

## A contribution to the aphid fauna of Greece

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### Abstract

In the present study a list of the aphid species recorded in Greece is provided. The list includes records before 1992, which have been published in previous papers, as well as data from an almost ten-year survey using Rothamsted suction traps and Moericke traps. The recorded aphidofauna consisted of 301 species. The family Aphididae is represented by 13 subfamilies and 120 genera (300 species), while only one genus (1 species) belongs to Phylloxeridae. The aphid fauna is dominated by the subfamily Aphidinae (57.1 and 68.4 % of the total number of genera and species, respectively), especially the tribe Macrosiphini, and to a lesser extent the subfamily Eriosomatinae (12.6 and 8.3 % of the total number of genera and species, respectively). The number of species recorded in Greece is much lower than that in European countries, including those from the Mediterranean basin, where the aphid fauna is well investigated. Thus, we believe that with further research the recorded Greek aphidofauna will be substantially increased.

**Key words:** Aphidoidea, Hemiptera, Greece, aphid fauna.

### Introduction

The study of the Greek aphidofauna was very limited, at least since the early 90s. Remaudière (1982) and Lykouressis and Tsitsipis (1987) reported 133 species in their review papers about the Greek aphidofauna. Three additional species were reported by Panayotou and Katis (1986), Katsoyannos *et al.* (1989) and Lykouressis and Polatsidis (1990). Later, Lykouressis *et al.* (1992), Lykouressis *et al.* (1993) and Katsoyannos (1994) reported 20, 23 and 23 new aphid species. However, five species were shared in the latter two studies. Thus, the total number of aphid species recorded so far in Greece come up to 195. This number is much lower compared with records in other European countries. Patti and Barbagallo (1998; see also references there in) reviewed the data of aphid species recorded in European countries, including some from the Mediterranean basin. The authors reported that the numbers of species ranged from about 600 to 850. Although some of the data reviewed by Patti and Barbagallo (1998) were rather old, the number of species is 3-4 fold higher than that reported in Greece until 1993.

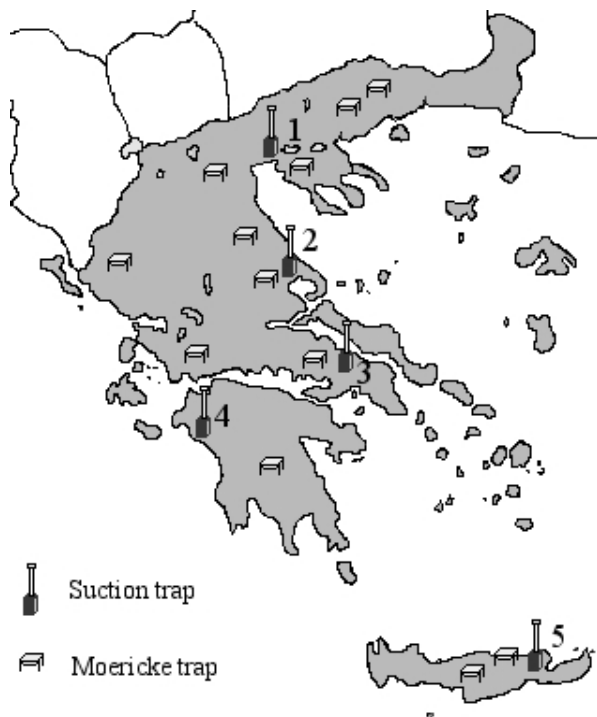
Improvement on the knowledge of the Greek aphidofauna is useful in order to evaluate the importance of the species as crop pests, either due to direct or indirect damages via virus transmission, and to improve, therefore, crop protection schemes. Taking these into account, three research projects on aphids, which were performed in the previous decade, focused among others on the survey of

aphid fauna. In this paper we present a detailed list of aphid species, which has been based on previous records and on data of winged aphid captures from the Greek network of Rothamsted suction traps and Moericke traps.

### Materials and methods

The Greek network of suction traps consisted of five traps in different regions, i.e. Agricultural Farm of the Aristotle University of Thessaloniki (AUT) (Mikra, Thessaloniki, 40.30 N), Agricultural Farm of the University of Thessaly (UT) (Velesino, Magnesia, 39.23 N), Agricultural Farm of the Agricultural University of Athens (AUA) (Kopais, Voiotia, 38.26 N), Farm of the Institute of Horticulture and Viniculture (Pyrgos, Peloponnese, 37.38 N) and Lasithi Plateau, Crete (35.07 N). In the first four areas the altitude is low, approximately at sea level, while Lasithi Plateau is at an elevation of 850 m. The traps in AUT, UT and AUA operated for seven years (1993-1999), while in Pyrgos and Lasithi for four (1996-1999) and two (1998-1999) years, respectively. In addition, Moericke traps were established in various crops and regions during the period 1993-2001 (figure 1).

The collected winged aphids were stored in vials filled with two volumes of ethanol (95%) and one volume of lactic acid 75% w/w (Eastop and van Emden, 1972) until species identification. The identification was based on the keys described by Jacky and Bouchery (1980), Taylor



**Figure 1.** Location of the Rothamsted suction traps and Moericke traps. 1: Agricultural Farm of the Aristotle University of Thessaloniki, Mikra, Thessaloniki (185 species). 2: Agricultural Farm of the University of Thessaly, Velesino, Magnesia, (145 species). 3: Agricultural Farm of the Agricultural University of Athens, Kopais, Voiotia (159 species). 4: Farm of the Institute of Horticulture and Viticulture, Pyrgos, Peloponnese (132 species). 5: Lasithi Plateau, Crete (86 species). Numbers in brackets denote number of species captured in each suction trap during the whole surveying period.

(1984) and Remaudière and Seco Fernández (1990). We used the aphid classification system proposed by Remaudière and Stroyan (1984) and used by Remaudière and Remaudière (1997) in the catalogue of world's aphids. This classification system has been followed also by other authors (e.g. Blackman and Eastop, 1994), although with some revision of subfamilies names (Nieto Nafria *et al.*, 1998; Blackman and Eastop, 2000; Fauna Europaea Web Service, 2005). These revisions have been followed also in the present paper.

## Results and discussion

Table 1 summarises the recorded Greek aphidofauna and table 2 shows the detailed list of the species. Both tables have been based on previous records and on the data of captures from suction and Moericke traps during the 10-year surveying period. One hundred and thirteen species are new records in Greece and therefore, the total number of known species comes up to 301. During this survey other taxa have been captured, but they were identified only at the genus level and, therefore, are not included in the list. The family Aphididae is represented by 13 subfamilies and 120 genera (300 species), while only one

genus (1 species) is recorded in Phylloxeridae. The recorded fauna is dominated by the subfamily Aphidinae (57.1 and 68.4 % of the total number of genera and species, respectively), especially the tribe Macrosiphini, and to a lesser extent the subfamily Eriosomatinae (12.6 and 8.3 % of the total number of genera and species, respectively).

The predominance of Aphidinae may be explained by the fact that all suction traps were located in agricultural areas inside farms. This subfamily includes the majority of agricultural aphid pest species as well as of species colonizing wild flora (either herbs or shrubs). It is probable that the location of the suction traps has biased somehow the composition of the species recorded, because, for example, the chances of forest species to be captured were reduced. It is well known that most aphid species live on vascular plants and the infestation causes direct and/or indirect damages *via* virus transmission. Among the aphid fauna recorded about 48% of the species may infest cultivated crops and ornamental plants. However, fewer species, probably not more than 15%, could be considered perhaps as tentative or important pests. For example, various Aphidinae species cause severe damages in herbaceous crops (e.g. *Myzus persicae* s.lat., *Aphis gossypii* Glover, *Aphis fabae* Scopoli) or trees (e.g. *Dysaphis plantaginea* (Passerini)). Very few belong to other subfamilies such as the woolly apple aphid *Eriosoma lanigerum* (Hausmann) (Eriosomatinae). The importance of various aphid species in the epidemiology of non-persistent viruses in Greece has been highlighted in several studies (e.g. Katis *et al.*, 1998; 2006; Kanavaki *et al.*, 2006). Lastly, there are also studies demonstrating the development of resistance to various classes of insecticides by some species, e.g. *M. persicae* (Cox *et al.*, 2004; Margaritopoulos *et al.*, 2007).

**Table 1.** Summary of the aphid fauna of Greece.

FAMILIES / Subfamilies	Tribes	No. genera	No. species
<b>APHIDIDAE</b>			
Anoeciinae	-	1	1
Aphidinae	Aphidini	9	53
	Macrosiphini	61	153
Chaitophorinae	Chaitophorini	2	9
	Siphini	4	6
Calaphidinae	Panaphidini	13	27
Drepanosiphinae		1	1
Phyllaphidinae		1	1
Eriosomatinae	Eriosomatini	3	6
	Fordini	7	11
	Pemphigini	5	8
Lachninae	Cinarini	3	11
	Lachnini	3	3
Mindarinae	-	1	1
Phloeomyzinae	-	1	1
Pterocommatinae		1	2
Saltusaphidinae	-	3	3
Thelaxinae	-	1	3
<b>PHYLLOXERIDAE</b>			
	-	1	1
<b>Total</b>		<b>121</b>	<b>301</b>

**Table 2.** A list of the species of Aphidoidea recorded in Greece. Species names are sorted alphabetically.

APHIDIDAE			
Genus (Subgenus) species subspecies	Genus	Tribe-Subtribe	Subfamily
<i>Acyrtosiphon (Acyrtosiphon) caraganae</i> (Cholodkovsky)	<i>Acyrtosiphon</i> (Mordvilko)	Macrosiphini	Aphidinae
<i>Acyrtosiphon (Acyrtosiphon) cyparissiae</i> (Koch)	"	"	"
<i>Acyrtosiphon (Acyrtosiphon) gossypii</i> Mordvilko	"	"	"
<i>Acyrtosiphon (Acyrtosiphon) kondoi</i> Shinji	"	"	"
<i>Acyrtosiphon (Acyrtosiphon) lactucae</i> (Passerini)	"	"	"
<i>Acyrtosiphon (Xanthomyzus) lambersi</i> Leclant and Remaudière	"	"	"
<i>Acyrtosiphon (Acyrtosiphon) loti</i> (Theobald)	"	"	"
<i>Acyrtosiphon (Acyrtosiphon) malvae</i> (Mosley)	"	"	"
<i>Acyrtosiphon (Acyrtosiphon) pisum</i> (Harris)	"	"	"
<i>Acyrtosiphon (Acyrtosiphon) pisum ononis</i> Koch	"	"	"
<i>Acyrtosiphon (Acyrtosiphon) primulae</i> (Theobald)	"	"	"
<i>Acyrtosiphon (Acyrtosiphon) scariolae</i> Nevsky	"	"	"
<i>Aloephagus myersi</i> Essig	<i>Aloephagus</i> Essig	Fordini	Eriosomatinae
<i>Amphorophora (Amphorophora) rubi</i> (Kaltenbach)	<i>Amphorophora</i> Buckton	Macrosiphini	Aphidinae
<i>Anoecia (Anoecia) corni</i> (Fabricius)	<i>Anoecia</i> Koch	–	Anoeciinae
<i>Anuraphis farfarae</i> (Koch)	<i>Anuraphis</i> del Guercio	Macrosiphini	Aphidinae
<i>Anuraphis subterranea</i> (Walker)	"	"	"
<i>Aphis (Aphis) affinis</i> del Guercio	<i>Aphis</i> L.	Aphidini-Aphidina	Aphidinae
<i>Aphis (Aphis) chloris</i> Koch	"	"	"
<i>Aphis (Aphis) clematidis</i> Koch	"	"	"
<i>Aphis (Aphis) coronillae</i> Ferrari	"	"	"
<i>Aphis (Aphis) craccae</i> L.	"	"	"
<i>Aphis (Aphis) craccivora</i> Koch	"	"	"
<i>Aphis (Aphis) cytisorum cytisorum</i> Hartig	"	"	"
<i>Aphis (Aphis) cytisorum sarothamni</i> Franssen	"	"	"
<i>Aphis (Aphis) davletshinae</i> Hille Ris Lambers	"	"	"
<i>Aphis (Aphis) fabae fabae</i> Scopoli	"	"	"
<i>Aphis (Aphis) fabae solanella</i> Theobald	"	"	"
<i>Aphis (Bursaphis) epilobiaria</i> Theobald	"	"	"
<i>Aphis (Aphis) frangulae frangulae</i> Kaltenbach	"	"	"
<i>Aphis (Aphis) galiiscabri</i> Schrank	"	"	"
<i>Aphis (Aphis) gossypii</i> Glover	"	"	"
<i>Aphis (Aphis) hederiae</i> Kaltenbach	"	"	"
<i>Aphis (Aphis) helianthemii</i> Ferrari	"	"	"
<i>Aphis (Aphis) idaei</i> van der Goot	"	"	"
<i>Aphis (Aphis) illinoisensis</i> Shimer	"	"	"
<i>Aphis (Aphis) intybi</i> Koch	"	"	"
<i>Aphis (Aphis) nasturtii</i> Kaltenbach	"	"	"
<i>Aphis (Aphis) nerii</i> Boyer de Fonscolombe	"	"	"
<i>Aphis (Aphis) origani</i> Passerini	"	"	"
<i>Aphis (Aphis) parietariae</i> Theobald	"	"	"
<i>Aphis (Aphis) polygonata</i> (Nevsky)	"	"	"
<i>Aphis (Aphis) pomi</i> de Geer	"	"	"
<i>Aphis (Aphis) punicae</i> Passerini	"	"	"
<i>Aphis (Aphis) ruborum</i> (Börner)	"	"	"
<i>Aphis (Aphis) rumicis</i> L.	"	"	"
<i>Aphis (Aphis) salicariae</i> Koch	"	"	"
<i>Aphis (Aphis) salviae</i> Walker	"	"	"
<i>Aphis (Aphis) sambuci</i> L.	"	"	"
<i>Aphis (Aphis) serpylli</i> Koch	"	"	"
<i>Aphis (Aphis) spiraeicola</i> Patch	"	"	"
<i>Aphis (Aphis) umbrella</i> (Börner)	"	"	"
<i>Aphis (Aphis) valleii</i> Hille Ris Lambers and Stroyan	"	"	"
<i>Aphis (Aphis) verbasci</i> Schrank	"	"	"
<i>Aphis (Aphis) mamonthovae</i> Davletshina	"	"	"
<i>Aphis (Aphis) vitalbae</i> Ferrari	"	"	"
<i>Aploneura lentisci</i> (Passerini)	<i>Aploneura</i> Passerini	Fordini	Eriosomatinae
<i>Appendiseta robiniae</i> (Gillette)	<i>Appendiseta</i> Richards	Panaphidini	Calaphidinae
<i>Aspidaphis adjuvans</i> (Walker)	<i>Aspidaphis</i> Gillette	Macrosiphini	Aphidinae
<i>Atheroides serrulatus</i> Haliday	<i>Atheroides</i> Haliday	Siphini	Chaitophorinae
<i>Aulacorthum (Neomyzus) circumflexum</i> (Buckton)	<i>Aulacorthum</i> Mordvilko	Macrosiphini	Aphidinae
<i>Aulacorthum (Aulacorthum) palustre</i> Hille Ris Lambers	"	"	"
<i>Aulacorthum (Aulacorthum) solani solani</i> (Kaltenbach)	"	"	"
<i>Aulacorthum (Aulacorthum) speyeri</i> Börner	"	"	"
<i>Baizongia pistaciae</i> (L.)	<i>Baizongia</i> Rondani	Fordini	Eriosomatinae
<i>Brachycaudus (Mordvilkomemor) amygdalinus</i> (Schouteden)	<i>Brachycaudus</i> van der Goot	Macrosiphini	Aphidinae
<i>Brachycaudus (Prunaphis) cardui</i> (L.)	"	"	"
<i>Brachycaudus (Brachycaudus) helichrysi</i> (Kaltenbach)	"	"	"
<i>Brachycaudus (Scrophulaphis) persicae</i> (Passerini)	"	"	"
<i>Brachycaudus (Acaudus) populi</i> (del Guercio)	"	"	"
<i>Brachycaudus (Appelia) prunicola</i> (Kaltenbach)	"	"	"
<i>Brachycaudus (Mordvilkomemor) rumexicolens</i> (Patch)	"	"	"

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Genus (Subgenus) species subspecies	Genus	Tribe-Subtribe	Subfamily
<i>Brachycaudus (Appelia) schwartzi</i> (Börner)	"	"	"
<i>Brachycaudus (Mordvilkomemor) sedi</i> (Jacob)	"	"	"
<i>Brachycaudus (Appelia) tragopogonis</i> (Kaltenbach)	"	"	"
<i>Brachycolus cucubali</i> (Passerini)	<i>Brachycolus</i> Buckton	"	"
<i>Brachycorynella asparagi</i> (Mordvilko)	<i>Brachycorynella</i> Aizenberg	"	"
<i>Brachyunguis (Brachyunguis) harmalae</i> B. Das	<i>Brachyunguis</i> B. Das	Aphidini-Aphidina	Aphidinae
<i>Brevicoryne brassicae</i> (L.)	<i>Brevicoryne</i> van der Goot	Macrosiphini	"
<i>Capitophorus carduius</i> (Walker)	<i>Capitophorus</i> van der Goot	"	"
<i>Capitophorus elaeagni</i> (del Guercio)	"	"	"
<i>Capitophorus hippophaes</i> Walker	"	"	"
<i>Capitophorus horni</i> Börner	"	"	"
<i>Capitophorus similis</i> van der Goot	"	"	"
<i>Caricosipha paniculatae</i> Börner	<i>Caricosipha</i> Börner	Siphini	Chaitophorinae
<i>Cavariella (Cavariella) aegopodii</i> (Scopoli)	<i>Cavariella</i> del Guercio	Macrosiphini	Aphidinae
<i>Cavariella (Cavariella) archangelicae</i> (Scopoli)	"	"	"
<i>Cavariella (Cavariella) cicutae</i> (Koch)	"	"	"
<i>Cavariella (Cavariella) konoi</i> Takahashi	"	"	"
<i>Cavariella (Cavariella) pastinacae</i> (L.)	"	"	"
<i>Cavariella (Cavariella) theobaldi</i> (Gillette and Bragg)	"	"	"
<i>Chaetosiphon (Pentatrachopus) fragaefolii</i> (T.D.A. Cockerell)	<i>Chaetosiphon</i> Mordvilko	"	"
<i>Chaetosiphon (Pentatrachopus) tetraerhodum</i> (Walker)	"	"	"
<i>Chaitophorus horii beuthani</i> (Börner)	<i>Chaitophorus</i> Koch	Chaitophorini	Chaitophorinae
<i>Chaitophorus leucomelas</i> Koch	"	"	"
<i>Chaitophorus populeti</i> (Panzer)	"	"	"
<i>Chaitophorus populialbae</i> (Boyer de Fonscolombe)	"	"	"
<i>Chaitophorus salicti</i> (Schrank)	"	"	"
<i>Chaitophorus tremulae</i> Koch	"	"	"
<i>Chondrillobiom blattnyi</i> (Pintera)	<i>Chondrillobiom</i> Bozhko	Macrosiphini	Aphidinae
<i>Chromaphis juglandicola</i> (Kaltenbach)	<i>Chromaphis</i> Walker	Panaphidini	Calaphidinae
<i>Cinara (Cinara) confinis</i> (Koch)	<i>Cinara</i> Curtis	Cinarini	Lachninae
<i>Cinara (Cinara) costata</i> (Zetterstedt)	"	"	"
<i>Cinara (Cupressobium) cupressi</i> (Buckton)	"	"	"
<i>Cinara (Cupressobium) juniperi</i> (de Geer)	"	"	"
<i>Cinara (Cinara) palaestinensis palaestinensis</i> Hille Ris Lambers	"	"	"
<i>Cinara (Cinara) pectinatae</i> (Nördlinger)	"	"	"
<i>Cinara (Cinara) pinea</i> (Mordvilko)	"	"	"
<i>Cinara (Cupressobium) tujafilina</i> (del Guercio)	"	"	"
<i>Clypeoaphis suaedae suaedae</i> (Mimeur)	<i>Clypeoaphis</i> Soliman	Macrosiphini	Aphidinae
<i>Coloradoa absinthii</i> (Lichtenstein)	<i>Coloradoa</i> Wilson	"	"
<i>Coloradoa artemisiae</i> (del Guercio)	"	"	"
<i>Coloradoa rufomaculata</i> (Wilson)	"	"	"
<i>Coloradoa tanacetina</i> (Walker)	"	"	"
<i>Corylobium avellanae</i> (Schrank)	<i>Corylobium</i> Mordvilko	"	"
<i>Cryptaphis poae</i> (Hardy)	<i>Cryptaphis</i> Hille Ris Lambers	"	"
<i>Cryptomyzus (Cryptomyzus) ballotae</i> Hille Ris Lambers	<i>Cryptomyzus</i> Oestlund	"	"
<i>Cryptomyzus (Cryptomyzus) galeopsidis</i> (Kaltenbach)	"	"	"
<i>Cryptomyzus (Cryptomyzus) ribis</i> (L.)	"	"	"
<i>Cryptosiphum artemisiae</i> Buckton	<i>Cryptosiphum</i> Buckton	Aphidini-Aphidina	Aphidinae
<i>Ctenocallis setosa</i> (Kaltenbach)	<i>Ctenocallis</i> Klodnitsky	Panaphidini	Calaphidinae
<i>Delphiniobium lycocotoni</i> Börner	<i>Delphiniobium</i> Mordvilko	Macrosiphini	Aphidinae
<i>Diuraphis (Diuraphis) noxia</i> (Kurdjumov)	<i>Diuraphis</i> Aizenberg	"	"
<i>Drepanosiphum aceris</i> Koch	<i>Drepanosiphum</i> Koch	-	Drepanosiphinae
<i>Dysaphis (Dysaphis) apiifolia</i> (Theobald)	<i>Dysaphis</i> Börner	Macrosiphini	Aphidinae
<i>Dysaphis (Dysaphis) crataegi</i> (Kaltenbach)	"	"	"
<i>Dysaphis (Dysaphis) emicis</i> (Mimeur)	"	"	"
<i>Dysaphis (Dysaphis) foeniculus</i> (Theobald)	"	"	"
<i>Dysaphis (Cotoneasteria) microsiphon</i> (Nevsky)	"	"	"
<i>Dysaphis (Pomaphis) plantaginea</i> (Passerini)	"	"	"
<i>Dysaphis (Pomaphis) pyri</i> (Boyer de Fonscolombe)	"	"	"
<i>Eriosoma lanigerum</i> (Hausmann)	<i>Eriosoma</i> Leach	Eriosomatini	Eriosomatinae
<i>Eriosoma lanuginosum</i> (Hartig)	"	"	"
<i>Eriosoma ulmi</i> (L.)	"	"	"
<i>Eucallipterus tiliae</i> (L.)	<i>Eucallipterus</i> Schouteden	Panaphidini	Calaphidinae
<i>Eucarazzia elegans</i> (Ferrari)	<i>Eucarazzia</i> del Guercio	Macrosiphini	Aphidinae
<i>Eulachnus rileyi</i> (Williams)	<i>Eulachnus</i> del Guercio	Cinarini	Lachninae
<i>Eulachnus tuberculostemmatum</i> (Binazzi)	"	"	"
<i>Forda formicaria</i> von Heyden	<i>Forda</i> von Heyden	Fordini	Eriosomatinae
<i>Forda marginata</i> Koch	"	"	"
<i>Geoica harpazi</i> Brown and Blackman	<i>Geoica</i> Hart	"	"
<i>Geoica setulosa</i> (Passerini)	"	"	"
<i>Geoica utricularia</i> (Passerini)	"	"	"
<i>Hayhurstia atriplicis</i> (L.)	<i>Hayhurstia</i> del Guercio	Macrosiphini	Aphidinae
<i>Helosiphon eryngii</i> Leclant	<i>Helosiphon</i> Leclant	"	"
<i>Hoplocallis picta</i> (Ferrari)	<i>Hoplocallis</i> Pintera	Panaphidini	Calaphidinae
<i>Hoplochaetaphis zachvatkini</i> (Aizenberg and Moravskaja)	<i>Hoplochaetaphis</i> Aizenberg	"	"

Continued

Genus (Subgenus) species subspecies	Genus	Tribe-Subtribe	Subfamily
<i>Hyadaphis coriandri</i> (B. Das)	<i>Hyadaphis</i> Kirkaldy	Macrosiphini	Aphidinae
<i>Hyadaphis foeniculi</i> Passerini	"	"	"
<i>Hyalopteroides humilis</i> (Walker)	<i>Hyalopteroides</i> Theobald	"	"
<i>Hyalopterus amygdali</i> (E. Blanchard)	<i>Hyalopterus</i> Koch	Aphidini-Rhopalosiphina	Aphidinae
<i>Hyalopterus pruni</i> (Geoffroy)	"	"	"
<i>Hydaphias helvetica</i> Hille Ris Lambers	<i>Hydaphias</i> Börner	Macrosiphini	Aphidinae
<i>Hydaphias molluginis</i> Börner	"	"	"
<i>Hyperomyzus (Hyperomyzus) lactucae</i> (L.)	<i>Hyperomyzus</i> Börner	"	"
<i>Hyperomyzus (Nesononovia) picridis</i> (Börner and Blunck)	"	"	"
<i>Idiopterus nephrolepidis</i> Davis	<i>Idiopterus</i> Davis	"	"
<i>Iziphya bufo</i> (Walker)	<i>Iziphya</i> Nevsky	–	Saltusaphidinae
<i>Juncobia leegei</i> (Börner)	<i>Juncobia</i> Quednau	–	"
<i>Kaltenbachiella pallida</i> (Haliday)	<i>Kaltenbachiella</i> Schouteden	Eriosomatini	Eriosomatinae
<i>Lachnus roboris</i> (L.)	<i>Lachnus</i> Burmeister	Lachnini	Lachninae
<i>Laingia psammae</i> Theobald	<i>Laingia</i> Theobald	Siphini	Chaitophorinae
<i>Liniosiphon galii</i> (Mamontova)	<i>Liniosiphon</i> Börner	Macrosiphini	Aphidinae
<i>Liniosiphon galiophagum</i> (Wimshurst)	"	"	"
<i>Lipaphis (Lipaphis) erysimi</i> (Kaltenbach)	<i>Lipaphis</i> Mordvilko	"	"
<i>Lipaphis (Lipaphidiella) lepidii</i> (Nevsky)	"	"	"
<i>Longicaudus trirhodus</i> (Walker)	<i>Longicaudus</i> van der Goot	"	"
<i>Macrosiphoniella (Macrosiphoniella) abrotani</i> (Walker)	<i>Macrosiphoniella</i> del Guercio	"	"
<i>Macrosiphoniella (Macrosiphoniella) absinthii</i> (L.)	"	"	"
<i>Macrosiphoniella (Macrosiphoniella) artemisiae</i> (Boyer de Fonscolombe)	"	"	"
<i>Macrosiphoniella (Asterobium) asteris</i> (Walker)	"	"	"
<i>Macrosiphoniella (Asterobium) linariae</i> (Koch)	"	"	"
<i>Macrosiphoniella (Phalangomyzus) oblonga</i> (Mordvilko)	"	"	"
<i>Macrosiphoniella (Papillomyzus) papillata</i> Holman	"	"	"
<i>Macrosiphoniella (Phalangomyzus) persequens</i> (Walker)	"	"	"
<i>Macrosiphoniella (Macrosiphoniella) sanborni</i> (Gillette)	"	"	"
<i>Macrosiphoniella (Macrosiphoniella) staegeri</i> Hille Ris Lambers	"	"	"
<i>Macrosiphoniella (Macrosiphoniella) tanacetaria</i> Kaltenbach	"	"	"
<i>Macrosiphoniella (Macrosiphoniella) tapuskae</i> (Hottes and Frison)	"	"	"
<i>Macrosiphum (Macrosiphum) albifrons</i> Essig	<i>Macrosiphum</i> Passerini	"	"
<i>Macrosiphum (Macrosiphum) euphorbiae</i> (Thomas)	"	"	"
<i>Macrosiphum (Macrosiphum) funestum</i> (Macchiati)	"	"	"
<i>Macrosiphum (Macrosiphum) rosae</i> (L.)	"	"	"
<i>Megoura viciae</i> Buckton	<i>Megoura</i> Buckton	"	"
<i>Melanaphis bambusae</i> (Fullaway)	<i>Melanaphis</i> van der Goot	Aphidini-Rhopalosiphina	Aphidinae
<i>Melanaphis donacis</i> (Passerini)	"	"	"
<i>Melanaphis pyraria</i> (Passerini)	"	"	"
<i>Metopeurum fuscoviride</i> Stroyan	<i>Metopeurum</i> Mordvilko	Macrosiphini	Aphidinae
<i>Metopolophium (Metopolophium) dirhodum</i> (Walker)	<i>Metopolophium</i> Mordvilko	"	"
<i>Metopolophium (Metopolophium) festucae</i> Theobald	"	"	"
<i>Microlophium carnosum</i> (Buckton)	<i>Microlophium</i> Mordvilko	"	"
<i>Mimeuria ulmiphila</i> (del Guercio)	<i>Mimeuria</i> Börner	Pemphigini	Eriosomatinae
<i>Mindarus abietinus</i> Koch	<i>Mindarus</i> Koch	–	Mindarinae
<i>Myzaphis bucktoni</i> Jacob	<i>Myzaphis</i> van der Goot	Macrosiphini	Aphidinae
<i>Myzaphis rosarum</i> (Kaltenbach)	"	"	"
<i>Myzocallis (Myzocallis) boernerii</i> Stroyan	<i>Myzocallis</i> Passerini	Panaphidini	Calaphidinae
<i>Myzocallis (Myzocallis) carpini</i> (Koch)	"	"	"
<i>Myzocallis (Agrioaphis) castanicola</i> Baker	"	"	"
<i>Myzocallis (Myzocallis) coryli</i> (Goeze)	"	"	"
<i>Myzocallis (Pasekia) komareki</i> Pásek	"	"	"
<i>Myzocallis (Myzocallis) occidentalis</i> Remaudière and Nieto Nafria	"	"	"
<i>Myzus (Nectarosiphon) ascalonicus</i> Doncaster	<i>Myzus</i> Passerini	Macrosiphini	Aphidinae
<i>Myzus (Myzus) cerasi</i> (Fabricius)	"	"	"
<i>Myzus (Nectarosiphon) certus</i> (Walker)	"	"	"
<i>Myzus (Sciamyzus) cymbalariae</i> Stroyan	"	"	"
<i>Myzus (Galiobium) langei</i> (Börner)	"	"	"
<i>Myzus (Nectarosiphon) ligustri</i> (Mosley)	"	"	"
<i>Myzus (Myzus) lythri</i> (Schrank)	"	"	"
<i>Myzus (Myzus) ornatus</i> Laing	"	"	"
<i>Myzus (Nectarosiphon) persicae persicae</i> (Sulzer)	"	"	"
<i>Myzus (Nectarosiphon) persicae nicotianae</i> Blackman	"	"	"
<i>Myzus (Myzus) varians</i> Davidson	"	"	"
<i>Nasonovia (Nasonovia) ribisnigri</i> (Mosley)	<i>Nasonovia</i> Mordvilko	"	"
<i>Nearctaphis bakeri</i> (Cowen)	<i>Nearctaphis</i> Shaposhnikov	"	"
<i>Ovatus (Ovatus) crataegarius</i> (Walker)	<i>Ovatus</i> van der Goot	"	"
<i>Ovatus (Ovatus) insitus</i> (Walker)	"	"	"
<i>Ovatus (Ovatoides) inulae</i> (Walker)	"	"	"
<i>Ovatus (Ovatus) mentharius</i> (van der Goot)	"	"	"
<i>Paczoskia paczoskii turanica</i> (Nevsky)	<i>Paczoskia</i> Mordvilko	"	"
<i>Panaphis juglandis</i> (Goeze)	<i>Panaphis</i> Kirkaldy	Panaphidini	Calaphidinae
<i>Paraclotus cimiciformis</i> von Heyden	<i>Paraclotus</i> von Heyden	Fordini	Eriosomatinae
<i>Paraclotus donisthorpei</i> Theobald	"	"	"

Continued

Genus (Subgenus) species subspecies	Genus	Tribe-Subtribe	Subfamily
<i>Paramyzus heraaclei</i> Börner	<i>Paramyzus</i> Börner	Macrosiphini	Aphidinae
<i>Patchiella reaumuri</i> (Kaltenbach)	<i>Patchiella</i> Tullgren	Pemphigini	Eriosomatinae
<i>Pemphigus (Pemphigus) immunis</i> Buckton	<i>Pemphigus</i> Hartig	"	"
<i>Pemphigus (Pemphigus) populinigrae</i> (Schrank)	"	"	"
<i>Pemphigus (Pemphigus) protospirae</i> Lichtenstein	"	"	"
<i>Periphyllus acericola</i> (Walker)	<i>Periphyllus</i> van der Hoeven	Chaitophorini	Chaitophorinae
<i>Periphyllus aceris</i> (L.)	"	"	"
<i>Periphyllus testudinaceus</i> (Ferne)	"	"	"
<i>Phloeomyzus passerinii</i> (Signoret)	<i>Phloeomyzus</i> Horvath	–	Phloeomyzinae
<i>Phorodon (Paraphorodon) cannabis</i> Passerini	<i>Phorodon</i> Passerini	Macrosiphini	Aphidinae
<i>Phorodon (Phorodon) humuli</i> (Schrank)	"	"	"
<i>Phyllaphis fagi</i> (L.)	<i>Phyllaphis</i> Koch	–	Phyllaphidinae
<i>Pleotrichophorus chrysanthemi</i> (Theobald)	<i>Pleotrichophorus</i> Börner	Macrosiphini	Aphidinae
<i>Pleotrichophorus glandulosus</i> (Kaltenbach)	"	"	"
<i>Prociphilus (Prociphilus) bumeliae</i> (Schrank)	<i>Prociphilus</i> Koch	Pemphigini	Eriosomatinae
<i>Prociphilus (Prociphilus) oleae</i> (Leach ex Risso)	"	"	"
<i>Protaphis anuraphoides</i> (Nevsky)	<i>Protaphis</i> Börner	Aphidini-Aphidina	Aphidinae
<i>Pterocallis alni</i> (de Geer)	<i>Pterocallis</i> Passerini	Panaphidini	Calaphidinae
<i>Pterocallis maculatus</i> (von Heyden)	"	"	"
<i>Pterochloroides persicae</i> (Cholodkovsky)	<i>Pterochloroides</i> Mordvilko	Lachnini	Lachninae
<i>Pterocomma pilosum pilosum</i> Buckton	<i>Pterocomma</i> Buckton	–	Pterocommatinae
<i>Pterocomma pilosum konoii</i> Hori ex Takahashi	"	–	"
<i>Pterocomma populeum</i> (Kaltenbach)	"	–	"
<i>Rhodobium porosum</i> (Sanderson)	<i>Rhodobium</i> Hille Ris Lambers	Macrosiphini	Aphidinae
<i>Rhopalomyzus (Rhopalomyzus) poae</i> (Gillette)	<i>Rhopalomyzus</i> Mordvilko	"	"
<i>Rhopalosiphoninus (Rhopalosiphoninus) latsiphon</i> (Davidson)	<i>Rhopalosiphoninus</i> Baker	"	"
<i>Rhopalosiphoninus (Myzosiphon) staphyleae staphyleae</i> (Koch)	"	"	"
<i>Rhopalosiphoninus (Myzosiphon) staphyleae tulipaellus</i> (Theobald)	"	"	"
<i>Rhopalosiphum insertum</i> (Walker)	<i>Rhopalosiphum</i> Koch	Aphidini-Rhopalosiphina	Aphidinae
<i>Rhopalosiphum maidis</i> (Fitch)	"	"	"
<i>Rhopalosiphum nymphaeae</i> (L.)	"	"	"
<i>Rhopalosiphum padi</i> (L.)	"	"	"
<i>Rhopalosiphum ruftabdominale</i> (Sasaki)	"	"	"
<i>Roepkea marchali</i> (Börner)	<i>Roepkea</i> Hille Ris Lambers	Macrosiphini	Aphidinae
<i>Saltusaphis scirpus</i> Theobald	<i>Saltusaphis</i> Theobald	–	Saltusaphidinae
<i>Schizaphis (Schizaphis) graminum</i> (Rondani)	<i>Schizaphis</i> Börner	Aphidini-Rhopalosiphina	Aphidinae
<i>Schizolachnus pineti</i> (Fabricius)	<i>Schizolachnus</i> Mordvilko	Cinarini	Lachninae
<i>Semiaphis dauci</i> Fabricius	<i>Semiaphis</i> van der Goot	Macrosiphini	Aphidinae
<i>Sipha (Sipha) glyceriae</i> (Kaltenbach)	<i>Sipha</i> Passerini	Siphini	Chaitophorinae
<i>Sipha (Rungisia) elegans</i> del Guercio	"	"	"
<i>Sipha (Rungisia) maydis</i> Passerini	"	"	"
<i>Sitobion (Sitobion) avenae</i> (Fabricius)	<i>Sitobion</i> Mordvilko	Macrosiphini	Aphidinae
<i>Sitobion (Sitobion) fragariae</i> (Walker)	"	"	"
<i>Smynthuroides betae</i> Westwood	<i>Smynthuroides</i> Westwood	Fordini	Eriosomatinae
<i>Staegeriella necopinata</i> (Börner)	<i>Staegeriella</i> Hille Ris Lambers	Macrosiphini	Aphidinae
<i>Staticobium limonii</i> Contarini	<i>Staticobium</i> Mordvilko	"	"
<i>Subacyrthosiphon cryptobium</i> Hille Ris Lambers	<i>Subacyrthosiphon</i> Hille Ris Lambers	"	"
<i>Takecallis arundinariae</i> (Essig)	<i>Takecallis</i> Matsumura	Panaphidini	Calaphidinae
<i>Tetraneura (Tetraneurella) nigriabdominalis</i> (Sasaki)	<i>Tetraneura</i> Hartig	Eriosomatini	Eriosomatinae
<i>Tetraneura (Tetraneura) ulmi</i> (L.)	"	"	"
<i>Thecabius (Thecabius) affinis</i> (Kaltenbach)	<i>Thecabius</i> Koch	Pemphigini	Eriosomatinae
<i>Thelaxes dryophila</i> (Schrank)	<i>Thelaxes</i> Westwood	–	Thelaxinae
<i>Thelaxes suberi</i> (del Guercio)	"	"	"
<i>Thelaxes valtadorosi</i> Remaudière	"	"	"
<i>Therioaphis (Pterocallidium) luteola</i> (Börner)	<i>Therioaphis</i> Walker	Panaphidini	Calaphidinae
<i>Therioaphis (Therioaphis) ononidis</i> (Kaltenbach)	"	"	"
<i>Therioaphis (Rhizoberlesia) riehmi</i> (Börner)	"	"	"
<i>Therioaphis (Pterocallidium) subalba</i> Börner	"	"	"
<i>Therioaphis (Pterocallidium) trifolii</i> (Monell)	"	"	"
<i>Tinocallis (Surucallis) kahawaluokalani</i> (Kirkaldy)	<i>Tinocallis</i> Matsumura	"	"
<i>Toxoptera aurantii</i> (Boyer de Fonscolombe)	<i>Toxoptera</i> Koch	Aphidini-Aphidina	Aphidinae
<i>Toxoptera vanderghooti</i> (Börner)	<i>Toxoptera</i> Börner	"	"
<i>Tubaphis ranunculina</i> (Walker)	<i>Tubaphis</i> Hille Ris Lambers	Macrosiphini	Aphidinae
<i>Tuberculatus (Tuberculoides) annulatus</i> (Hartig)	<i>Tuberculatus</i> Mordvilko	Panaphidini	Calaphidinae
<i>Tuberculatus (Tuberculoides) borealis</i> (Krzywiac)	"	"	"
<i>Tuberculatus (Tuberculoides) eggleri</i> Börner	"	"	"
<i>Tuberculatus (Tuberculoides) maximus</i> Hille Ris Lambers	"	"	"
<i>Tuberculatus (Tuberculoides) remaudierei</i> (Nieto Nafria)	"	"	"
<i>Tuberolachnus (Tuberolachnus) salignus</i> (J.F. Gmelin)	<i>Tuberolachnus</i> Mordvilko	Lachnini	Lachninae
<i>Uroleucon (Uromelan) aeneum</i> (Hille Ris Lambers)	<i>Uroleucon</i> Mordvilko	Macrosiphini	Aphidinae
<i>Uroleucon (Uroleucon) chondrillae</i> (Nevsky)	"	"	"
<i>Uroleucon (Uroleucon) cichorii</i> (Koch)	"	"	"
<i>Uroleucon (Lambersius) erigeronense</i> (Thomas)	"	"	"
<i>Uroleucon (Uroleucon) hypochoeridis</i> (Fabricius)	"	"	"
<i>Uroleucon (Belochilum) inulae</i> (Ferrari)	"	"	"

Continued

Genus (Subgenus) species subspecies	Genus	Tribe-Subtribe	Subfamily
<i>Uroleucon (Uromelan) jaceae jaceae</i> (L.)	"	"	"
<i>Uroleucon (Uromelan) jaceae macrosiphum</i> (Hille Ris Lambers)	"	"	"
<i>Uroleucon (Uroleucon) picridis</i> (Fabricius)	"	"	"
<i>Uroleucon (Uroleucon) sonchi</i> (L.)	"	"	"
<i>Uroleucon (Uroleucon) tanacetii</i> (L.)	"	"	"
<i>Uroleucon (Uromelan) taraxaci</i> (Kaltenbach)	"	"	"
<i>Utamphorophora humboldti</i> (Essig)	<i>Utamphorophora</i> Knowlton	"	"
<i>Wahlgreniella arbutii</i> (Davidson)	<i>Wahlgreniella</i> Hille Ris Lambers	Macrosiphini	Aphidinae
<i>Wahlgreniella nervata</i> (Gillette)	"	"	"
<i>Wahlgreniella ossianilssonii</i> Hille Ris Lambers	"	"	"

#### PHYLLOXERIDAE

Genus (Subgenus) species subspecies	Genus	Tribe-Subtribe	Subfamily
<i>Viteus vitifoliae</i> (Fitch)	<i>Viteus</i> Shimer	–	–

Looking at the regional variation in the number of species recorded, a comparison could be made among the five localities where the suction traps operated. The highest number of species (185) was recorded in the north, in Mikra near Thessaloniki, while the lowest in the southern regions, Pyrgos, Peloponnese (132) and Lasithi, Crete (86). There is a significant correlation between latitude and number of species (Pearson's correlation = 0.95,  $P < 0.05$ ), which might suggest that the Greek aphidofauna follows the general trend, i.e. fewer species as we gradually move from North to South (Dixon *et al.*, 1987).

From a systematic point of view the Greek aphidofauna does not show special characteristics and it consists of species already known in other European countries including those from the Mediterranean basin. There is one exception, however: the grapevine aphid *Aphis illinoisensis* Shimer. It is a North American species, which has been recorded in various localities in Crete Island in the summer of 2005 (Tsitsipis *et al.*, 2005). Previously, the species had invaded Turkey (Remaudière *et al.*, 2003). It is worth noticing that regardless of the improvements in the knowledge in aphidofauna made in Greece during the last decade, the total number (301) of species recorded is much lower than that found in well investigated European countries. For example, in Italy and France 760 (Patti and Barbagallo, 1998) and 700 (Dixon *et al.*, 1987; Remaudière personal communication in Patti and Barbagallo, 1998) species have been reported respectively. Also, in a neighbouring country, Serbia, the number of species found (341) is higher than that in Greece (Petrović-Obradović, 2003). In Serbia, however, a slightly lower number of genera was reported compared to Greece (108 vs. 121). The Greek territory runs from the subtropical arid climate (southern areas of Crete Island) to the medium temperate areas of the northern regions and climate, orography and ecological habitats are quite diverse. In addition, the flora diversity is rather high in Greece with the number of species estimated between 4,900 and 5,500 (Strid and Tan, 1991; Sfikas, 1997). These suggest that with further research the recorded aphid fauna will be substantially increased. Conclusively, the ten-year survey enriched our knowledge on the Greek aphidofauna. However, the survey should be continued, especially in non investigated areas and in relation to the aphid host plants or trees.

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