

FAUNISTIC STUDY OF CIMICOMORPHA FROM TABRIZ AND VICINITY, NW IRAN (HEMIPTERA: HETEROPTERA)

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ABSTRACT: In this research the fauna of Cimicomorpha (Hemiptera: Heteroptera) from Tabriz and its surrounding ranges (East Azarbaijan province, Iran) is studied during 2012-2015. Totally 38 species from 28 genera of families Anthocoridae (3 genera and 4 species), Miridae (16 genera and 21 species), Tingidae (5 genera and 5 species) and Reuviidae (4 genera and 7 species) were determined.

KEY WORDS: Hemiptera, Heteroptera, Cimicomorpha, Fauna, Tabriz, Iran

The true bugs (Heteroptera) with more than 40,000 described species are a large and widely distributed group of insects (Weirauch & Schuh 2011). Most species are terrestrial, but many are aquatic and semi-aquatic. Terrestrial species are often associated with plants and feed in vascular tissues or on the nutrients stored within seeds. Other species live as scavengers in the soil or underground in caves or ant nests. Still others are predators on a variety of small arthropods. A few species even feed on the blood of vertebrates. Bed bugs, and other members of the family Cimicidae, live exclusively as ectoparasites on birds and mammals (including humans). Aquatic Heteroptera can be found on the surface of both fresh and salt water, near shorelines, or beneath the water surface in nearly all freshwater habitats. With only a few exceptions, these insects are predators of other aquatic organisms (Meyer, 2016). Within the true bugs (Heteroptera), Cimicomorpha with more than 20,000 species, now currently placed in 17 families (Weirauch & Schuh, 2011).

Tabriz (the studied area) has a semi-arid climate with regular seasons. The annual precipitation is around 280 millimeters (11 in), a good deal of which falls as snow during the winter months and rain in spring and autumn. The city enjoys mild and fine climate in spring, dry and semi-hot in summer, humid and rainy in autumn and snowy cold in winter. The average annual temperature is 12.6 °C (54.7 °F). Cool winds blow from east to west mostly in summer. This county with 2270 km² area is situated in the north-western part of Iran (Fig. 1). Four cities and 76 villages comprise an overall population of approximately 1.58 million. Elevations range from 1320 to 3710 meters above sea level. Tabriz County contains some of the most important human habitations in the East Azerbaijan province and includes its major industrial and agricultural centers. Agriculture is one of the main sources of income for the population (Feizizadeh, 2008; Feizizadeh & Blaschke, 2012).

In the North West of Iran (East and West Azarbaijan, Ardabil provinces) , Aras River is one of the world significant aquatic ecosystems with high biodiversity which flows in and along the countries of Turkey, Armenia, Azerbaijan, and Iran and Protection of the ecosystem is an essential requirement.

Although a good effort by Aras Free Zone organization in Iran is done to preserve this aquatic ecosystem (Fig. 2). But implementing a serious comprehensive coordinated program between countries of Armenia, Turkey, Azerbaijan and Iran is essential and otherwise serious danger threatens the biodiversity survival of these habitats.

MATERIALS AND METHODS

The fauna of Iranian Cimicomorpha (Hemiptera: Heteroptera) from East Azarbaijan studied by Modarres Awal (1987,1996, 1997, 1998), Baroughi (1997), Farshbaf Pour-Abad (2000), Sadaghian et al. (2004), Khalilzadeh (2008), Askari et al. (2009), Sadeghi et al. (2009), Khaghaninia et al. (2010a,b,c, 2011, 2013), Arkani et al. (2011), Ebrahimi et al. (2012), Havaskary (2012).

In this research, the specific name, author and description date, locality and date of collection for species are provided. The system and nomenclature follow principally Aukema & Rieger (1999).

RESULTS

A total of 38 species from 28 genera of four families Anthocoridae (3 genera and 4 species), Miridae (16 genera and 21 species), Tingidae (5 genera and 5 species) and Reuviidae (4 genera and 7 species) are listed in this paper.

Family Anthocoridae

Subfamily Anthocorinae

Anthocoris nemoralis (Fabricius, 1794)

Material examined: Esfanjan (2 specimens), 12 May 2012.

Anthocoris pilosus (Jakovlev, 1877)

Material examined: Khosrow shahr (2 specimens), 2 June 2012.

Orius niger (Wolff, 1811)

Material examined: Esfanjan (4 specimens), 12 May 2012; Khosrow shahr (5 specimens), 8 June 2013; Tazeh Kand (3 specimens) 20 May 2014.

Temnostethus reduvinus parilis (Horváth, 1891)

Material examined: Julfa (1 specimen), 30 May 2014.

Family Miridae

Subfamily Bryocorinae

Dicyphus (Dicyphus) eckerleini Wagner, 1963

Material examined: Bostan Abad (2 specimens), 5 July 2015.

Macrolophus sp.

Material examined: Julfa (3specimens),30 May 2015.

Subfamily Deraeocorinae

Bothynotus pilosus (Boheman, 1852)

Material examined: Azarshahr (2 specimens), 24 May 2013.

Deraeocoris lutescens Schilling, 1837

Material examined: Iilkhchi (3 specimens), 8 Junly 2015; Marand (4 specimens), 1 June 2014.

Deraeocoris punctulatus Fallén, 1807

Material examined: Akhula (7 specimens), 29 May 2014; Teimourlu (6 specimens), 30 May 2014; Tazeh Kand (9 specimens), 4 June 2013; Esfanjan (3 specimens), 12 May 2012; Khajeh (2 specimens), 5 June 2015.

Subfamily Mirinae***Camponotidea fieberi* Reuter, 1879**

Material examined: Bostan Abad (2 specimens), 1 June 2014.

***Adelphocoris lineolatus* Goeze, 1778**

Material examined: Sardrod (25 specimens) 15 July 2015; Akhula (12 specimens), 29 May 2014; Mayan (15 specimens) 22 July 2015; Teimourlu (18 specimens), 30 May 2014; Tazeh Kand (21 specimens), 4 June 2013; Esfanjan (9 specimens), 12 May 2012; Khajeh (16 specimens), 5 June 2015.

***Charagochilus gyllenhali* Fabricius, 1807**

Material examined: Teimourlu (2 specimens), 30 May 2014.

***Eurystylus bellevoeyi* Reuter, 1879**

Material Examined: Esfanjan (4 specimens), 12 May 2012; Sardrod (5 specimens) 15 July 2015.

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

Material Examined: Sardrod (3 specimens) 15 July 2015; Tazeh Kand (5 specimens), 4 June 2013; Bostan Abad (7 specimens), 18 June 2012; Byraq (3 specimens) 5 June 2013.

***Lygus pratensis* Linnaeus, 1758**

Material Examined: Esfanjan (2 specimens), 12 May 2012; Tazeh Kand (2 specimens), 4 June 2013; Khajeh (1 specimen), 5 June 2015.

***Lygus rugulipennis* Poppius, 1911**

Material Examined: Byraq (3 specimens) 5 June 2013; Azarshahr (2 specimens) 15 June 2015.

***Orthops frenatus* Horváth, 1894**

Material Examined: Bostan Abad (3 specimens), 5 July 2015; Bkshayesh (4 specimens) 3 June 2013.

***Polymerus brevicornis* Reuter, 1879**

Material Examined: Sardrod (3 specimens) 15 July 2015; Bostan Abad (7 specimens), 18 June 2012.

***Polymerus cognatus* Fieber, 1858**

Material Examined: Bostan Abad (4 specimens), 10 June 2013; Byraq (2 specimens) 5 June 2013.

***Stenodema calcarata* Fallén, 1807**

Material Examined: Teimourlu (3 specimens), 30 May 2014.

***Stenodema turanica* Reuter, 1904**

Material Examined: Teimourlu (2 specimens), 30 May 2014; Bostan Abad (7 specimens), 18 June 2012.

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

Material Examined: Bostan Abad (6 specimens), 5 July 2015.

***Orthotylus minutus* Jakovlev, 1877**

Material Examined: Bostan Abad (8 specimens), 5 July 2015; Sardrod (6 specimens) 15 July 2015.

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

Material examined: Akhula (6 specimens), 29 May 2014; Khajeh (2 specimens), 5 June 2015.

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

Material Examined: Azarshahr (2 specimens) 2 June 2015.

***Pilophorus confusus* Kirschbaum, 1856**

Material examined: Safian (3 specimens) 2 June 2014.

Family Tingidae**Subfamily Tinginae*****Agramma (Agramma) minutum* Horváth, 1874**

Material Examined: Bostan Abad (2 specimens), 5 July 2015.

***Dictyla echii* (Schrank, 1782)**

Material Examined: Julfa (3 specimens), 7 June 2015.

***Monosteira unicostata* (Mulsant & Rey, 1852)**

Material Examined: Kurdasht Julfa (2 specimens), 30 May 2015.

***Stephanitis (Stephanitis) oschanini* Vasiliev, 1935**

Material Examined: Sardrod (Many specimens) 15 July 2015; Akhula (25 specimens), 29 May 2014; Mayan (28 specimens) 22 July 2015; Teimourlu (40 specimens), 30 May 2014; Tazeh Kand (14 specimens), 4 June 2013; Esfanjan (Many specimens), 12 May 2012; Khajeh (10 specimens), 5 June 2015.

***Tingis (Tingis) auriculata* (A. Costa, 1847)**

Material Examined: Osh Tobin (2 specimen), 8 June 2015.

Family Reduviidae**Subfamily Harpactorinae*****Rhynocoris iracundus* (Poda, 1761)**

Material Examined: Julfa (2 specimens) 15 August 2015.

***Rhynocoris punctiventris* (Herrich-Schaeffer, 1848)**

Material Examined: Bostan Abad (4 specimens) 1 April 2015.

Subfamily Peiratinae***Pirates hybridus* (Scopoli, 1763)**

Material Examined: Azar shar (2 specimens) 15 July 2014.

***Ectomocoris ululans* (Rossi, 1790)**

Material Examined: Sardrod (1 specimen) 3 April 2012.

Subfamily Reduviinae***Reduvius jakovleffi* (Reuter, 1892)**

Material Examined: Kiamaki (3 specimens) 15 August 2014.

***Reduvius pallipes* (Klug, 1830)**

Material Examined: Dozal Julfa (2 specimens), 12 April 2013; Sardrod (2 specimens) 3 April 2012; Azar shar (3 specimens) 15 July 2014.

Subfamily Stenopodainae***Oncocephalus impictipes* (Jakovlev, 1885)**

Material Examined: Safian (1 specimen) 28 July 2013.

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