

New additional aphid (Hemiptera: Aphidoidea: Aphididae) records for Samsun (Turkey) province

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Abstract

The current study aimed to contribute to aphid fauna of Turkey by surveying the Samsun region. As a result of the study on aphids conducted in Samsun province, 78 aphid species were determined as new records for Samsun province. Of these species, 49 species are in Aphidinae subfamily, one species is in Anoeciinae subfamily, eight species are in Calaphidinae subfamily, eight species are in Chaitophorinae subfamily, one species is in Drepanosiphinae subfamily, one species is in Phyllaphidinae subfamily, six species are in Lachninae subfamily, two species are in Eriosomatinae subfamily and two species is in Thelaxinae subfamily.

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1. Introduction

Aphids are one of the most important sap-sucking and invasive insect group in the world. They can cause damage both through their direct phloem feeding as well as through injecting of toxic saliva compounds and by the build-up of excreted honeydew causing sooty mould and plant viruses transmission (Blackman and Eastop, 2007). The known world fauna of aphids reached about 5100 species, placed in 510 currently accepted genera (Blackman and Eastop, 2021; Favret, 2018). Also, many studies have been conducted in Turkey. The studies on aphids in Turkey that started in early 19th century were collected in the checklist prepared by Görür, 2012. After this checklist, Şenol et al. (2014, 2015a, 2015b, 2017, 2021), Görür et al. (2017, 2020), Özdemir and Barjadze (2015), Akyürek et al. (2019), Kök and Kasap (2019), Özdemir (2020), Blackman and Eastop (2021), Kök and Özdemir (2021), Patlar et al. (2021) have added significant contributions to the the aphid fauna of Turkey. With these contributions, Turkey aphid fauna reached to nearly 605 species.

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Considering Turkey's geographical features and climatic differences, it is expected that Turkey aphid diversity has to be richer than this number, so there is need to be more detailed researches from different areas of Turkey. Since the Central Black Sea Region is a climate transition region, these studies have accelerated in recent years and this study has been carried out with the belief that new aphid species can be discovered in this region.

2. Materials and Methods

This study was carried out in Samsun and its districts. The samples belonging to the family Aphididae were collected periodically from herbaceous and woody natural plants and cultivated plants in localities which have different vegetation, plant cover, habitat, elevation, slope, topographic characteristics in the research field. The samples were taken into eppendorf tubes containing 80% ethyl alcohol. During the field work, the natural appearances of the specimens on the host plants were photographed. In addition, information that may help to diagnosis such as host plants, the part of the host plant that specimens are on it and density of the colony were noted. The collected aphid samples were prepared permanently in the laboratory to the Martin (1983) method. All samples were identified according to Blackman and Eastop, 2021. Taxonomic status and host plants were verified by checking, Holman, 2009 and Farvet, 2018. Voucher specimens have been deposited at the Entomology Laboratory of Biology Department of Ondokuz Mayıs University.

3. Results and Discussion

As a result of the examination of all the prepared samples under the microscope, a total of 141 species belonging to 10 subfamilies, nine tribes, two subtribes and 47 genera of the family Aphididae were identified in Samsun. Of these species, 78 species were determined as new records for Samsun province. These are:

Family: Aphididae

Subfamily: Aphidinae

Tribe: Aphidini

Genus: Aphis

***Aphis affinis* del Guercio, 1911:** Collected from stem of *Mentha* sp. in Ayvacık, Yukarıyenice, 22.07.2010.

***Aphis brotericola* Mier Durante, 1978:** Collected from shoot and flowers of *Euphorbia*

sp. in Asarcık, Aydın village, 04.07.2009.

***Aphis brunellae* Schouteden, 1903:** Collected from flowers of *Prunella* sp. in Terme, Sakarlı, 10.07.2009.

***Aphis chloris* Koch, 1854:** Collected from flowers of *Hypericum* sp. in Asarcık, Aydın village, 04.07.2009 and Yakakent, 05.07.2009.

***Aphis cracca* Linnaeus, 1758:** Collected from leaves on shoot of *Vicia cracca* in Tekkeköy, 15.05.2010 and from flowers of *Vicia cracca* and *Vicia sativa* in Atakum, Mimar Sinan N., 19.05.2010.

***Aphis cytisorum* Hartig, 1841:** Collected from stem of *Coronilla varia* and flowers of *Sophora* sp. in Ladik Lake, 03.07.2009, and from stem of *Spartium* sp. in Yakakent, 05.07.2009.

***Aphis fabae* Scopoli, 1763:** Collected from stem and leaves of *Papaver* sp. in Kurupelit Campus Area, 18.05.2009; from stem of *Petroselinum crispum* in Atakum, Denizevleri N., 19.05.2009; from stem of *Sium* sp. in Atakum, Mimar Sinan N, 25.05.2009; from stem of *Matricaria* sp. in Vezirköprü, Köprübaşı, from flowers of *Helianthus* sp. in Havza-Vezirköprü Road, from shoot and stem of *Chenopodium* sp. and stem of *Echium* sp. in Vezirköprü Center, from under the leaves and stem of *Phaseolus* sp. in Vezirköprü, Yağanözü, 02.07.2009; from stem of *Centaurea* sp. and *Eryngium creticum* in Ladik- Amasya Kılıçarslan Pass, from flowers and stem of *Pimpinella saxifraga* in Ladik Lake, 03.07.2009; from flowers and stem of *Pimpinella saxifraga* in Asarcık, Aydın village, 04.07.2009; from under the leaves of *Clematis* sp., branch of *Cichorium* sp., stem of *Chenopodium* sp. and corncob of *Zea mays* in Bafra, Kolay and from shoot of *Lysimachia vulgaris* in Bafra, İkizpınar village, 06.07.2009; from flowers and stem of *Pimpinella* sp. in Salıpazarı, Kocalar village, 09.07.2009; from flowers of *Pimpinella* sp. in Terme, Sakarlı, 10.07.2009; from stem of *Cichorium* sp. in Ladik, Aşağıgölyazı, 30.08.2009; from shoot and stem of *Digitalis* sp. in Vezirköprü, Kunduz Forest, 11.10.2009; from under the leaves and shoot of *Hedera helix* in Atakum, 19.12.2009; from under the leaves of *Rumex* sp. in Atakum, 08.02.2010; from shoot of *Hedera helix* in Atakum, Liman N, 20.03.2010; from shoot of *Chenopodium* sp. in Atakum, Mimar Sinan N., 26.03.2010; from stem of *Rumex* sp. in Çarşamba, Ağacabey, from stem of *Ranunculus* sp. in Çarşamba, Acıklı village, from stem of *Silene* sp. in Tekkeköy, Büyüklü village, 15.05.2010; from flowers and leaves of *Trifolium repens* in Atakum, Balaç village, 19.05.2010; from shoot of *Conium maculatum* in Atakum, Balaç village, 22.05.2010; from branch of *Phaseolus* sp. in Terme, Gündoğdu village, 23.05.2010; from stem of *Papaver* sp. in Kavak, Demirci village, 26.05.2010; from shoot and flowers of *Genista* sp. in Yakakent Center, from stem of *Vicia*

faba in Yakakent, Akgüney village, 28.05.2010; from stem of *Zea mays* in Asarcık, Musaağa and Midilli, 12.07.2010.

***Aphis genistae*, Scopoli, 1763:** Collected from stem of *Genista* sp. in Ladik, İbi village, 21.07.2010.

***Aphis hederae* Kaltenbach, 1843:** Collected from shoot and stem of *Hedera helix* in Çarşamba, Çınarlık, 15.05.2010.

***Aphis hillerislambersi* Nieto Nafria & Mier Durante, 1976:** Collected from under and over the leaves of *Euphorbia* sp. in Bafra, Doğanca, 28.08.2009; from under the leaves of *Euphorbia* sp. in Vezirköprü, Kunduz Forest, 11.10.2009; from stem of *Euphorbia* sp. in Çarşamba, Acıklı village, 15.05.2010; from flowers of *Euphorbia* sp. in Atakum, Balaç village, 22.05.2010.

***Aphis intybi* Koch, 1855:** Collected from stem of *Cichorium* sp. in Atakum, Balaç village, 19.05.2010.

***Aphis punicae* Passerini, 1863:** Collected from branch, under and over the leaves of *Punica granatum*, in Atakum, Alparslan Boulevard, 21.05.2010.

***Aphis sambuci* Linnaeus, 1758:** Collected from stem of *Sambucus ebulus* in Çarşamba, Acıklı village, 15.05.2010; from stem of *Sambucus ebulus* in Ayvacık, Yukarıyenice, 22.07.2010.

***Aphis sanguisorbae* Schrank, 1801:** Collected from flowers and stem of *Sanguisorba minor* in Ladik, Çerkezler N., 03.07.2009.

***Aphis solanella* Theobald, 1914:** Collected from stem of *Centaurea iberica* in Ladik-Amasya, Kılıçarslan Pass, 03.07.2009; from stem of *Centaurea* sp. in Asarcık, Aydın village, 04.07.2009; from under the leaves of *Solanum nigrum* in Terme, Sakarlı and from shoot of *Solanum* sp. in Terme, Hüseyinmescit, 10.07.2009; from stem and shoot of *Solanum* sp. in Ladik, Aşağıgölyazı, 30.08.2009; from stem of *Papaver* sp. in Atakum, Mimar Sinan N., 19.05.2010; from stem of *Urtica* sp. in Atakum, Türkiş, 21.05.2010.

***Aphis thomasi* (Börner, 1950):** Collected from flowers of *Scabiosa* sp. in Ayvacık, Döngel village, 24.05.2010.

***Aphis urticata* J. F. Gmelin, 1790:** Collected from shoot of *Urtica* sp. in Çarşamba, Acıklı village, 15.05.2010; from stem of *Urtica* sp. in Atakum, Balaç village, 22.05.2010.

***Aphis verbasci* Schrank, 1801:** Collected from flowers of *Verbascum* sp. in Terme, Gölardı, 23.05.2010.

Subtribe: Rhopalosiphina

Genus: *Hyalopterus* Koch, 1854

***Hyalopterus pruni* (Geoffroy, 1762):** Collected from curled leaves on shoot of *Prunus* sp. in Alaçam, Etyemez, 05.07.2009, in Atakum, Balaç village, 19.05.2010; from under the leaves of *Prunus* sp. in Atakum, Alparslan Boulevard, 21.05.2010; from shoot of *Prunus* sp. in Ayvacık, Center, 24.05.2010; from under the leaves of *Prunus persica* in Yakakent, Center, 28.05.2010.

Genus: *Rhopalosiphum* Koch, 1854

***Rhopalosiphum maidis* (Fitch, 1856):** Collected from under the leaves of a member of *Greminea* in Alaçam, Karlı village, 28.08.2010.

Genus: *Schizaphis* Börner, 1931

***Schizaphis* (*Schizaphis*) *pyri* Shaposhnikov, 1952:** Collected from under the leaves of *Pyrus* sp. in Alaçam, Etyemez, 05.07.2009.

***Schizaphis rotundiventris* (Signoret, 1860):** Collected from flowers of *Palmae* sp. in Ayvacık, Center, 24.05.2010.

Genus: *Melanaphis* van der Goot, 1917

***Melanaphis pyraria* ((Passerini, 1861):** Collected from shoot of *Pyrus* sp. in Yakakent, Center, 28.05.2010.

Tribe: Macrosiphini

Genus: *Acyrtosiphon* Mordvilko, 1914

***Acyrtosiphon* (*Acyrtosiphon*) *malvae* (Mosley, 1841):** Collected from shoot of *Solanum* sp. in Bafra, 06.07.2009; from shoot of *Solanum* sp. in Çarşamba, Kayadibi village, 09.07.2009.

***Acyrtosiphon* (*Acyrtosiphon*) *pisum* (Haris, 1776):** Collected from shoot of *Vicia* sp. in Bafra, Altınkaya Barrage, 12.05.2009; from leaves of *Pisum sativum* in Atakum, Mimar Sinan N., 21.05.2010; from stem of *Trifolium resupinatum* and stem of *Melilotus* sp. in Atakum, Balaç village, 22.05.2010; from flowers and stem of *Galega* sp. in Salıpazarı, Alanköy, 23.05.2010.

Genus: *Aphidura* Hille Ris Lambers, 1956

***Aphidura picta* Hille Ris Lambers, 1956:** Collected from flowers of *Silene dichotoma* in Ladik, Merkez, 26.05.2010.

Genus: *Brachycaudus* van der Goot, 1913

***Brachycaudus (Brachycaudus) helichyrsi* (Kaltenbach, 1843):** Collected from flowers of *Anthemis* sp. in Bafra, Altınkaya Barrage, 12.05.2009; from stem of *Matricaria chamomila* in Atakum, Mimar Sinan N., 24.05.2009; from shoot of *Prunus* sp. in Ladik, Çerkezler N., 03.07.2009; from flowers and shoot of *Cynoglossum* sp. and under of leaves and inflorescences of *Calendula arvensis* in Atakum, Mimar Sinan N., and from curled leaves on shoot of *Prunus* sp. in Atakum, Balaç village, 19.05.2010; from flowers of *Cynoglossum* sp. in Terme, Altunlu village, 23.05.2010; from leaves of *Pallenis spinosa* in Yakakent, 28.05.2010.

***Brachycaudus lateralis* (Walker, 1848):** Collected from stem of *Cirsium* sp. in Asarcık, Aydın village, 04.07.2009.

***Brachycaudus (Acaudus) lychnidis* (Linnaeus, 1758):** Collected from stem of *Silene* sp. in Kurupelit Campus Area, 25.05.2009; from stem of *Silene* sp. in Bafra, Darboğaz village, 06.07.2009; from stem of *Silene* sp. in Atakum, Mevlana N., 19.05.2010.

Genus: *Capitophorus* van der Goot, 1913

***Capitophorus elaeagni* (del Guercio, 1894):** Collected from shoot of *Elaeagnus* sp. in Atakum, Balaç village, 19.05.2010.

***Capitophorus hippophaes* (Walker, 1852):** Collected from under of leaves of *Polygonium* sp. in Bafra, Altınova village, 06.07.2009; from leaves of *Elaeagnus* sp. in Canik, Doğupark, 24.05.2010.

Genus: *Dysaphis* Börner, 1931

***Dysaphis (Dysaphis) foeniculus* (Theobald, 1923):** Collected from stem of *Eryngium creticum* in Alaçam, Esentepe N., and under the leaves of *Malus* sp. in Yakakent Center, 05.07.2009.

***Dysaphis (Pomaphis) plantaginea* (Passerini, 1860):** Collected from shoot of *Malus* sp. in Terme, Sakarlı, 10.07.2009; from under the leaves of *Sorbus torminalis* in Vezirköprü, Kunduz Forest, 11.10.2009; from curled leaves of *Malus* sp. in Ladik, 26.05.2010.

Genus: *Hyperomyzus* Börner, 1933

***Hyperomyzus lactucae* (Linnaeus, 1758):** Collected from stem of *Picris* sp. in Samsun Center, Başalan village, 04.07.2009; from shoot and branch of *Sonchus* sp. in Atakum, Mimar Sinan N., and stem and shoot of *Cirsium* sp. in Atakum, Balaç village, 19.05.2010.

Genus: *Macrosiphoniella* Del Guercino, 1911

***Macrosiphoniella sanborni* (Gillette, 1908):** Collected from shoot of *Artemisia vulgaris* in Çarşamba and Terme, 15.05.2010; from stem of *Chrysanthemum* sp. in Terme, Karamahmut village, 23.05.2010.

Genus: *Megoura* Buckton, 1876

***Megoura viciae* Buckton, 1876:** Collected from fruit of *Lathyrus* sp. in Atakum, Mimar Sinan N., 19.05.2010.

Genus: *Myzus* Passerini, 1860

***Myzus (Nectarosiphon) ascalonicus* Doncaster, 1846:** Collected from under the leaves of *Salvia* sp. in Samsun Center, 02.10.2009.

***Myzus (Myzus) lythri* (Schrank, 1801):** Collected from stem and flowers of *Lythrum salicaria* in Bafra, Kolay, 06.07.2009, in Ladik Lake, 30.08.2009, in Asarcık, Şeyhli, 12.07.2010 and in Salıpazarı, Bereket N., 24.07.2010.

***Myzus ornatus* Laing, 1932:** Collected from branch of *Punica* sp. in Ayvacık Center, 24.05.2010; from over the leaves of *Rhododendron luteum* in Asarcık, 25.05.2010.

***Myzus (Myzus) varians* Davidson, 1912:** Collected from curled leaves of *Prunus persica* in Atakum, Mimar Sinan N., 04.07.2009; from leaves of *Clematis* sp. in Kavak, Kaya village, 02.10.2009.

Genus: *Nasonovia* Mordvilko, 1914

***Nasonovia ribisnigri* (Mosley, 1841):** Collected from leaves of *Lactuca* sp. in Bafra, 06.04.2010; from under and over the leaves of *Lactuca* sp. in Yakakent, Güvenli village, 28.05.2010.

Genus: *Ovatus* van der Goot, 1913

***Ovatus crategarius* (Walker, 1850):** Collected from shoot and under the leaves of *Cydonia* sp. in Terme, Karamahmut village, 23.05.2010.

Genus: *Phorodon* Passerini, 1860

***Phorodon humuli* (Schrank, 1801):** Collected from shoot and under the leaves of *Prunus* sp. in Çarşamba, Acıklı village and Manamut village, 15.05.2010, in Atakum, Mevlana N., 21.05.2010, in Atakum, Balaç village, 22.05.2010, in Salıpazarı, Yenidoğan village and Yavaşbey village, 23.05.2010, in Canik, Doğupark, 24.05.2010, in Asarcık, Gökköy, 25.05.2010, in Havza Center-Karageçmiş village, Vezirköprü-Yukarınarlı village and Kavak-Çayırılı, 26.05.2010, in Yakakent, Asmapınar village and Akgüney village, 28.05.2010, in Ladik, Hamamayağı, 12.07.2010.

Genus: *Sitobion* Mordvilko, 1914

***Sitobion fragariae* (Walker, 1848):** Collected from ear of *Avena* sp. and *Cynosourus* sp. in Tekkeköy, Ant yeri, from ear of *Bromus* sp. and *Hordeum* sp. in Tekkeköy, Büyüklü village, 15.05.2010; from ear of *Cynosourus* sp., *Bromus* sp., *Hordeum* sp. and *Phleum* sp. in Atakum, Mimar Sinan N. and ear of *Avena* sp. in Atakum, Mevlana N., 19.05.2010.

Genus: *Uroleucon* Mordvilko, 1914

***Uroleucon (Uromelan) aeneum* (Hille Ris Lambers, 1939):** Collected from stem and under the leaves of *Carduus* sp. in Atakum, Mimar Sinan N., 04.05.2009, in Bafra, Derbent Barrage, 12.05.2009; from stem of *Cirsium* sp. in Tekkeköy, Ant yeri, 15.05.2010, in Ayvacık, Hasan Uğurlu Barrage, 24.05.2010.

***Uroleucon ambrosiae* (Thomas, 1878):** Collected from under the leaves of *Eriobotrya* sp. in Atakum, Alparslan Boulevard, 21.05.2010; from flowers of *Butomus umbellatus* in Ladik Lake, 21.07.2010.

***Uroleucon (Uromelan) jaceae* (Linnaeus, 1758):** Collected from stem of *Centaurea solstitialis* in Havza, Güvenbeli Pass, 02.07.2009.

***Uroleucon (Uroleucon) picridis* (Fabricius, 1775):** Collected from stem and shoot of *Crepis foetial foetidia* in Alaçam, Karlı village, 28.08,2009; from stem of *Picris* sp. in Ladik Lake, 21.07.2010.

***Uroleucon scorzanerae* Danielsson, 1974:** Collected from stem of *Scorzanerae* sp. in Asarcık, Kadirli, 12.07.2010.

Subfamily: Anoeciinae

Genus: *Anoecia* Koch, 1857

***Anoecia (Anoecia) corni* (Fabricius, 1775):** Collected from under the leaves of *Cornus mas* in Kavak, Kaya village, 02.10.2009.

Subfamily: Calaphidinae

Tribe: Calaphidini

Genus: *Neobetulaphis* A. N. Basu, 1964

***Neobetulaphis pusilla* A. N. Basu, 1964:** Collected from under teh leaves of *Alnus* sp. in Samsun Center, Gökçepınar village, 02.10.2009, in Terme, Gölardı, 23.05.2010.

Tribe: Panaphidini

Genus: *Pterocallis* Passerini, 1860

***Pterocallis alni* (De Geer, 1773):** Collected from under the leaves of *Alnus* sp. in Terme - Şüayip village, in Salıpazarı - Yenidoğan village and Terme - Gölardı, 23.05.2010.

Genus: *Chromaphis* Walker, 1870

***Chromaphis juglandicola* (Kaltenbach, 1843):** Collected from under the leaves of *Juglans* sp. in 19 Mayıs, Yeşilköy, 05.09.2009, in Terme, Karamahmut village and Salıpazarı,

Yenidoğan village, 23.05.2010, in Çarşamba, Sefalı, 24.05.2010, in Asarcık, Gökköy, 25.05.2010 and in Havza, Dereköy, 26.05.2010.

Genus: *Eucallipterus* Schouteden, 1906

***Eucallipterus tiliae* (Linnaeus,1758):** Collected from leaves of *Tilia* sp. in Samsun Center, Çiftlik, 06.09.2009, in Asarcık, Şeyhli, 02.10.2009, in Vezirköprü, Güvenbeli Pass, 11.10.2009, in Atakum, Mevlana N., 19.05.2010, in Asarcık, Aydın village, 25.05.2010 and in Havza, Sofular village, 26.05.2010.

Genus: *Myzocallis* Passerini, 1860

***Myzocallis carpini* (Koch, 1855):** Collected from leaves of *Carpinus* sp. in Tekkeköy, Çimenli village, 15.05.2010, in Atakum, Balaç village, 22.05.2010, in Salıpazarı, Alanköy, 23.05.2010, in Asarcık, 25.05.2010, in Vezirköprü, Kunduz Forest, 26.05.2010 and Yakakent, Güvenli village, 28.05.2010.

***Myzocallis (Myzocallis) coryli* (Goeze, 1778):** Collected from leaves of *Corylus* sp. in Taflan, 21.05.2009, in Çarşamba, Ağacabey, 15.05.2010, in Atakum, Alparslan Boulevard, 21.05.2010, in Salıpazarı, Tikencik village, 23.05.2010, in Çarşamba, Sefalı, 24.05.2010 and Havza, Yenice village, 26.05.2010.

***Myzocallis (Myzocallis) glandulosa* Hille Ris Lambers, 1948:** Collected from leaves of *Quercus* sp. in Kurupelit Campus Area, 25.11.2009.

Genus: *Tinocallis* Matsumura, 1919

***Tinocallis takachihonensis* Haguchi, 1972:** Collected from under the leaves of *Ulmus* sp. in Terme, Beşikli village, 23.05.2010.

Subfamily: Chaitophorinae

Tribe: Chaitophorini

Genus: *Chaitophorus* Koch, 1854

***Chaitophorus euphraticus* Hodjat, 1981:** Collected from over the leaves and fruit of *Populus nigra* in Atakum, Türkiş, 21.05.2010.

***Chaitophorus longisetosus* Szelegiewicz, 1959:** Collected from over and under the leaves of *Populus* sp. in Vezirköprü, Kunduz Forest, 11.10.2009, in Ayvacık Center, 24.05.2010, in Kavak, Ayvalı village, 26.05.2010, in Alaçam Center, 28.05.2010; from shoot of *Populus tremula* in Ladik, İbi village, 21.07.2010.

***Chaitophorus melanosiphon* Pintera, 1789:** Collected from over and under the leaves of *Populus* sp. in Alaçam, Etyemez village, 05.07.2009, in Alaçam, Karlı village, 28.08.2009, in Kavak, Kaya village, 02.10.2009, in Atakum, Balaç village, 22.05.2010.

***Chaitophorus populeti* (Panzer, 1804):** Collected from shoot of *Populus* sp. in Ladik, 03.07.2009.

***Chaitophorus populialbae* (Boyer de Fonscolombe, 1841):** Collected from under the leaves of *Populus* sp. in Çarşamba and Terme, 15.05.2010; from under and over the leaves and petiole of *Populus* sp. in Atakum, Balaç village, 22.05.2010.

***Chaitophorus saliciniger* (Knowlton, 1927):** Collected from shoot and branch of *Salix* sp. in Ladik, Aşağıgölyazı, 30.08.2009.

Genus: *Periphyllus* van der Hoeven, 1863

***Periphyllus aceris* (Linnaeus, 1758):** Collected from under the leaves of *Acer* sp. in Salıpazarı, Kocalar village, 09.07.2009; from under and over the leaves and fruit of *Acer campestre* in Asarcık, Armutlu, 25.05.2010, in Vezirköprü, Kunduz Forest and Ladik, Akdağ 26.05.2010, in Yakakent, Karlı village, 28.05.2010.

***Periphyllus testudinaceus* (Ferne, 1852):** Collected from under the leaves and fruit of *Acer campestre* in Ladik, Akdağ, 26.05.2010 and in Ladik, Hamamayağı, 12.07.2010.

Subfamily: Drepanosiphinae

Genus: *Drepanosiphum* Koch, 1855

***Drepanosiphum oregonensis* Granovsky, 1939:** Collected from under the leaves of *Acer* sp. in Ladik, Hamamayağı, 12.07.2010.

Subfamily: Phyllaphidinae

Genus: *Phyllaphis* Koch, 1856

***Phyllaphis fagi* (Linnaeus, 1758):** Collected from under the leaves and petiole of *Fagus* sp. in Asarcık, Aydın village and Gökköy, 25.05.2010, in Salıpazarı, Yavaşbey village, 23.05.2010, in Vezirköprü, Kunduz Forest and Ladik, Akdağ, 26.05.2010, in Terme, Mescitli

village, 24.07.2010.

Subfamily: Lachninae

Tribe: Eulachnini

Genus: *Eulachnus* del Guercio, 1909

***Eulachnus agilis* (Kaltenbach, 1843):** Collected from leaves in needle from of *Pinus sylvestris* in Vezirköprü, Kunduz Forest, 26.05.2010.

Genus: *Cinara* Curtis, 1835

***Cinara (Cinara) brauni* Börner, 1940:** Collected from branch of *Pinus sylvestris* in Kavak, Mahmutlu village, 11.10.2009, in Asarcık, Aydın village, 02.10.2010.

***Cinara (Cupressobium) cupressi* (Buckton, 1881):** Collected from branch of *Cupressus* sp. in 19 Mayıs, Yeşilköy, 05.09.2009; from branch of *Thuja* sp. in Atakum, Balaç village, 19.05.2010 and in Atakum, Mevlana N., 21.05.2010.

***Cinara (Cupressobium) juniperi* (de Geer, 1773):** Collected from branch of *Juniperus communis* in Vezirköprü, Kületek village, 02.07.2009; from branch of *Juniperus oxycedrus* in Vezirköprü, Kunduz Forest, 26.05.2010.

***Cinara pilicornis* (Hartig, 1841):** Collected from branch of *Picea* sp. in Atakum, Mevlana N., 19.05.2010 and in Canik, Doğupark, 24.05.2010.

Genus: *Schizolachnus* Mordvilko, 1909

***Schizolachnus pineti* (Fabricius, 1781):** Collected from leaves in needle form of *Pinus* sp. in Ladik, Aşağıgölyazı, 30.08.2009, in Kavak, Mahmutlu village and Vezirköprü, Kunduz Forest, 11.10.2009.

Subfamily: Eriosomatinae

Tribe: Eriosomatini

Genus: *Eriosoma* Leach, 1818

***Eriosoma lanigerum* (Hausmann, 1802):** Collected from stem and braches of *Malus* sp. in Asarcık, Aydın village, 02.10.2009, in Atakum, Mevlana N., 19.05.2010, Atakum, Türkiş, 21.05.2010, in Salıpaزاری, Yavaşbey village, 23.05.2010, in Kavak, Ayvalı village, 26.05.2010

and in Yakakent Center and Gülkaya village, 28.05.2010.

Genus: *Tetraneura* Hartig, 1841

***Tetraneura ulmi* (Linnaeus, 1758):** Collected from galls on the leaves of *Ulmus* sp. in Salıpazarı, Alanköy, 23.05.2010.

Subfamily: Thelaxinae

Genus: *Thelaxes* Westwood, 1840

***Thelaxes californica* (Davidson, 1919):** Collected from over the nutgall of *Quercus* sp. in Kavak, Mahmutbeyli, 02.10.2009.

***Thelaxes suberi* (del Guercio, 1911):** Collected from over the gall and shoot of *Quercus petraea* and *Quercus cerris* in Asarcık, Gökköy, 04.07.2009, in Ladik, Ahmetsaray village, 21.07.2010.

Until this study was carried out, it was known that 80 species belonging to the Aphididae family were distributed in Samsun according to the literature (Çanakçıoğlu, 1966, 1972, 1975; Çanakçıoğlu and Eastop, 1972; Tuatay, 1988, 1990, 1991, 1993, 1999; Tuatay and Remaudiere, 1964; Tuatay et al. 1967; Akyürek et al., 2011, 2019). When the results of these studies and literature information are evaluated together, it is revealed that the number of aphid species in Samsun is 158.

Because the species belonging to the family Aphididae cause serious damage to many cultivated plants and cause great economic losses in agricultural products, studies on the Aphididae family have increased rapidly in the world in recent years. In most of the studies on aphid species in Turkey, new species have been described, and many new records have been determined to the literature on the basis of provinces and regions. The introduction of many new species records into the literature, even in recent studies in Samsun, has shown that aphid fauna has not yet been fully determined for Turkey. For this reason, in order to determine the aphid fauna of Turkey exactly, it has become necessary to conduct researches in areas where no studies have been conducted yet. Also, It should not be overlooked that every new species that will enter the literature will play a key role in the fight against these species. The results of studies on aphids will contribute to future studies on Turkey's biodiversity and Aphididae

family and will guide researchers.

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