

VIERAEA	Vol. 32	49-61	Santa Cruz de Tenerife, diciembre 2004	ISSN 0210-945X
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Aphid fauna of Madeira Archipelago and the Salvage Islands: new records and updated list (Homoptera, Aphidoidea)¹

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PITA, M. T. & F. A. ILHARCO (2004). Afidofauna del archipiélago de Madeira e islas Salvajes: nuevas citas y lista actualizada (Homoptera, Aphidoidea). *VIERAEA* 32: 49-61

RESUMEN: A partir del estudio sobre la afidofauna de los archipiélagos de Madeira y Salvajes, se investigaron más detenidamente unos pocos ejemplares colectados sobre su respectiva planta huésped. Como resultado se han añadido a la fauna de Deserta Grande (archipiélago de Madeira) tres nuevas citas pertenecientes a la familia Aphididae: *Acyrtosiphon bidentis* Eastop, *Hyperomyzus lactucae* (Linné) y *Myzus persicae* (Sulzer), realizándose comentarios biológicos específicos sobre ellas. Se presenta una lista actualizada de los áfidos del archipiélago de Madeira e islas Salvajes con la indicación de la primera cita para cada una de esas islas.

Palabras clave: Aphidoidea, áfidos, Madeira, Deserta Grande, islas Salvajes.

ABSTRACT: Following the survey of the aphid fauna of Madeira Archipelago and the Salvage Islands, a few aphid samples collected on their respective host plant were further investigated. As a result, three new records belonging to the Aphididae family were added to the aphid fauna of Deserta Grande (Madeira Archipelago): *Acyrtosiphon bidentis* Eastop, *Hyperomyzus lactucae* (Linné) and *Myzus persicae* (Sulzer). Specific comments on biology are made about these new records. An updated list of the aphids of Madeira Archipelago and the Salvage Islands is presented, with the indication of the first reference for each of those islands.

Key words: Aphidoidea, aphids, Madeira, Deserta Grande, Salvage Islands.

¹ Work presented at the "II Symposium of Island Ecosystems", Funchal, Madeira Island, Portugal, October 2003.

INTRODUCTION

The aphid fauna of the Madeira Archipelago (Madeira, Porto Santo, Deserta Grande, Bugio and Ilhéu Chão) has been studied since the beginning of the 20th century by Tavares (1903; 1905; 1914), van der Goot (1912; 1917), Vieira (1951a; 1951b), Baeta Neves (1953), Müller (1965), Neves (1966), Eastop (1966; 1971), Granate (1971), Marques (1972), Gouveia (1972; 1974) and van Harten (1982). But it was after the mid sixties of the twentieth century that a large number of new records have been added by the second author (Ilharco, 1967; 1968a; 1968b; 1973; 1974; 1984; 1986) and recently by Aguiar *et al.* (1994; 1995), Aguiar & Ilharco (1997; 2001), Pita & Ilharco (1998; 2001). Also Maps nos. 242 (1968), 264 (1969) and 289 (1971) of the Commonwealth Institute of Entomology (series A) have recorded some aphid species from Madeira Island. Concerning the Salvage Islands (Selvagem Grande, Selvagem Pequena and Ilhéu de Fora), Pita & Gomes (2003) reported for the first time the presence of aphids in these islands.

Based on the already known bibliography, this paper presents an updated list of the aphids of Madeira Archipelago and the Salvage Islands (Table I).

MATERIAL AND METHODS

The samples were collected in Deserta Grande by Susana Fontinha, in April 1997, on the respective host plants, two of them endemic.

All the samples are preserved in ethanol and/or in slide mounts and are part of the Aphid Collection of the first author, referenced by a letter and a number (e.g. A18).

RESULTS

New records to Deserta Grande are listed and commented below. In Table I, all the species and subspecies are alphabetically listed, within each family, according to the classification proposed by Ilharco (1992). Table I also indicates the first reference record for each island of the Madeira Archipelago and the Salvage Islands. Considering all the new additions, the total number of species and subspecies of those archipelagos is therefore as follows: Madeira Archipelago 158 – Madeira 153, Porto Santo 36, Deserta Grande 6 and Ilhéu Chão 1; Salvage Islands 1 – Selvagem Pequena 1.

Acyrtosiphon bidentis Eastop, 1953

The specimens in our sample fit perfectly the description of this species in Eastop's identification key (Eastop, 1971). It is a green-coloured species, of small to medium size (Blackman & Eastop, 2000), which seems to be more specific of the plant organ it feeds on than of the species of host. Hosts are plants of several families such as the Compositae, Leguminosae, Linaceae, Papaveraceae and Umbelliferae (Eastop, 1971; Millar, 1994). It is known in Spain, Yemen, Morocco, Kenya, Sudan and the Canary Islands (Eastop, 1971; Mier Durante, 1985; Nieto Nafría, 1985; Millar, 1994). In Macaronesia it was only recorded from Gran Canaria, Canary Islands (Nieto Nafría, 1985).

However, this species resembles *Acyrtosiphon ilka* Mordvilko, 1914 of which it may be a synonym, as suggested by several authors. The difficulty to adapt the original description by Mordvilko to the characteristics of samples later identified as *A. ilka*, together with the scarce information concerning this species have contributed to maintain the doubt (Eastop, 1971; Leclant & Remaudière, 1974; Blackman & Eastop, 1985). More recently, Remaudière & Remaudière (1997) considered *A. ilka* Mordvilko, 1914 a *nomem dubium* in contrast with Blackman & Eastop (2000), who present the two species in this recent work, referring however the possible synonymy between them. The species *A. ilka* has a range of host plants similar to *A. bidentis* and it is known from the Mediterranean Region and the Middle East. *A. ilka* was already recorded from Madeira (Ilharco, 1974) and the Canaries (Nieto Nafria *et al.*, 1977).

The sample was collected on a Madeiran and Azorean endemic Compositae *Tolpis succulenta* (Dryand. in Ait.) Lowe.

Material studied: Deserta Grande (18-April-97, A15, on *Tolpis succulenta*, leg. S. Fontinha).

Hyperomyzus lactucae (Linné, 1758)

The blackcurrant-sow thistle aphid is a medium-sized species, yellowish-green in colour, with heavily swollen siphunculi. Primary hosts are *Ribes* spp. and secondary hosts are liguliflorous Compositae (mainly *Sonchus*, in Portugal also *Reichardia* and *Lactuca*). The species is heteroecious holocyclic in Europe but it is apparently anholocyclic on secondary hosts in temperate climates, as it happens in Portugal. It is a vector of about 12 non-persistent viruses.

According to Blackman & Eastop (2000), it is widespread in Europe, Mediterranean Region, the Middle East, Central Asia, India, Pakistan, Japan, Australia, New Zealand, and North and South America. It is also known from South Africa and some countries of Southeast Africa (Millar, 1994).

This species is very common in Continental Portugal, where it is known since 1949 (Ilharco, 1961). In Macaronesia it was already recorded from Madeira Island (Ilharco, 1974), Porto Santo (Ilharco, 1973), the Azores (Ilharco, 1976) and the Canaries (Gomez-Menor, 1963). In the Cape Verde Islands, *H. lactucae* is replaced on the liguliflorous Compositae by another species, *H. carduellinus* (Theobald), as it seems to happen in the Old World tropics (van Harten, 1982; Blackman & Eastop, 2000).

Material studied: Deserta Grande (20-April-97, A16, on *Sonchus oleraceus*, leg. S. Fontinha).

Myzus persicae (Sulzer, 1776)

The green peach aphid is a small to medium-sized species, its colour ranging from yellowish-green to brownish, sometimes redish. The antennal tubercles are convergent and the siphunculi are slightly clavate or cylindrical. The primary host of this species is *Prunus persica* (sometimes other *Prunus* species). *M. persicae* is polyphagous on the secondary host, its number being estimated in more than 400 species. It is a heteroecious holocyclic species but also an anholocyclic one on secondary hosts in many parts of the world, depending on the climatic and environmental conditions. In Portugal, *M. persicae* seldom produces sexual forms.

Adding to the high degree of polyphagia, this species also presents a high capacity for viral transmission, mainly on herbaceous hosts, and it is the vector of more than 100 viruses (Eastop, 1966; Blackman & Eastop, 2000).

This polyphagous species has nowadays a worldwide distribution. It is most common in Continental Portugal since its first reference in 1936 (Barros & Graça, 1936). In Macaronesia it was previously recorded from Madeira Island (Gouveia, 1972, 1974), Porto Santo (Ilharco, 1973), the Azores (Gouveia, 1972, 1974), the Canaries (Gomez-Menor, 1963; Tambs-Lyche, 1971) and the Cape Verde Islands (Schmutterer *et al.*, 1978). Our sample was collected on a Madeiran endemism *Urtica portosanctana* Press (Urticaceae).

Material studied: Deserta Grande (20-April-97, A18, on *Urtica portosanctana*, leg. S. Fontinha).

ACKNOWLEDGEMENTS

The authors are grateful to Susana Fontinha, Director of the Parque Natural da Madeira, Funchal, for the generous donation of the samples.

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Table I – List of aphids from the Archipelago of Madeira and the Salvage Islands, where an alphabetic character indicates the author of the first record for each island. Madeira Archipelago: Mad (Madeira), PSa (Porto Santo), DGr (Deserta Grande), ICh (Ilhéu Chão); Salvage Islands: SPe (Selvagem Pequena). * Species cited for the first time for a given island. Records by: a – Tavares (1903), b – Tavares (1905), c – Tavares (1914), d – van der Goot (1912, 1917), e – Vieira (1951a), f – Vieira (1951b), g – Baeta Neves (1953), h – Müller (1965), i – Neves (1966), j – Eastop (1966), k – Ilharco (1967), l – Ilharco (1968a), m – Map no. 242 (1968) of the Commonwealth Institute of Entomology (series A), n – Map No. 264 (1969) *idem*, o – Map no. 289 (1971) *idem*, p – Eastop (1971), q – Granate (1971) and Marques (1972), r – Gouveia (1972, 1974), s – Ilharco (1973), t – Ilharco (1974), u – van Harten (1982), v – Ilharco (1984), w – Ilharco (1986), x – Aguiar *et al.* (1994), y – Aguiar *et al.* (1995), z – Aguiar & Ilharco (1997), a' – Pita & Ilharco (1998), b' – Aguiar & Ilharco (2001), c' – Pita & Gomes (2000, 2003), d' – Pita & Ilharco (2001, *submitted*), e' – Pita & Ilharco (2003).

Species	Madeira Archipelago				Salvage Islands
	Mad	PSa	DGr	ICh	SPe
Adelgidae <i>Pineus pini</i> (Macquart) ¹	g				
Phylloxeridae <i>Viteus vitifoliae</i> (Fitch) ²	e	e			
Hormaphididae <i>Cerataphis brasiliensis</i> (Hempel) ³ <i>Cerataphis orchidearum</i> (Westwood) ⁴	t f				
Pemphigidae <i>Aploneura lentisci</i> (Passerini) <i>Eriosoma lanigerum</i> (Hausmann) ⁵ <i>Pemphigus bursarius</i> (Linné) <i>Pemphigus populitransversus</i> Riley <i>Thecabius affinis</i> (Kaltenbach)	b' t t z		v		
Drepanosiphidae <i>Anoecia corni</i> (Fabricius) <i>Anoecia vagans</i> (Koch) <i>Atheroides serrulatus</i> Haliday <i>Calaphis flava</i> Mordvilko <i>Chaitophorus leucomelas</i> Koch	z v b' t t				

¹ Referred by Baeta Neves (1953) as *Pineus sylvestris* Annand on *Pinus silvestris* L. (Aguiar *et al.*, 1995).

² Recorded by Vieira (1951a) as *Phylloxera vitifolii* (Fitch.) on *Vitis vinifera* L. (Ilharco, 1974).

³ According to Russell (1996) the names *Cerataphis palmae* (Ghesquière), *C. variabilis* Hille Ris Lambers and *C. fransseni* (Hille Ris Lambers) are synonyms of *C. brasiliensis*.

⁴ Referred by Vieira (1951b) as *Cerataphis lataniae* Boisduval on orchids (Ilharco, 1974).

⁵ Unpublished records on apples by Rui Vieira (15.08.1955) in the registers of the Estação Agrária da Madeira – E.A.M. (Ilharco, 1974).

<i>Chromaphis juglandicola</i> (Kaltenbach)	v			
<i>Drepanosiphum oregonensis</i> Granovsky	b'			
<i>Drepanosiphum platanoidis</i> (Schrank)	z			
<i>Eucallipterus tiliae</i> (Linné)	t			
<i>Euceraphis punctipennis</i> (Zetterstedt)	b'			
<i>Monelliopsis pecanis</i> Bissell	z			
<i>Myzocallis boeneri</i> Stroyan ⁶	t			
<i>Myzocallis castanicola</i> Baker	t			
<i>Myzocallis coryli</i> (Goetze)	v			
<i>Myzocallis kuricola</i> (Matsumura)	v			
<i>Phyllaphis fagi</i> (Linné) ⁷	t			
<i>Takecallis arundinariae</i> (Essig)	z			
<i>Thelaxes suberi</i> (Del Guercio)	k			
<i>Therioaphis trifolii</i> (Monell)	v			
<i>Tuberculoides annulatus</i> (Hartig)	t			
Aphididae				
<i>Acyrthosiphon bidentis</i> Eastop			e'*	
<i>Acyrthosiphon ilka</i> Mordvilko	t			
<i>Acyrthosiphon lactucae</i> (Passerini)	t	s		
<i>Acyrthosiphon malvae malvae</i> (Mosley) ⁸	t			
<i>Acyrthosiphon pisum</i> (Harris) ⁹	p	s		
<i>Acyrthosiphon spartii</i> (Koch)	p			
<i>Amphorophora idaei</i> (Börner)	t			
<i>Aphis ? brunellae</i> Schouteden			v	
<i>Aphis capsellae</i> Kaltenbach	t			
<i>Aphis craccivora</i> Koch	t			c'
<i>Aphis epilobii</i> Kaltenbach	z			
<i>Aphis fabae</i> Scopoli ¹⁰	e	q		
<i>Aphis farinosa</i> Gmelin	t			
<i>Aphis gossypii</i> Glover ¹¹	i	s		
<i>Aphis hederæ</i> Kaltenbach	t			
<i>Aphis nasturtii</i> Kaltenbach	t			
<i>Aphis nerii</i> Boyer de Fonscolombe ¹²	d	a'		
<i>Aphis paralioides</i> Hille Ris Lambers (n. nud.)	t			
<i>Aphis parietariae</i> Theobald	v			
<i>Aphis pomi</i> De Geer ¹³	b	s		

⁶ Previously reported from Madeira and the Azores (Ilharco, 1974) under the name of *M. komareki* (Pasek), a different species (Ilharco, 1984).

⁷ There is an unpublished record in the registers of E.A.M. by Rui Vieira (June 1955) from *Fagus sylvatica* L. (Ilharco, 1974).

⁸ In the registers of E.A.M. there are unpublished records by Rui Vieira (15.12.1955) from *Pelargonium*, *Geranium* and *Cineraria*, under the name *Aulacorthum pelargonii* Kaltenbach; also referred as *Acyrthosiphon pelargonii* (Kaltenbach); species not collected by the second author during his expedition in 1966 (Ilharco, 1974).

⁹ Unpublished record on peas by Rui Vieira (23.05.1956) in the registers of E.A.M. (Ilharco, 1974).

¹⁰ Recorded by Vieira (1951a) under the name of *A. rumicis* L. on *Vitis vinifera* (Ilharco, 1974).

¹¹ In the registers of E.A.M. there are some unpublished notes by Rui Vieira (01.09.1955) on the host plants of *A. gossypii* (Ilharco, 1974).

¹² Referred as *Aphis gomphorocarpi* van der Goot, 1912 (van der Goot, 1917; Ilharco, 1974).

<i>Aphis praeterita</i> Walker	t			
<i>Aphis punicae</i> Passerini	t	d'		
<i>Aphis ruborum</i> (Börner)	t			
<i>Aphis sarothamni</i> Franssen	t			
<i>Aphis sedi</i> Kaltenbach	t			
<i>Aphis solanella</i> Theobald ¹⁴	a	s		
<i>Aphis spiraeicola</i> Patch	t	s		
<i>Aphis tirucallis</i> Hille Ris Lambers	t			
<i>Aphis ulicis</i> Walker	t			
<i>Aphis umbrella</i> (Börner) ¹⁵	b			
<i>Aulacorthum solani</i> (Kaltenbach) ¹⁶	c			
<i>Brachycaudus bicolor</i> (Nevsky)	t			
<i>Brachycaudus cardui</i> (Linné)	t	s		
<i>Brachycaudus helichrysi</i> (Kaltenbach)	t	s		
<i>Brachycaudus rumexicolens</i> (Patch)	t			
<i>Brachycaudus schwartzi</i> (Börner) ¹⁷	c	s		
<i>Brevicoryne brassicae</i> (Linné) ¹⁸	t	s		
<i>Capitophorus elaeagni</i> (Del Guercio)	t			
<i>Capitophorus hippophaes hippophaes</i> (Walker)	t			
<i>Cavariella aegopodii</i> (Scopoli)	t	d'		
<i>Cavariella theobaldi</i> (Gillette & Bragg)	t			
<i>Coloradoa rufomaculata</i> (Wilson)	v			
<i>Diuraphis noxia</i> (Kurdjumov)		s		
<i>Dysaphis apiifolia</i> (Theobald)	v	s		
<i>Dysaphis crataegi crataegi</i> (Kaltenbach)	y			
<i>Dysaphis crithmi</i> (Buckton)	t		v	
<i>Dysaphis emicis</i> (Mimeur)	h	s		
<i>Dysaphis foeniculus</i> (Theobald)	t			
<i>Dysaphis maritima</i> (Hille Ris Lambers) ¹⁹	e'			
<i>Dysaphis plantaginea</i> (Passerini) ²⁰	b			
<i>Dysaphis pyri</i> (Boyer de Fonscolombe) ²¹	c			
<i>Dysaphis tulipae</i> (Boyer de Fonscolombe) ²²	q			
<i>Elatobium abietinum</i> (Walker)	v			

¹³ References of Tavares (1903, 1905) to *Aphis eriobotryae* Schouteden (a synonym of *A. pomi*) on *Eriobotrya japonica* (Thunb.) Lindl. (Ilharco, 1974).

¹⁴ Referred by Tavares (1903) under the name *A. rumicis* L. on *Solanum nigrum* L. (Ilharco, 1974).

¹⁵ Recorded by Tavares (1905) from *Malva parviflora* L. using the name *A. malvae* Koch (Ilharco, 1974).

¹⁶ Referred by Tavares (1914) with the name of *Macrosiphum solani* Kalt. on *Solanum jasminoides* Paxt. (Ilharco, 1974).

¹⁷ Recorded by Tavares (1914) under the name of *Anuraphis persicae* Boyer on *Persica vulgaris* Mill. [*Prunus persica* (L.) Batsch] (Ilharco, 1974); this species is also known as *B. prunicola* ssp. *schwartzi*.

¹⁸ Unpublished records on cabbage and stock by Rui Vieira (15.08.1955) in the registers of E.A.M. (Ilharco, 1974).

¹⁹ In Ilharco (1974) the sample no. 572b identified as *D. plantaginea* on *Plantago* sp. is now recognised as another species, *D. maritima*.

²⁰ Recorded by Tavares (1903,1905) from *Pyrus malus* L. (*Malus domestica* Borkh.) using the name *Myzus pyriarius* Pass. (Ilharco, 1974).

²¹ Considered as the species referred by Tavares (1914) with the name *Anuraphis pyri* Koch on *Pyrus communis* L.; species not found by the second author during his expedition in 1966 (Ilharco, 1974).

²² In the registers of E.A.M. there are unpublished records of *D. tulipae*, under the name *Dentatus tulipae*, by Rui Vieira (08.04.1958) from tulips and lilies (Granate, 1971; Marques, 1972; Ilharco, 1974).

<i>Eucarazzia elegans</i> (Ferrari)	z			
<i>Holcaphis holci</i> Hille Ris Lambers	b'			
<i>Hyadaphis coriandri</i> (Das)	v			
<i>Hyadaphis foeniculi</i> (Passerini) ²³	b	s		
<i>Hyperomyzus lactucae</i> (Linné)	t	s	e'*	
<i>Hyperomyzus picridis</i> (Börner & Blunck)	t			
<i>Hysterononeura setariae</i> (Thomas)	u			
<i>Idiopterus nephrolepidis</i> Davis	v			
<i>Illinoia azaleae azaleae</i> (Mason)	v			
<i>Illinoia lambersi</i> (MacGillivray)	b'			
<i>Lipaphis erysimi</i> (Kaltenbach)	b'			
<i>Longiunguis pyrarius</i> (Passerini)	t			
<i>Macrosiphoniella artemisiae</i> (Boyer de Fonscolombe)	b'			
<i>Macrosiphoniella millefolii</i> (De Geer)	v			
<i>Macrosiphoniella sanborni</i> (Gillette) ²⁴	t			
<i>Macrosiphoniella tapuskae</i> (Hottes & Frison) ²⁵		l		
<i>Macrosiphum ?centranthi</i> Theobald	t			
<i>Macrosiphum euphorbiae</i> (Thomas)	q	q		
<i>Macrosiphum rosae</i> (Linné) ²⁶	t			
<i>Melanaphis bambusae</i> (Fullaway)	t			
<i>Melanaphis donacis</i> (Passerini)	t	s		
<i>Metopolophium dirhodum</i> (Walker)	r			
<i>Metopolophium festucae</i> (Theobald)	v			
<i>Myzaphis bucktoni</i> Jacob	v			
<i>Myzaphis rosarum</i> (Kaltenbach)	t			
<i>Myzus cerasi</i> (Fabricius) ²⁷	t			
<i>Myzus cymbalariae</i> Stroyan	t			
<i>Myzus hemerocallis</i> Takahashi	z			
<i>Myzus ornatus</i> Laing	n	s		
<i>Myzus persicae</i> (Sulzer) ²⁸	r	s	e'*	
<i>Nasonovia dasyphyllis</i> Stroyan	b'			
<i>Nasonovia ribisnigri</i> (Mosley)	v	d'		
<i>Neomyzus circumflexus</i> (Buckton)	t			
<i>Neotoxoptera formosana</i> (Takahashi)	b'			
<i>Neotoxoptera oliveri</i> (Essig)	y			
<i>Ovatus crataegarius</i> (Walker) ²⁹	j			

²³ Recorded by Tavares (1903,1905) from *Lonicera etrusca* Santi under the name of *Siphocoryne xylostei* Schrk. (Ilharco, 1974).

²⁴ In the registers of E.A.M. there are unpublished records of this species by Rui Vieira (15.08.1955) on cultivated *Chrysanthemum* (Ilharco, 1974).

²⁵ Described as *Uroleucon gulbenkiani* by Ilharco (1968a), later considered a synonym of *M. tapuskae* by the same author (Ilharco, 1973).

²⁶ Unpublished records by Rui Vieira (15.08.1955) of this species associated to the culture of roses (Ilharco, 1974).

²⁷ In the registers of E.A.M. there is an unpublished record of this aphid by Rui Vieira (15.05.1958) on seedlings of *Prunus avium* (L.) L.; species not collected by the second author during his expedition in 1966 (Ilharco, 1974).

²⁸ In the registers of E.A.M. Rui Vieira (01.09.1955) wrote about the presence of this species in the island of Madeira (Ilharco, 1974).

<i>Paraschizaphis rosazevedoi</i> Ilharco	y				
<i>Pentalonia nigronervosa</i> Coquerel	m				
<i>Pentatrichopus fragaefolii</i> (Cockerell) ³⁰	t	w			
<i>Pleotrichophorus chrysanthemi</i> (Theobald)	t				
<i>Pterocomma populeum</i> (Kaltenbach)	t				
<i>Rhodobium porosum</i> (Sanderson)	t	d'			
<i>Rhopalosiphoninus latysiphon</i> (Davidson)	z				
<i>Rhopalosiphoninus tulipaellus</i> (Theobald)	z				
<i>Rhopalosiphum insertum</i> (Walker)	v				
<i>Rhopalosiphum maidis</i> (Fitch) ³¹	q				
<i>Rhopalosiphum nymphaeae</i> (Linné) ³²	q				
<i>Rhopalosiphum padi</i> (Linné) ³³	j				
<i>Rhopalosiphum rufiabdominalis</i> (Sasaki) ³⁴	o				
<i>Schizaphis graminum</i> (Rondani)	v	s			
<i>Schizaphis pyri</i> Shaposhnikov	t				
<i>Schizaphis rotundiventris</i> (Signoret)	v				
<i>Sitobion avenae</i> (Fabricius)	r				
<i>Sitobion fragariae</i> (Walker)	t				
<i>Sitobion luteum</i> (Buckton)	y				
<i>Toxoptera aurantii</i> (Boyer de Fonscolombe) ³⁵	a	s			
<i>Toxoptera citricidus</i> (Kirkaldy)	x	d'			
<i>Tubaphis ranunculina</i> (Walker)	t				
<i>Uroleucon erigeronense</i> (Thomas)	v				
<i>Uroleucon hypochoeridis</i> (Fabricius)	b'				
<i>Uroleucon jaceae jaceae</i> (Linné)	t	s			a'
<i>Uroleucon mieraе</i> Tizado & Nieto Nafria ³⁶	t	s			
<i>Uroleucon sonchi</i> (Linné) ³⁷	t	s			
<i>Wahlgreniella arbuti</i> (Davidson)	t				
Lachnidae					
<i>Cinara cupressi</i> (Buckton)	t				
<i>Cinara juniperi</i> (De Geer)	t				
<i>Cinara maritimae</i> (Dufour) ³⁸	g	s			

²⁹ Eastop (1966) considers Madeira Island within the distribution area of this species, based on the record by Dr. O. Lundblad (16.07.1935) at Rabaçal; species not collected by the second author during his expedition in 1966 (Ilharco, 1974).

³⁰ In the registers of E.A.M. there is an unpublished record of this aphid by Rui Vieira (May 1952) from strawberries; species not collected by the second author during his expedition in 1966 (Ilharco, 1974).

³¹ Unpublished records of *R. maidis* by Rui Vieira (May 1952) on maize (Ilharco, 1974).

³² In the registers of E.A.M. there are unpublished records of this species by Rui Vieira (15.12.1955) on *Nymphaea alba* L. and *N. caerulea* Savig. (Ilharco, 1974).

³³ Eastop (1966) considers Madeira Island within the distribution area of this species, based on the record by J. Hodgson (03.08.1954) on maize at Feiteiras (Ilharco, 1974).

³⁴ The record of *R. rufiabdominalis* is based on the correction of Dr. Eastop about the record done by Doncaster (1956) on *Psoralea* (Ilharco, 1974).

³⁵ References to aphids on *Pittosporum coriaceum* Ait. and *Camellia japonica* L. by Tavares (1903, 1914) (Ilharco, 1974).

³⁶ Previously recorded from Porto Santo and Madeira as *U. picridis* (Fabricius) (Ilharco, 1973, 1974; Tizado & Nieto Nafria, 1994; Aguiar & Ilharco, 2001).

³⁷ Unpublished records by Rui Vieira (15.08.1955) from *Sonchus* spp. (Ilharco, 1974).

<i>Cinara pilicornis</i> (Hartig)	v				
<i>Cinara pinea</i> (Mordvilko)	y				
<i>Cinara tujafilina</i> (Del Guercio)	t				
<i>Essigella californica</i> (Essig)	b'				
<i>Eulachnus mediterraneus</i> Binazzi ³⁹	v				
<i>Eulachnus rileyi</i> (Williams)	t	d'			
<i>Maculolachnus submacula</i> (Walker)	z				
<i>Neotrama maritima</i> Eastop	z				
<i>Tuberolachnus salignus</i> (Gmelin) ⁴⁰	g				
Total number of species and subspecies	153	36	6	1	1
Total for Madeira Archipelago and Salvage Islands	158				1

Note: The islands of Bugio (Madeira Archipelago), Selvagem Grande and Ilhéu de Fora (Salvage Islands) were not included in the table because no aphid species have been recorded there until now.

³⁸ Records by Baeta Neves (1953) on *Pinus pinaster* Sol ex. Ait. under the name of *C. pinihabitans* Mordvilko, another species; previously referred as *C. maghrebica* Mimeur, another species too (Ilharco, 1974); the name *Cinara excelsae* Hille Ris Lambers is a synonym.

³⁹ Previously considered in the concept of *Eulachnus tuberculostemmatus* (Theobald) it was described as a new species by Binazzi (1983). Concerning Madeira it is known since 1981 (Ilharco, 1984). Later, Ilharco & Gomes (1988) referred it to Madeira for the first time as *E. mediterraneus*.

⁴⁰ Under the name of *T. saligna* (Gmelin) by Baeta Neves (1953) on *Salix alba* x *fragilis* Ritschl. (Ilharco, 1974). Tams-Lyche (1971) also mentioned the occurrence of this species in Madeira.