Acta Phytopathologica et Entomologica Hungarica 36 (1–2), pp. 81–87 (2001)

New Data to the Knowledge of the Aphid Fauna of Hungary (Homoptera: Aphidoidea)

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Author gives a report on the partial results of the regular collections made between 1990 and 1999 on ornamental trees and shrubs, on streets, in parks, in green spaces of housing estates, in private gardens and in arboreta. A total of 45 aphid species were found belonging to 2 families. *Phylloxerina populi* (del Guercio, 1900), *Cinara cedri* Mimeur, 1936, *Neotrama caudata* del Guercio, 1909, *Protrama ranunculi* (del Guercio, 1909), *Aphis catalpae* Mamontova, 1950, *Ovatomyzus boraginacearum* Eastop, 1952 and *Uroleucon taraxaci* (Kaltenbach, 1843) are new for the Hungarian fauna.

Keywords: New aphid species in Hungary, Homoptera, Aphidoidea.

In discovering the aphid fauna in Hungary, works by Horváth (1897), Szalay-Marzsó and Andrásfalvy (1970), Andrásfalvy (1971, 1978), Szelegiewicz (1977), and Szalay-Marzsó (1969, 1989) were significant. Halmágyi (1969, 1974) reported mostly about results of studies on aphid species of forestry tree species, while Haltrich et al. (1992) and Ripka et al. (1993, 1998) about aphid species of ornamental trees and shrubs.

Materials and Methods

Between 1990 and 1999, an aphid survey was made on ornamental trees and shrubs of streets, squares, green areas of housing estates, parks, botanical gardens and private gardens in all districts of Budapest, few samples were collected in some other localities of Hungary and Croatia, also from herbaceous plants. The majority of the results of this survey were reported in the papers of the present author and other co-authors in 1993, 1998. Plant samples from woody plant species (minimum 5 shoots, or 25 leaves/plant) were taken in plastic bags. In Hévíz the aphids were collected with water trap (so-called Moericke yellow trap filled with water plus detergent) by T. Vincze and dr. Z. Ilovai. Hévíz is a famous health resort with warm water not far off the lake Balaton. The water traps were placed on the water level of the lake. During the plant examination with binocular microscope, all the aphids found on the plant samples were put in 70% ethyl alcohol. After boiling the aphids for some minutes in ethyl alcohol they were put in 10% potassium hydroxide. The animals' body were cleaned by boiling them again in it and by pressing them to the necessary extent. Having rinsed the animals with distilled water, they were mounted in Hoyer's medium, containing sorbitol (Keifer, 1975) and in Heinze's medium of polyvinyl alcohol (Schmutterer, 1959). The microscope-slide preparations

0238–1249/2001/$ 5.00

were dried in a thermostat at 32 °C and then sealed with nail varnish. Aphids were studied with phase contrast microscope. In order to identify the aphid species works by Börner (1952), Szelegiewicz (1977), Blackman and Eastop (1984, 1994) were used.

Results

A total of 45 aphid species were found belonging to 2 families *(Table 1). Phylloxerina populi* (del Guercio, 1900), *Cinara cedri* Mimeur, 1936, *Neotrama caudata* del Guercio, 1909, *Protrama ranunculi* (del Guercio, 1909), *Aphis catalpae* Mamontova, 1950, *Ovatomyzus boraginacearum* Eastop, 1952 and *Uroleucon taraxaci* (Kaltenbach, 1843) are new for the Hungarian fauna.

Aphis catalpae caused severe leaf-shrivelling and produced much honeydew on *Catalpa bignonioides. Phylloxerina populi* was found on the bark of branches of *Populus x canescens* associated with *Chionaspis salicis* (Linnaeus) (Homoptera: Coccoidea). The phylloxerid specimens were under the scales of dead diaspidid. Three aphid species were found on roots of weeds. *Anoecia corni* (Fabricius) was collected from roots of *Setaria verticillata, Pemphigus fuscicornis* (Koch) from roots of *Chenopodium album,* and *Neotrama caudata* from roots of *Sonchus oleraceus. P. fuscicornis* was also present on leaves of *Ch. album. Hayhurstia atriplicis* (Linnaeus) was collected from leaves of *Ch. album. Ovatomyzus boraginacearum* was present on underside of leaves of *Geum urbanum.* Colonies of *Uroleucon taraxaci* were found on leaf petioles and flower stalks of *Taraxacum officinale. Rhopalosiphum nymphaeae* (Linnaeus) caused severe infestation on *Nymphaea rubra.*

The following aphid parasitic mite species co-occurred with aphids: *Allothrombium pulvinum* Ewing, *Podothrombium exiguum* Fain et Ripka, *Podothrombium pannonicum* Fain et Ripka, *Charletonia singularis* (Oudemans) and *Erythraeus budapestensis* Fain et Ripka.

Table 1

Aphid species collected in Hungary
(* = new species for the Hungarian fauna)

Aphid species	Plant species/trap type	Sampling place	Sampling date
fam. **Phylloxeridae**			
**Phylloxerina populi* (del Guercio, 1900)			
	Populus x canescens	Óbuda	25.08. 1998
		Óbuda	07.05. 1999
fam. **Aphididae**			
Pemphiginae **Eriosomatini**			
Eriosoma lanuginosum (Hartig, 1839)			
	Ulmus minor	Törökvész	10.06. 1999

Table 1 (cont.)

Aphid species	Plant species/trap type	Sampling place	Sampling date
Pemphiginae **Pemphigini**			
Pemphigus fuscicornis (Koch, 1857)			
	Chenopodium album	Kispest	10.09. 1993
Anoeciinae			
Anoecia corni (Fabricius, 1775)			
	Setaria verticillata	Maglód (Pest c.)	10.09. 1995
Thelaxinae			
Thelaxes suberi (del Guercio, 1911)			
	Quercus cerris	Vászoly (Veszprém c.)	05.07. 1998
Lachninae **Cinarini**			
**Cinara cedri* Mimeur, 1936			
	Cedrus atlantica	Budapest	13.10. 1999
Cinara cupressi (Buckton, 1881)			
	Thuja occidentalis	Békéscsaba (Békés c.)	23.06. 1998
		Budapest	18.10. 1999
Cinara piceae (Panzer, 1801)			
	Picea abies	Pasarét	08.05. 1997
	Picea sp.	Kiskuhalas (Bács-Kiskun c.)	28.04. 1998
Cinara tujafilina (del Guercio, 1909)			
	Juniperus scopulorum	Budapest	14.06. 1999
Lachninae **Lachnini**			
Lachnus roboris (Linnaeus, 1758)			
	Castanea sativa	Érd-parkváros (Pest c.)	20.10. 1997
	Quercus cerris	Vászoly (Veszprém c.)	05.07. 1998
	Quercus robur	Víziváros	03.06. 1997
Lachninae **Tramini**			
**Neotrama caudata* del Guercio, 1909			
	Sonchus oleraceus	Törökvész	17.09. 1993
**Protrama ranunculi* (del Guercio, 1909)			
	Water trap	Hévíz (Zala c.)	25.07. 1997
Chaitophorinae **Chaitophorini**			
Chaitophorus capreae (Mosley, 1841)			
	Salix aegyptiaca	Gellérthegy	02.11. 1999
Chaitophorus sp.			
	Water trap	Hévíz (Zala c.)	16.05. 1997
	Water trap	Hévíz (Zala c.)	30.05. 1997
	Salix aegyptiaca	Pasarét	07.06. 1997
	Salix aegyptiaca	Gellérthegy	02.11. 1999
Periphyllus aceris (Linnaeus, 1761)			
	Acer platanoides	Zirc (Veszprém c.)	26.05. 1997

Table 1 (cont.)

Aphid species	Plant species/trap type	Sampling place	Sampling date
Periphyllus acericola (Walker, 1848)			
	Acer platanoides	Zirc (Veszprém c.)	26.05. 1997
Periphyllus lyropictus (Kessler, 1886)			
	Acer platanoides	Zirc (Veszprém c.)	26.05. 1997
Periphyllus testudinaceus (Fernie, 1852)			
	Acer acuminatilobum	Zirc (Veszprém c.)	26.05. 1997
	Acer platanoides	Zirc (Veszprém c.)	26.05. 1997
Chaitophorinae **Atherodini**			
Sipha glyceriae (Kaltenbach, 1843)			
	Water trap	Hévíz (Zala c.)	30.05. 1997
Drepanosiphinae **Phyllaphidini**			
Hoplocallis ruperti Pintera, 1952			
	Quercus cerris	Vászoly (Veszprém c.)	05.07. 1998
Myzocallis komareki (Pasek, 1953)			
	Quercus robur	Széchenyihegy	28.07. 1999
Phyllaphis fagi (Linnaeus, 1767)			
	Water trap	Hévíz (Zala c.)	05.05. 1997
Pterocallis alni (De Geer, 1773)			
	Water trap	Hévíz (Zala c.)	30.05. 1997
Aphidinae **Pterocommatini**			
Pterocomma rufipes (Hartig, 1841)			
	Water trap	Hévíz (Zala c.)	16.05. 1997
Aphidinae **Aphidini**			
**Aphis catalpae* Mamontova, 1950			
	Catalpa bignonioides	Víziváros	03.06. 1997
	Catalpa bignonioides	Víziváros	10.09. 1998
Aphis fabae Scopoli, 1763			
	Oxybaphus nyctagineus	Rákoskeresztúr	29.05. 1999
Aphis farinosa Gmelin, 1790			
	Salix aegyptiaca	Pasarét	07.06. 1997
Aphis pomi De Geer, 1773			
	Sorbus torminalis	Kispest	13.06. 1999
Aphis sambuci Linnaeus, 1758			
	Water trap	Hévíz (Zala c.)	06.06. 1997
Rhopalosiphum maidis (Fitch, 1856)			
	Setaria verticillata	Maglód (Pest c.)	10.09. 1995
Rhopalosiphum nymphaeae (Linnaeus, 1761)			
	Nymphaea rubra	Hévíz (Zala c.)	02.04. 1997
	Nymphaea rubra	Hévíz (Zala c.)	09.06. 1997

Table 1 (cont.)

Aphid species	Plant species/trap type	Sampling place	Sampling date
	Sagittaria sagittifolia	Hévíz (Zala c.)	09.06. 1997
	Water trap	Hévíz (Zala c.)	16.05. 1997
	Water trap	Hévíz (Zala c.)	19.06. 1997
Aphidinae	**Macrosiphini**		
Brachycaudus cardui (Linnaeus, 1758)			
	Achillea filipendulina	Törökvész	18.05. 1994
Brachycaudus helichrysi (Kaltenbach, 1843)			
	Water trap	Hévíz (Zala c.)	30.05. 1997
Cavariella aegopodi (Scopoli, 1763)			
	Water trap	Hévíz (Zala c.)	16.05. 1997
Cavariella theobaldi (Gillette et Bragg, 1918)			
	Water trap	Hévíz (Zala c.)	05.05. 1997
	Water trap	Hévíz (Zala c.)	16.05. 1997
	Water trap	Hévíz (Zala c.)	30.05. 1997
Hayhurstia atriplicis (Linnaeus, 1761)			
	Chenopodium album	Maglód (Pest c.)	23.05. 1994
Hyperomyzus lactucae (Linnaeus, 1758)			
	Sonchus oleraceus	Törökvész	25.09. 1993
Hyperomyzus picridis (Börner et Blunck, 1916)			
	Ribes alpinum	Zirc (Veszprém c.)	26.05. 1997
Macrosiphum cholodkovskyi (Mordvilko, 1909)			
	Chenopodium album	Maglód (Pest c.)	23.05. 1994
Macrosiphum euphorbiae (Thomas, 1878)			
	Achillea filipendulina	Törökvész	18.05. 1994
Macrosiphum rosae (Linnaeus, 1758)			
	Rosa sp.	Törökvész	23.10. 1999
Metopolophium dirhodum (Walker, 1849)			
	Rosa sp.	Törökvész	23.10. 1999
**Ovatomyzus boraginacearum* Eastop, 1952			
	Geum urbanum	Törökvész	09.05. 1998
	Geum urbanum	Törökvész	12.05. 1998
Roepkea marchali (Börner, 1931)			
	Prunus mahaleb	Törökvész	13.07. 1998
Uroleucon sonchi (Linnaeus, 1767)			
	Sonchus oleraceus	Maglód (Pest c.)	20.09. 1993
**Uroleucon taraxaci* (Kaltenbach, 1843)			
	Taraxacum officinale	Kispest	29.04. 1995

Discussion

In this survey 14 aphid species were collected from herbaceous plants, 22 species from woody plants, and 10 species used by water trap. At Hévíz the aphids of water neighbouring vegetation were collected.

Acknowledgements

Special thanks are expressed to Dr. Georges Remaudiere (Laboratoire d'Entomologie, Muséum National d'Histoire Naturelle, Paris) for identifying of several aphid species. Thanks are due to Dr. László Szalay-Marzsó (University of Agricultural Science, Gödöllő) for valuable help in the study.

The study was supported by Ministry of Agriculture and Regional Development, Hungary.

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