAYON 1986). The bugs apparently prefer the stationary instars of the greenhouse whitefly (Constant et al. 1994), but they will also feed on the sweetpotato whitefly (BARNADAS et al. 1998), as well as on other greenhouse pests, such as mites, thrips, and aphids. The ability of *M. melanotoma* to develop on important pests such as the greenhouse whitefly, Sweetpotato whitefly, and western flower thrips (RIUDAVETS et al. 1993; BARNADAS et al. 1998) increases its potential in biological control.

***Dicyphus (Dicyphus) eckerleini* WAGNER 1963**

M a t e r i a l e x a m i n e d : Mazandaran: Noor (36°34' 25.72" N - 52°02' 58.69" E, Elev:-8), several specimens, September 2010. Royan (Keshpel Jangle: 36°29' 17.67" N - 52°03' 08.40" E, Elev: 85): 2 specimens, September 2010.

C o m m e n t s : On undergrowth in deciduous forests.

Subfamily P h y l i n a e DOUGLAS & SCOTT 1865

Tribe P h y l i n i DOUGLAS & SCOTT 1865

***Campylomma diversicorne* REUTER 1878**

M a t e r i a l e x a m i n e d : Babol (band P), several specimens, July 2010. Ghaem shahr, September 2010.

C o m m e n t s : On weeds.

***Campylomma verbasci* (MEYER-DÜR 1843)**

M a t e r i a l e x a m i n e d : Amol (Chamestan), 3 specimens, September 2010.

C o m m e n t s : On weed.

During the 1990s, the splices began to damage apple fruit in the Netherlands, and similar injury has occurred in Belgium and Bulgaria (STIGTER 1996). The "mullein bug," as it is sometimes known in North America, is often a sporadic or an intermittent pest of apple. As a predator, *C. verbasci* feeds on the European red mite, and to a lesser extent, on aphids in European apple orchards (NIEMCZYK 1978).

***Plagiognathus (Plagiognathus) bipunctatus* REUTER 1883**

M a t e r i a l e x a m i n e d : Mazandaran: Fereydon kenar (36°40' 14.51" N - 52°31' 09.64" E, Elev:-23), 2 specimens, June, 2010.

C o m m e n t s : On weed in meadows.

This species has been collected from different regions of Iran (LINNAVUORI 2008). In Mazandaran the species has been collected in Chalus, 18.-17.vii.2002, 12.-13.vii.2003 and Hassan Abad, 15.-16.vii.2002 by Linnavuori (LINNAVUORI 2008).

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