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**PREDATOR SPECIES DETERMINED ON APHID  
(HEMIPTERA: APHIDIDAE) IN ŞANLIURFA  
AND ADIYAMAN PROVINCES OF TURKEY**

**SUMMARY**

This study was carried out to determine predators of Aphid species in Şanlıurfa and Adıyaman provinces in Southeastern Anatolia Region of Turkey between 2006 and 2007. Aphid predator species were determined in cultivated and uncultivated fields and collected by suction tube. Also, the immature stages were collected with their predators and cultivated in order to obtain adults. It was determined 9 predator species belonging to 6 families and 5 orders in Diyarbakır province. It was found that 1 species belongs to Forficulidae of Dermaptera order, Chrysopidae of Neuroptera, 3 species belonging to Syrphidae of Diptera order, 2 species belonging to Miridae and Anthocoridae of Hemiptera order, 2 species belonging to Coccinellidae of Coleoptera order.

**Keywords:** Predator species, Aphididae, Adıyaman, Şanlıurfa, Turkey.

**INTRODUCTION**

Aphids cause curls in leaves, reduced growth of plants and deformations in plant organs by feeding on shoots, leaves, stems, fruits and roots of plants (Eastop, 1966; Dixon, 1977). Moreover, while the individuals of the species belonging to the superfamily Aphidoidea are feeding, they produce honeydew that induces saprophytic fungi growth, which later causes fumagin production and these results in malfunction of the leaves to assimilate. Additionally but indirectly, aphids serve as vectors to viruses and virus-like organisms (Kennedy et al., 1962; Conti, 1985).

As a result of unwise chemical measures against aphids, not only the harmful individuals, but also the beneficial fauna is negatively affected. Within the context of integrated management, the first step of fighting the pests needs to be the determination of the harmful and predator species. This research aims at determination of the pest aphid predators in agricultural and nonagricultural lands in Adıyaman and Şanlıurfa province

**MATERIAL AND METHODS**

This study was conducted between 2006 and 2007 in Adıyaman and Şanlıurfa provinces, Southeastern region of Turkey. The adults of predator

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specimens were collected by sweep-net, aspirator and hand picking on both cultured and non-cultured plants in the provinces. Immature stages were brought to the laboratory along with samples of those plants infested with aphid and cultured to obtain adult. Adult predators collected from various habitats were killed in a cyanide bottle and pinned. Each specimen was tagged with the information about host plants, locality, and date.

## RESULTS AND DISCUSSION

List of aphid predators species with aphid species, host plants and distribution data:

**Order:** Dermaptera

**Family:** Forficulidae

**Species:** *Forficula auricularia* L.

*Aphis craccivora* Koch; Birecik/Şanlıurfa, 12.VI. 2006 on *Robinia pseudoacacia*

**Order:** Neuroptera

**Family:** Chrysopidae

**Species:** *Chrysoperla carnea* (Steph.)

*Aphis gossypii* Glov; Akçakale/Şanlıurfa, 14.X.2007 on *Citrullus vulgaris* on *Gossypium* sp. , *Myzus (Nectarosiphon) persicae* (Sulzer); Sincik/Adıyaman, 11.V.2006 on *Prunus persica*

**Order:** Hemiptera

**Family:** Miridae

**Species:** *Deraeocoris pallens* Rt.

*A. craccivora* Koch; Birecik/Şanlıurfa, 12.VI.2006 on *Robinia pseudoacacia*

**Family:** Anthocoridae

**Species:** *Orius minutus* (L.)

*A. craccivora* Koch; Center/Adıyaman, 11.VII.2007 on *Capsella bursa-pastoris*.; *Aphis punicae* Passerini ; Birecik/Şanlıurfa, 04.V.2007 on *Punica granatum*

**Order:** Coleoptera

**Family:** Coccinellidae

**Species:** *Coccinella septempunctata* (L.)

*A. craccivora* Koch; Akçakale/Şanlıurfa, 25.VI.2007 on *Capsella bursa-pastoris*, Suruç/Şanlıurfa, 12.IX.2007 on *Gossypium* sp.

*Aphis fabae* Scopoli; Gölbaşı/Adıyaman, 11.VIII.2007 on *Cirsium arvense*;

*Aphis gossypii* Glover ; Tut/Adıyaman, 11.VIII.2007 on *Cucumis melo*,

Kahta/Adıyaman, 11.VIII.2007 on *Citrullus vulgaris*, Besni/Adıyaman,

11.VIII.2007 on *Cucurbita pepo*, Akçakale/Şanlıurfa, 14.X.2007 on *Gossypium*

sp., Birecik/Şanlıurfa , 12.IX.2007 on *Tribulus terrestris*, Siverek/Şanlıurfa,

12.VI.2006 on *Citrullus vulgaris*

*Myzus (Nectarosiphon) persicae* (Sulzer); Siverek/Şanlıurfa, 12.IX.2007 on *Capsicum annuum*

**Species:** *Oenopia conglobata* (L.)

*Aphis punicae* Passerini; Suruç/Şanlıurfa, 01.V.2007 on *Punica granatum*

**Order:** Diptera

**Family:** Syrphidae

**Species:** *Episyrphus balteatus* (De Geer)

*H. pruni* (Geoff.); Siverek/Şanlıurfa, 04.V.2007 on *Prunus armeniaca*

*M. rosae* (L.); Center /Şanlıurfa, 04.V.2007 on *Rosa* sp.

**Species:** *Ischiodon scutellaris* F.

*A. craccivora* Koch; Gölbaşı/Adıyaman, 12.VII.2006 on *Vicia fabae*;

*Macrosiphum rosae* (L.); Sincik/Adıyaman; 11.V.2006 on *Rosa* sp.

**Species:** *Syrphus vitripennis* Meig

*A. fabae* Scopoli; Gölbaşı/Adıyaman, 11.VIII.2007 on *Cirsium arvense*.

*A. pomi* (De Geer); Harran/Şanlıurfa, 04.05.2007 on *Malus domestica*

It was found that 1 species belongs to Forficulidae of Dermaptera order, Chrysopidae of Neuroptera, 3 species belonging to Syrphidae of Diptera order, 2 species belonging to Miridae and Anthocoridae of Hemiptera order, 2 species belonging to Coccinellidae of Coleoptera order. These predators were reported by many authors to be aphid predators (Hodek, 1967; Giray, 1970; Lodos, 1986; Düzgüneş et al., 1982; Erkin, 1983; Özgür, 1986; Zeren, 1989; Kıran, 1994; Uygun et al., 1995; Coll and Ruperson, 1998; Aslan and Karaca, 2005; Aslan and Uygun, 2005; Aslan and Uygun, 2007; Narmanlıoğlu and Güçlü, 2008; Günçan et al., 2010).

## CONCLUSIONS

A total of 9 species were detected as aphid predators. 1 species Neuroptera, 1 species Dermaptera, two species Hemiptera, 2 species from Coccinellidae, 3 from Syrphidae were found as predators. Among the species *Chrysoperla carnea* Stephan (Neuroptera: Chrysopidae), *Coccinella septempunctata* L. (Coleoptera: Coccinellidae) and *Episyrphus baltaetus* De Geer (Diptera: Syrphidae) were the most common species. It was detected that coccinellids were present at maximum ratio in April and May, but this was lowered by mid July.

The Stryphid species observed in the region during 2006-2007 were *Episyrphus balteatus*. The effects of Stryphids were observed closer to coccinellids on aphid population. Aphid predators have a significant impact on aphids in this region. This study is thought to provide a general basis on the aphid predator species for in future biological studies.

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