

FAUNA OF PLANT BUGS (HEMIPTERA: HETEROPTERA: MIRIDAE) FROM JOLFA AND VICINITY, NW IRAN

Mohammad Havaskary*, Reza Farshbaf Pourabad
and Aras Rafiee*****

* Young Researchers Club, Central Tehran Branch, Islamic Azad University, Tehran, IRAN.

** Department of Plant Protection, Faculty of Agriculture, University of Tabriz, Tabriz, IRAN.

*** Department of Biology, Central Tehran Branch, Islamic Azad University, Tehran, IRAN.

[**Havaskary, M., Farshbaf Pourabad, R. & Rafiee, A.** 2015. Fauna of plant bugs (Hemiptera: Heteroptera: Miridae) from Jolfa and vicinity, NW Iran. *Munis Entomology & Zoology*, 10 (1): 234-237]

ABSTRACT: The fauna of plant bugs (Hemiptera:Heteroptera: Miridae) from Jolfa county (East Azarbaijan province, Iran) and its vicinity is studied in this paper. Base on different sampling projects conducted during 2010-2012, totally 30 species from 18 genera and 5 subfamilies including Bryocorinae, Deraeocorinae, Mirinae, Orthotylinae, Phylinae were identified.

KEY WORDS: Heteroptera, Miridae, Fauna, Jolfa, Iran.

Heteroptera (Hemiptera) with more than 40,000 described species are part of the most successful radiation of nonholometabolous insects (Weirauch & Schuh 2011). Within the Heteroptera the plant bugs or Miridae constitute the largest family with more than 10,000 described species (Schuh 1995). It is expected that the family may contain twice as many species (Schaefer & Panizzi 2000). Plant bugs are commonly phytophagous, but some species are generalist predators of plant-feeding insects and mites and are associated with many common pests of ornamental trees and shrubs (Schuh & Slater 1995). Even though the mirids contain many economically important species, its taxonomy and systematic contains some problems. This is a result of the large number of included taxa and the uniformity of external morphology of many genera (Wyniger, 2004).

The fauna of Iranian Plant bugs (Hemiptera: Heteroptera: Miridae) studied rather well in some provinces by Linnavuori (1997, 1998, 2007, 2010), Linnavuori and Modarres Awal (1998) and Hosseini (2013) but Jolfa and its vicinity has been not deliberated so far, Thus the present research focused to determine of leaf bugs in this area. Jolfa is one of the most important border towns for the Islamic Republic of Iran where is situated between "Kiamaki" mountains and Aras river littorals in the East Azarbaijan province that is surrounded by Marand and Varzeghan cities in the south, Khodafarin county in the east (East Azarbaijan Province), West Azarbaijan Province in the west, Armenia and Azerbaijan counties in the north.

MATERIALS AND METHODS

The specimens of this research were collected through the years 2010-2012, mainly by sweeping of vegetation and light trapping. Collected materials were put in ethanol 70% for identification in suitable time. These data have also been included in this paper. Specific name, author and description date, locality and date of collection are provided. The system and nomenclature follow principally Aukema & Rieger (1999).

RESULTS

A total of 30 species in 18 genera of plant bugs (Hemiptera: Heteroptera: Miridae) are listed in this paper, which are given alphabetically in below.

Subfamily Bryocorinae

***Macrolophus pygmaeus* Rambur, 1839**

Material examined: Kordasht (3 specimens), 13 May 2011.

Subfamily Deraeocorinae

***Deraeocoris lutescens* Schilling, 1837**

Material examined: Jolfa grasslands (3 specimens), 1 June 2010.

***Deraeocoris punctulatus* Fallén, 1807**

Material examined: Marand (5 specimens), 26 May 2010; Siah Rod (2 specimens), 30 May 2011; Nordoz (4 specimens), 10 June 2012.

***Deraeocoris serenus* Douglas & Scott, 1868**

Material examined: Marand (2 specimens), 26 May 2010; Golan (3 specimens), 12 June 2012; Osh Tobin (1 specimen), 7 July, 2011.

Subfamily Mirinae

***Adelphocoris lineolatus* Goeze, 1778**

Material examined: Marand (45 specimens), 10 July 2010; Golan (21 specimens), 12 June 2012; Osh Tobin (19 specimen), 7 July, 2011. Jolfa 25 August 2011 (25 specimens), 13 September 2010 (32 specimens); Nordoz (17 specimens), 10 June 2012; Misan (11 specimens), 30 May 2011; Varzeghan (14 specimens) 4 June 2010; Kordasht (22 specimens), 28 May 2011.

***Adelphocoris vandalicus* Rossi, 1790**

Material examined: Siah Rod (10 specimens), 30 May 2011; Misan (3 specimens) 3 June 2012; Osh Tobin (8 specimens), 7 July, 2011; Jolfa grasslands (4 specimens), 1 June 2010.

***Charagochilus gyllenhalii* Fabricius, 1807**

Material examined: Near of Scent Stepanus Church (4 specimens) 18 June 2010.

***Eurystylus bellevoeyi* Reuter, 1879**

Material Examined: Marand (3 specimens), 26 May 2010.

***Lygus gemellatus* Herrich-Schaeffer, 1835**

Material Examined: Siahrod (7 specimens), 2 July 2012; Golan (6 specimens), 1 June 2012; Alamdar (3 specimens), 5 June 2011.

***Lygus pratensis* Linnaeus, 1758**

Material Examined: Alamdar (12 specimens), 5 June 2011; Near of Scent Stepanus Church (7 specimens) 18 June 2010; Kordasht (5 specimens), 13 May 2011.

***Lygus rugulipennis* Poppius, 1911**

Material Examined: Siah Rod (8 specimens), 30 May 2011; Osh Tobin (6 specimens), 7 July, 2011.

***Orthops frenatus* Horváth, 1894**

Material Examined: Marand (5 specimens), 10 July 2010; Haras (4 specimens) 4 June 2012.

***Orthops kalmii* Linnaeus, 1758**

Material Examined: Kordasht (7 specimens), 13 May 2011; Haras (2 specimens) 4 June 2012.

***Orthops pilosulus* Jakovlev, 1877**

Material Examined: Osh Tobin (3 specimens), 7 July, 2011.

***Phytocoris varipes* Boheman, 1852**

Material Examined: Alamdar (12 specimens), 5 June 2011.

***Polymerus brevicornis* Reuter, 1879**

Material Examined: Near of Scent Stepanus Church (9 specimens) 18 June 2010; Marand (8 specimens), 26 May 2010; Siah Rod (11 specimens), 30 May 2011.

***Polymerus cognatus* Fieber, 1858**

Material Examined: Siahrod (4 specimens), 2 July 2012; Misan (7 specimens), 30 May 2011.

***Polymerus vulneratus* Panzer, 1806**

Material Examined: Jolfa grasslands (6 specimens), 1 June 2010; Golan (8 specimens), 1 June 2012.

***Stenodema calcarata* Fallén, 1807**

Material Examined: Nordoz (2 specimens), 10 June 2012.

***Stenodema turanica* Reuter, 1904**

Material Examined: Misan (15 specimens), 30 May 2011; Kordasht (6 specimens), 13 May 2011; Marand (9 specimens), 20 May 2012; Oshtobin (10 specimen), 7 July, 2011.

***Trigonotylus pulchellus* Hahn, 1834**

Material Examined: Kordasht (2 specimens), 28 May 2011.

Subfamily Orthotylinae***Blepharidopterus diaphanus* Kirschbaum, 1856**

Material Examined: Golan (2 specimens), 1 June 2012.

***Orthotylus flavosparsus* (C. R. Sahlberg, 1841)**

Material Examined: Varzeghan (4 specimens) 4 June 2010; Oshtobin (19 specimen), 7 July, 2011.

***Orthotylus minutus* Jakovlev, 1877**

Material Examined: Siahrod (3 specimens), 2 July 2012; Near of Scent Stepanus Church (5 specimens) 18 June 2010.

Subfamily Phylinae***Campylomma diversicorne* Reuter, 1878**

Material Examined: Oshtobin (5 specimens), 7 July, 2011; Near of Scent Stepanus Church (4 specimens) 18 June 2010.

***Campylomma verbasci* Meyer-Dür, 1843**

Material examined: Misan (2 specimens), 30 May 2011; Jolfa grasslands (4 specimens), 1 June 2010.

***Oncotylus setulosus* Herrich-Schaeffer, 1837**

Material Examined: Near of Scent Stepanus Church (3 specimens) 18 June 2010.

***Oncotylus viridiflavus longipes* Wagner, 1954**

Material Examined: Golan (3 specimens) 2 June 2011.

***Pilophorus confusus* Kirschbaum, 1856**

Material examined: Kordasht (2 specimens), 28 May 2011.

***Plagiognathus bipunctatus* Reuter, 1883**

Material Examined: Oshtobin (3 specimens), 7 July, 2011.

***Tuponia elegans* Jakovlev, 1881**

Material Examined: Jolfa grasslands (2 specimens), 1 June 2010.

ACKNOWLEDGEMENTS

The authors are grateful to Dr. Scudder and Dr. Schwartz (Research Affiliate Agriculture & Agri-Food Canada Environmental Health, Canada) for their invaluable helps for sending necessary references.

LITERATURE CITED

- Aukema, B. & Rieger, C.** 1999. Catalogue of the Heteroptera of the Palaearctic Region. Volume 3. Cimicomorpha II[M]. Amsterdam: The Netherlands Entomological Society, 577 pp.
- Hosseini, R.** 2013. On the genus *Pilophorus* HAHN (Hemiptera: Miridae) in Guilan province and adjacent areas. *Entomofauna*, 34 (5): 105-116.
- Linnavuori, R. E.** 1997. the Miridae (Heteroptera) from Yemen and Iran. *Acta Universitatis Carolinae Biologica*, 40 (1996): 301-320.
- Linnavuori, R. E.** 1998. Studies on Miridae (Heteroptera) of Iran. *Acta Universitatis Carolinae Biologica*, 42: 23-41.
- Linnavuori, R. E.** 2004. Heteroptera of the Hormozgan province in Iran II. *Nepomorpha, Gerromorpha, Leptopodomorpha, Cimicomorpha* (Nabidae, Anthocoridae, Miridae). *Acta Universitatis Carolinae Biologica*, 48: 85-98.
- Linnavuori, R. E.** 2007. Studies on the Miridae (Heteroptera) of Gilan and adjacent provinces in northern Iran. II. List of species. *Acta Entomologica Musei Natonalis Pragae*, 47: 17-56.

- Linnavuori, R. E.** 2009. Studies on the Nepomorpha, Gerromorpha, Leptopodomorpha, and Miridae excluding Phylini (Hemiptera: Heteroptera) of Khuzestan and the adjacent provinces of Iran. *Acta Entomologica Musei Nationalis Pragae*, 49: 1-32.
- Linnavuori, R. E.** 2010. Studies on the Miridae (Phylinae, addenda to Deraeocorinae and Orthotylinae) of Khuzestan and the adjacent provinces of Iran (Hemiptera: Heteroptera). *Acta Entomologica Musei Nationalis Pragae*, 50 (2): 369-414.
- Linnavuori, R. E. & Modarres Awal, M.** 1999. Studies of the Heteroptera of the Khorasan in N.E. Iran. II. Cimicomorpha: Miridae. *Entomologica Fennica*, pp. 215-231.
- Schaefer, C. W. & Panizzi, A. R.** 2000. Heteroptera of economic importance. CRC Press, Boca Raton, USA, 828 pp.
- Schuh, R. T.** 1995. Plant bugs of the World (Heteroptera: Miridae): Systematic catalog, distributions, host list, and bibliography. New York Entomological Society, 1329 pp.
- Schuh, R. T. & Slater, J. A.** 1995. True Bugs of the world (Hemiptera: Heteroptera). Classification and Natural History. Cornell University Press, Ithaca, New York. xii + 338 pp.
- Weirauch, Ch. & Schuh, R. T.** 2011. Systematics and evolution of Heteroptera: 25 years of progress. *Annual Review of Entomology*, 56: 487-510.
- Wyniger, D.** 2004. Taxonomy and phylogeny of the Central European bug genus "Psallus" (Hemiptera, Miridae) and faunistics of the terrestrial Heteroptera of Basel and surroundings (Hemiptera). PhD Thesis, University of Basel, Faculty of Science.