

THE SPECIES OF SUBORDER HETEROPTERA (HEMIPTERA) ON VINEYARDS AGROECOSYSTEMS WHICH IS FOUND IN DİYARBAKIR, ELAZIĞ AND MARDİN PROVINCES, TURKEY

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ABSTRACT: This study has been realized in the localities of Diyarbakır, Elazığ and Mardin during 2006-2007 where vineyards agroecosystem plantations are common. In total, 10 Heteroptera species from five families (Pentatomidae, Scutelleridae, Miridae, Coreidae and Lygaeidae) were recorded in these provinces. The distribution of collected species in each province varied greatly; these were in total, 2 species from two families recorded at two sampling locations in Diyarbakır, 3 species from two families recorded at one sampling locations in Elazığ, 5 species from three families at two sampling locations in Mardin respectively. From these families was collected of 59 specimens. Apart the *Nysius cymoides* and *Holcostethus vernalis* Wolff, 1804, all species were recorded of first times of the vineyards agroecosystem.

KEY WORDS: Vineyard, Heteroptera, fauna, Turkey.

Our country is the most favorable climate for wine-growing. The country is very old and well-established wine-growing culture, a gene has the potential to rich. The people of Anatolia was used with different ways to grape production. On the other hand; The processing of grape must obtained in different ways. This products were wine, vinegar and nutritional products such as molasses, and uses to meet energy needs. One of the most important problems in the areas were pests which affected to vineyard area. Oztürk et al. (2005) was listed 267 specimens of 63 families to reported that the harmful species between 1938 to 2004 years in vineyard area from Turkey. There were 25 specimens in these species, also belonging to the Hemiptera in the vineyard areas of the Southeastern and Eastern Anatolia region. Günaydın (1972) was studied on the vineyard pests Southeastern and Eastern Anatolia regions. He was determined to important pest: *Eriophyes vitis* Colomerus, *Arboridia adanae* Dlabola, *Haplothrips glabiceps* Bagnall, *Anaphothrips vitis* Priesner specimens in the vineyard areas. Maçan (1984) was determined to 5 specimens in Homoptera order; 3 specimens in Lepidoptera order, 3 specimens in Coleoptera order, 2 specimens in Thysanoptera order, 1 specimens in Diptera order in Diyarbakır, Elazığ, Malatya, Mardin, Siirt and Şanlıurfa provinces. The studies in this area were to determine of general insect order. This study was conducted to determine of Hemiptera specimens between 2006 to 2007 years in Diyarbakır, Elazığ and Mardin provinces.

MATERIAL AND METHODS

The present study on fauna of Hemiptera order was carried out during 2006-2007 in different vineyards areas of the Diyarbakır, Elazığ and Mardin provinces. Surveys have been performed with sweep net and knock down methods. Classification and nomenclature of Pentatomidae, Scutelleridae, Miridae, Coreidae and Lygaeidae suggested by Tamanini (1959) and Stichel (1960, 1961,

1962). Material have been identified by Dr. Meral FENT (Department of Zoology, Faculty of Science,Trakya University).

RESULT AND DISCUSSION

In this study, was determined of the ten species belong five family of Heteroptera suborder in Diyarbakır, Elazığ and Mardin provinces of Turkey.

List of the species:

Family: Pentatomidae

Holcostethus strictus vernalis Wolff, 1804

Material examined: Elazığ, Central province, 14.VI.2006, 8 exs.

Remarks: Distribution in East and southeastern Anatolia region of this specimen was in Diyarbakır (central, Ergani, Bismil, Hazro, Silvan), Batman (Central), Elazığ (Sivrice,Gezin), Gaziantep, Şanlıurfa, Mardin, Siirt (Central, Kurtalan), Şırnak (Cizre, Silopi) provinces (Uygun et al., 1995; Önder et al., 1995; Özgen et al., 2005; Kaplan, 2007). Host plants of this species have been strawberry, wheat and almond (Özgen et al., 2005; Bolu et al., 2006; Kaplan, 2007).

Eurydema fieberi Schummer & Fieber, 1837

Material examined: Diyarbakır, Çermik, 01.VII.2006, 6 exs.

Remarks: This species have been determined in Gaziantep (Central, Kilis, Oğuzeli, Yavuzeli) province (Önder et al., 1995). It is the first record for the study area.

Eurydema putoni Jakovlev, 1877

Material examined: Mardin, Derik, 01.VII. 2007, 7 exs.

Remarks: This species have been determined in Erzurum province (Önder et al., 2006). It is the first record for the study area and vineyard area.

Tholagmus flavolineatus Wagner, 1955

Material examined: Elazığ, 12.V.2006, 6 exs.

Remarks: This species have been determined in Gaziantep (Oğuzeli) province (Önder et al., 1995). It is the first record for the study area and vineyard area.

Sciocoris distinctus Fieber, 1857

Material examined: Mardin, Derik, 19.VIII.2007, 3 exs, 05.IX.2007, 1 exs, Totally: 4 exs.

Remarks: This species have been determined in Ankara, Kars and Ordu provinces (Önder et al., 2006). It is the first record for the study area and vineyard area.

Family: Scutellaridae

Psacasta tuberculata Stichel, 1960

Material examined: Elazığ, 15.V. 2006, 3 exs.

Remarks: This species have been determined in Adana, Ankara, Antalya, Aydın, Gaziantep, Hatay, Kırşehir and Mersin provinces (Önder et al., 1996). It is the first record for the study area and vineyard area.

Family: Miridae

Horistus orientalis Gmelin, 1790

Material examined: Diyarbakır, Lice, 14.V. 2006, 6 exs.

Remarks: It is the first record for the study area and vineyard area.

Family: Lygaeidae

Nysius graminicola graminicola Kolenati, 1846

Material examined: Mardin, Savur, 17.V.2006, 4 exs.

Remarks: This species have been determined in Diyarbakır, Şanlıurfa and Mardin provinces (Akkaya; 1995; Uygun et al., 1995). It is the first record for vineyard area.

Nysius cymoides (Spinola, 1837)

Material examined: Mardin, Savur, 17.V.2006, 3 exs.

Remarks: This species have been determined in Diyarbakır, Şanlıurfa and Kilis provinces (Akkaya; 1995; Lodos et al., 1999). This species was known in weeds (Lodos et al., 1999). It is the first record for Mardin province and vineyard area.

Family: Coreidae

Centrocoris variegatus Kolenati, 1845

Material examined: Mardin: Derik, 01.VII.2006, 12 exs.

Remarks: This species is the first record for the study area and vineyard area. It is polyphagous. It is generally found on Chenopodiaceae family plants (Anonymous 2009).

In the previously studies have been determined *Camptopus lateralis*, *Coreus marginatus* (L.), *Heterogaster urticae* F., *Lygaeus equestris* (L.), *L. pandurus* Scop., *Megalonotus sabulicola* Thomson, *Metopoplax origani* Kolenati, *Nysius cymoides* Spinola, *Lygus pratensis* L., *Exolygus pratensis* Kuzn., *Tuponia elegans* (Jakovlev), *Aelia acuminata* L., *Ancyrosoma leucogrammes* Gmelin, *Carpocoris mediterraneus* Tamanini, *C. purpuripennis* (De Geer), *Dolycoris baccarum* (L.), *Eurydema ornatum* (L.), *E. ventrale* Kolenati, *Graphosoma lineatum* L., *Holcostethus vernalis* Wolff., *Mustha spinosula* (Lef.), *Nezara viridula* (L.), *Raphigaster nebulosa* Poda, *Maccevetus caucasicus*, *Eurygaster maura* (L.) in the Turkey's vineyard areas (Öztürk, 2005). *Nysius cymoides* and *Holcostethus vernalis* are also determined with the present investigation. The other species are firstly determined in the vineyard area. These species are polyphagous generally. They will be hazardous species with climatic changes of the region in the following years. Detailed studies on feeding behaviour and flora/fauna interactions of these species are required.

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LITERATURE CITED

- Akkaya, A.** 1995. The Determination of Hazardous and Useful Insect and Acari Species in the Vegetable Fields in Diyarbakır and Şanlıurfa Provinces of Turkey. Master thesis, Cukurova University Press, Adana, 80 p.
- Anonymous.** 2009. Heteroptera of Slovenia. <http://www2.pms-lj.si>. Access Date: 12.02.2009.
- Bolu, H., Özgen, İ. & Fent, M.** 2006. The Species of Pentatomidae (Heteroptera) on Almond Trees in Diyarbakır, Elazığ and Mardin Provinces. Yuzuncu Year University. Journal of Agriculture Faculty, 16 (1): 25-28.
- Günaydın, T.** 1972. Survey Studies on Vineyard Pests in East and Southeast Region of Turkey. Plant Protection Research Publications. Diyarbakır, (6): 42.
- Kaplan, M.** 2007. The investigations on the determine of insect and acari species and their natural enemies in the strawberry fields in Elazığ province. Master thesis, Harran University Publications, Şanlıurfa, 67 p.

- Önder, F., Karsavuran, Y., Pehlivan, E. & Turanlı, F.** 1995. The evaluations about Pentatomoidea (Heteroptera) species to determinations in the Project Area of Southeastern Anatolia Region of Turkey. Plant Protection Problems and Solve Suggestions about GAP Region of Turkey, Şanlıurfa, 120-130, 435 p.
- Önder, F., Karsavuran, Y., Tezcan, S. & Fent, M.** 2006. The Cataloge of Heteroptera (Insecta) in Turkey. Publications of Agricultural Faculty of Aegean University. İzmir, 164 p.
- Özgen, İ., Gözüaçık, C., Karsavuran, Y. & Fent, M.** 2005. The investigations on Pentatomidae Family (Heteroptera) Species in wheat agroecosystem in Southeastern Anatolia Region of Turkey. Turk. Entomol. Derg., 29 (1): 61-68.
- Özgen, İ.** 2008. The investigations about Cicadellidae Species, in their population fluctutations, natural enemies and Recovering of Struggle Methods in vineyard agroecosystems in Diyarbakır, Elazığ and Mardin provinces of Turkey. Doctora Thesis, Bornova, 127 p.
- Öztürk, N., Hazır, A. & Ulusoy, M. R.** 2005. The Determination of Hazardous Species and Natural Enemies on Vineyard agroecosystems in Turkey. "6. Vineyard Symposium of Turkey", 19-23 September 2005, Tekirdağ, 2: 575-588.
- Uygun, N., Başpınar, H., Şekeroğlu, E., Kornoşor, S., Özgür, A. F., Karaca, İ., Ulusoy, M. R. & Kazak, C.** 1995. The investigations on pest and natural enemies that fundamental approaches to the plant protection politica in GAP region of Turkey. Plant Protection Problems and Solve Suggestions about GAP Region of Turkey, Şanlıurfa, 99-119, 435 p.
- Maçan, S.** 1984. The investigations on hazardous insect species, their identification, distributions and economic importance in vineyard areas in southeastern Anatolia Region of Turkey. Plant Protection Research Institute Publications. No: 3, 47 p.
- Stichel, W.** 1960. Illustrierte Bestimmungstabellen der Wanzen. II. 4 (13-17): 385-544, Berlin.
- Stichel, W.** 1961. Illustrierte Bestimmungstabellen der Wanzen. II. 4 (18-24): 545-768, Berlin.
- Stichel, W.** 1962. Illustrierte Bestimmungstabellen der Wanzen. II. 4 (25-27): 769-838, Berlin.
- Tamanini, L.** 1959. I *Carpocoris* della regione Palearctica (Hem. Heteroptera, Pentatomidae). Estratto Della Memorie Della Societa Entomologica Italiana, 38: 120-142.