

## **SPECIES OF THE FLOWER BUGS GENUS *ANTHOCORIS* FALLEN, 1814 FROM MASHHAD REGION, NORTH-EAST OF IRAN (HETEROPTERA: ANTHOCORIDAE)**

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**ABSTRACT:** In the faunistic studies, carried out during 2006-2007, three species of *Anthocoris* Fall. belonging to subfamily Anthocorinae and tribe Anthocorini (Het.: Anthocoridae) were collected from Mashhad region. The *Anthocoris* species which are the predators of some injurious arthropod species such as aphids, psylls, thrips, caterpillars and mites were identified as follow: *Anthocoris nemoralis* F., *A. pilosus* (Jak.) and *A. guentheri* Peric. Furthermore, the identification key to these species was given.

**KEY WORDS:** *Anthocoris*, Iran, fauna, Mashhad.

The family Anthocoridae is constituted by small predaceous insects and contains 400 to 600 species. They are commonly known as flower bugs or pirate bugs. These insects feed on different species of arthropods including aphids, psylls, thrips, caterpillars and mites (Nasser & Abdurahiman, 2004). These predators usually found on flowers (Borror et al., 1989). At least 33 species and subspecies of this family have been reported from Iran. In which about 11 species and 2 subspecies belong to genus *Anthocoris* (Linnavuori & Hosseini, 1996; Linnavuori & Modarres Awal, 1998; Ostovan, 2000).

### **MATERIAL AND METHODS**

In this study, sampling procedure conducted weekly during 2006-2007. Light traps, sweeping net and white trays were used for sampling. Sampling was randomized and carried out in 7 different locations of Mashhad region (Ghasem Abad, Kheir abad, Band-e-Golestan, Torogh, Golma-kan, Ferdowsi University campus and education research farm of Agriculture College of Ferdowsi University of Mashhad). All materials were transferred to the laboratory in killing jar and then pinned as well as labeled. Species were identified using morphological characters and identification keys and then sent to Dr. Linnavuori in FIN-21220 Raisio 22, Somersoja- Finland for identification and confirmation.

### **RESULTS AND DISCUSSION**

In this study three species of genus *Anthocoris* (Het.: Anthocoridae) including *Anthocoris nemoralis* F., *A. pilosus* (Jak.) and *A. guentheri* Peric., were identified in Mashhad region from Iran. Species and identification key of those were presented below.

**Anthocoridae Fieber, 1836****Anthocorinae Fieber, 1837*****Anthocoris nemoralis* (Fabricius, 1794)**

Body is 3.3-4.0 mm. and black. Hair covering on upper surface of body is pale, short and appressed. Cuneus and posterior half of embolium are shiny (Fig. 1 a).

**Material examined: Mashhad (Ghasem Abad):** 9 specimens (♂), May-July 2006. On fruit trees and grasses.

***Anthocoris pilosus* (Jakovlev, 1877)**

Body is 4.0-4.5 mm. and black. Hemelytra is totally shiny. Hair covering on upper surface of body is long, erect and pale (fig. 1 b). Conical process of paramere is taper (Fig. 2 a).

**Material examined: Mashhad ( Ghasem Abad):** 3 specimens (♂), April, August 2006; **Chenaran (Golmakan):** 1 specimen (♂), June 2006; **Mashhad:** 3 specimens (♂), May-July 2006. On alfalfa, sunflower and grasses.

***Anthocoris guentheri* Pericart, 2007**

Body is oblong, hairless, 3.5 times longer than the width of the base of pronotum and yellow to brown with black or reddish areas. Head is red. Eyes are reddish to red and antennae are relatively strong. Pronotum with a more or less wide black longitudinal stripe and the lateral parts turning brown to yellow, reddish yellow or red. In one of the specimens (♀), pronotum is entirely red and only have a little basal black stripe along the scutellum. Hemelytra are yellowish brown except the cuneus. Coxae and legs are brownish yellow and abdomen is blackish to red (Fig. 1 c). From above view, parameres of males seen scythe-shaped, without tooth on their internal edge and their apex is a little upraised (Fig. 2 b). The general habitat of *Anthocoris guentheri* is rather near to that of the transpalaeartic species *A. confuses* (Reuter, 1884; Pericart, 1972).

**Material examined: Mashhad:** 4 specimens (2♂ and 2♀), May 2006. On ash.

**Identification key**

1. Body hairless; antenna relatively strong, the first and second segments yellowish brown, their apex frequently darker and joints black; external part of exocorium and whole cuneus shiny; pronotum with a more or less wide black longitudinal stripe; parameres without tooth.....*Anthocoris guentheri* Pericart  
-. Hair covering exists on the body.....2
2. Head and pronotum black; antenna blackish, second segment pale; hair covering on upper surface short and pale; exocorium and cuneus shiny.....  
.....*Anrhocoris nemoralis* Fabricius  
-. Head and antenna black; hair covering on upper surface long, Erect and pale; Hemelytra totally shiny and yellow to white, apical part of corium and cuneus blackish.....*Anthocoris pilosus* (Jakovlev)

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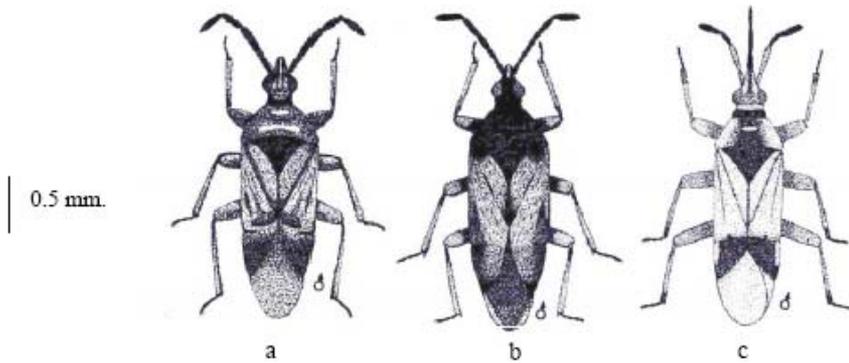
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**Fig. 1.** *Anthocoris* spp.: a- *A. nemoralis* F., b- *A. pilosus* (Jak.), c- *A. guentheri* Peric.



**Fig. 2.** Paramere of *Anthocoris* spp.: a- *A. pilosus* (Jak.), b- *A. guentheri* Peric.