



## Recent findings on aphid fauna from east and south eastern parts of Turkey

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### Abstract

This study was conducted in East and South Eastern Parts of Turkey. *Anoecia haupti* Börner 1950, *Aphis nonveilleri* Petrović-Obradović & Remaudière 2002, *Brachycaudus mordvilkoii* Hille Ris Lambers 1931, *Chaitophorus hypogaeus* Hille Ris Lambers 1947, *Dysaphis radicola* (Mordvilko 1897), *Forda orientalis* George 1920, *Indiochaitophorus furcatus* Verma 1970, *Liosomaphis himalayensis* Basu 1964, *Macrosiphum centranthi* Theobald 1915, *Macrosiphum symphyti* Barjadze & Chakvetadze 2008, *Melanaphis bambusae* (Fullaway 1917), *Myzocallis mediterranea* Quednau & Remaudière 1994, *Paraclotus subnudus* Hille Ris Lambers 1954, *Pterocomma groenlandicum* Hille Ris Lambers 1952 and *Sipha uvarovi* Mordvilko 1921 were determined as a new entry for Turkish aphidofauna. As there is no detailed study in study area, findings of the presented study can be informative about aphid fauna of Turkey.

**Key words:** Anatolia, aphid, biodiversity, eastern part of Turkey, Hemiptera

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## Türkiye'nin doğu ve güney doğu bölümlerinden afit faunası üzerine son bulgular

### Özet

Bu çalışma Türkiye'nin Doğu ve Güney Doğu bölgesinin bazı bölümlerinde gerçekleştirilmiştir. *Anoecia haupti* Börner 1950, *Aphis nonveilleri* Petrović-Obradović & Remaudière 2002, *Brachycaudus mordvilkoii* Hille Ris Lambers 1931, *Chaitophorus hypogaeus* Hille Ris Lambers 1947, *Dysaphis radicola* (Mordvilko 1897), *Forda orientalis* George 1920, *Indiochaitophorus furcatus* Verma 1970, *Liosomaphis himalayensis* Basu 1964, *Macrosiphum centranthi* Theobald 1915, *Macrosiphum symphyti* Barjadze & Chakvetadze 2008, *Melanaphis bambusae* (Fullaway 1917), *Myzocallis mediterranea* Quednau & Remaudière 1994, *Paraclotus subnudus* Hille Ris Lambers 1954, *Pterocomma groenlandicum* Hille Ris Lambers 1952 ve *Sipha uvarovi* Mordvilko 1921 türleri Türkiye afit faunası için yeni kayıt olarak belirlenmiştir. Çalışma alanında detaylı bir çalışma bulunmamasından dolayı, çalışmada sunulan bulgular Türkiye afit faunası için bilgi verici olabilir.

**Anahtar kelimeler:** Anadolu, afit, biyoçeşitlilik, Türkiye'nin doğu bölümleri, Hemiptera

### 1. Introduction

About 550 aphid species were determined from various geographical regions of Turkey. There are a lot studies conducted related with Turkey aphid fauna during last 10 years and many species are determined as new records. Şenol et al. (2015a, 2015b) determined 26 aphid species and Turkey aphid fauna reached to 532. Anatolian Diagonal is one of the important geographical barriers for species that distribute in Eastern and Western part of Turkey. This barrier is significant indicator to the diversification and distributions of the various animal species (Çıplak, 2003; Mutun, 2010). Due to particular characteristic features of the study area, it was aimed to find present composition of the aphid fauna.

### 2. Materials and methods

Field works conducted in Adıyaman and Malatya (The East and South Eastern Part of Turkey) provinces, in November, 2015 and April-May, 2016. Samples were identified and their taxonomic statues checked through related

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literature (Blackman and Eastop, 2017; Favret, 2017). Voucher samples were stored in the Biotechnology Department of Ömer Halisdemir University.

### 3. Results

The consideration of acquired data indicated that 15 aphid species are new entry for Turkish aphid fauna. The information about recent findings shown as follows:

*Anoecia haupti* Börner, 1950

**Collected Material:** The light green aptera individuals were obtained from roots of *Cynodon dactylon*.

**Collection locality:** Adıyaman- Gölbaşı district(13.XI.2015).

**Distribution:** Austria, China, Germany, Italy, Spain, Portugal (Blackman and Eastop, 2017; Holman, 2009).

*Aphis nonveilleri* Petrović-Obradović & Remaudière, 2002

**Collected Material:** Green aptera individuals were collected from upper sides of leaves of *Cruciata taurica*.

**Collection locality:**Malatya-Darende (27.IV.2016).

**Distribution:** Montenegro (Blackman and Eastop, 2017; Holman, 2009).

*Brachycaudus (Prunaphis) mordvilkoii*Hille Ris Lambers, 1931

**Collected Material:** Light green aptera individuals were picked up from flowers of *Anchusa azurea*.

**Collection locality:**Malatya-Hekimhan (27.IV.2016).

**Distribution:**Czech Republic, Great Britain, Italy, Lithuania, Moldavia,Poland, Romania, Russia, Slovakia, Spain, Ukraine (Blackman and Eastop,2017; Holman, 2009).

*Chaitophorus hypogaeus* Hille Ris Lambers, 1947

**Collected Material:** Yellowish aptera individuals were collected from branch and upper sides of leaves of *Salix* sp.

**Collection locality:**Malatya- Darende district (20.XI.2015).

**Distribution:** Belgium, Netherlands and Poland (Blackman and Eastop,2017; Holman, 2009).

*Dysaphis radicola* (Mordvilko, 1897)

**Collected Material:**Ant-attended black aptera individuals were obtained from upper sides of leaves of *Rumex* sp.

**Collection locality:** Malatya-Doğanşehir (16.XI.2015)

**Distribution:**Australia, Austria, Belarus, Bulgaria, Caucasus,Czech Republic, Denmark, France, Georgia, Germany, Greece, Great Britain, Hungary, Iran, Italy, Japan, Kazakhstan, Moldavia, Morocco, Netherlands, Poland, Portugal, Romania, Russia, Spain, Sweden, Ukraine, USA, Uzbekistan (Blackman and Eastop,2017; Holman, 2009).

*Forda orientalis* George, 1920

**Collected Material:** Ant-attended small green aptera individuals were collected from root of *Cynodon dactylon*.

**Collection locality:** Adıyaman- Birecik district (30.III.2016).

**Distribution:** India, Iran, Israel, Kazakhstan, Pakistan, Siberia (Blackman and Eastop,2017; Holman, 2009).

*Indiochaitophorus furcatus* Verma, 1970

**Collected Material:** Light yellow aptera individuals were sampled from under sides of leaves of *Ulmus* sp.

**Collection locality:** Malatya- Tohma riverside trees (19.XI.2015).

**Distribution:** Algeria, India, Pakistan (Blackman and Eastop, 2017; Holman, 2009).

*Liosomaphis himalayensis* Basu, 1964

**Collected Material:** Yellowish green aptera individuals were collected from trunk of *Berberidis* sp.

**Collection locality:** Malatya-Yeşilyurt (30.IV.2016).

**Distribution:** India, Nepal, China (Blackman and Eastop, 2017; Holman, 2009).

*Macrosiphum centranthi* Theobald, 1915

**Collected Material:** Green aptera individuals were picked up from twings of *Rosa* sp.

**Collection locality:** Malatya-Yeşilyurt (30.IV.2016).

**Distribution:** Africa, Bulgaria, Great Britain, India, Switzerland Ukraine (Blackman and Eastop, 2017; Holman, 2009).

*Macrosiphum symphyti* Barjadze & Chakvetadze, 2008

**Collected Material:** Black aptera individuals were obtained from twing of *Anchusa* sp.

**Collection locality:** Adıyaman- Çelikhan district (30.IV.2016).

**Distribution:** Georgia, Iran (Blackman and Eastop, 2017; Holman, 2009).

***Melanaphis bambusae*** (Fullaway, 1917)

**Collected Material:** Ant-attended dark green small aptera individuals were picked up from upper sides of leaves of *Cynodon dactylon*

**Collection locality:** Adiyaman and Adiyaman- Cendere district (15.XI.2015, 05.IV.2016)

**Distribution:** China, Egypt, France, India, Italy, Korea, Madeira, Morocco, Portugal, Spain (Blackman and Eastop, 2017; Holman, 2009).

***Myzocallis (Pasekia) mediterranea*** Quednau & Remaudière, 1994

**Collected Material:** Yellow aptera and alatae individuals were sampled from under sides of leaves of *Quercus* sp.

**Collection locality:** Malatya- Kurşunlu district (29.IV.2016).

**Distribution:** France, Italy, Spain (Blackman and Eastop, 2017; Holman, 2009).

***Paracletus subnudus*** Hille Ris Lambers, 1954

**Collected Material:** Whitish aptera individuals were obtained from root of *Hordeum* sp.

**Collection locality:** Malatya-Yazihan (Fethiye village), Malatya-Arguvan (29.IV.2016).

**Distribution:** Israel (Blackman and Eastop, 2017; Holman, 2009).

***Pterocomma groenlandicum*** Hille Ris Lambers, 1952

**Collected Material:** Green aptera individuals were collected from branch of *Salix* sp.

**Collection locality:** Malatya-Gürün (Darende district) (27.IV.2016).

**Distribution:** Greenland, Siberia (Blackman and Eastop, 2017; Holman, 2009).

***Sipha (Rungia) uvarovi*** Mordvilko, 1921

**Collected Material:** Black aptera individuals were collected from upper side of leaves of *Triticum* sp.

**Collection locality:** Malatya-Yeşilyurt (30.IV.2016).

**Distribution:** Kazakhstan, Russia, Siberia, Tajikistan, Ukraine (Blackman and Eastop, 2017; Holman, 2009).

#### 4. Conclusions and discussion

As a result of the evaluation of the findings 15 aphid species were determined as new records for Turkish aphid fauna. With recent findings number of aphid species reached up to nearly 550. Adiyaman and Malatya provinces, which are placed around the Anatolian diagonal, have special climatic-geographic-floristic composition and microclimatic areas. Despite these fascinating features of the study area, there is no detailed study conducted, findings are the preliminary results of the planned study, in turn indications of the study are going to be evaluated in the aspects of the climatic changes effects on the aphid composition of Turkey.

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