APHIDOIDEA (HOMOPTERA) FROM THE NORTHERN AREAS OF PAKISTAN

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ABSTRACT

The taxonomy of Aphids an important pest of almost all crops, vegetable and ornamental plants, was carried out to explore aphid fauna of Northern areas of Pakistan. The collection surveys were carried out during the summer season of 2007 and 2008, yielding 15 species in 10 genera and 2 families. Among these genus Nearctaphis and species N. bakeri is reported for the first time from Northern areas of Pakistan.

Key words: Aphidoidea, Northern areas, Pakistan

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INTRODUCTION

Aphids are pests of different ornamental plants, vegetables and field crops under order Homoptera (Eric, 1996). They are mostly found in temperate zone (Baranyovits, 1973). They suck cell sap and transfer toxic saliva into the plant which results in curling of leaves and appearance of discolored spots on foliage, dimpling of fruits and blighting of buds (Hashmi, 1994). Aphids have been studied intensively by entomologist and evolutionary biologist because of their pest status (XiaoLei and Gexia, 2006). The work on aphids in Pakistan was started in early 1900. Considerable work has been done by Das (1918), Munir (1953), Khaliq (1965), Awan, (1973), Shah (1988), Nasir (1989**),** Bodlah (2004), on aphids. There are more than 4000 species of aphids present worldwide, which shows only little work has been done in past on aphids taxonomy. The current study was carried out to explore aphid fauna of Northern areas, Pakistan.

MATERIALS AND METHODS

Aphids were collected randomly from different localities of Northern areas, by an ordinary camel hair-brush, net sweeping and by jerking the plants on white paper sheet. From a wide range of habitats, including crop field, ornamental plants and trees. Specimens were collected from Chilas, Gilgit, Jaglote, Nomal, Jalalabad, Gizer, Goipies, Fundir, Saidabad, Sikandarabad, Baseen, Muzafarabad, Rakaposhi, Hunza, Gulmit, and Astore in the Northern areas (Fig. 1) during 2007 and 2008. Aphids were identified at National Insect Museum, Islamabad, by using literature of Lehr (1998), Blackman and Eastop (1984). All the identified species were deposited in National Insect Museum, NARC, Islamabad.

RESULTS AND DISCUSSION

A Total of 15 species were recorded belonging to 2 families and 10 genera from different localities of Northern Areas of Pakistan, from which the genus *Nearctaphis* and the species *N. bakeri* was reported for the first time from Pakistan. This species has been reported earlier from India, Afganistan and Iran, (Blackman and Eastop, 1984), the neighboring countries of Pakistan.

Aphids (Aphidoidea) collected from Northern areas

Family: Aphididae

Genus Aphis, Linnaeus 1758

***Aphis craccivora* (Koch, 1854)**. Nomal: 2♂ 2♀, 4-VI-2007; 2♂ 3♀, 16-VI-

2008. Gopies: 3 ♂ 5♀, 1-VI-2007; 2♂ 4♀, 11-VI-2008. Gilgit: 1♂ 3♀, 31-V-2007; 2♂ 3♀, 12-[VI]-2008, the host plant was *Medicadgo sativa* (Alfalfa).

***A. affinis* (Del-Guercio, 1911).** Sikandarabad: 2♂ 4♀, 6-V-2007; 1♂ 3♀, 15-VI-2008. Baseen: 1♂ 2♀ 3-VI-2007; 2♂ 3♀, 10-VI-2008, the host plant was *Mentha requienii* (Mint).

***A. menthaeradicis* (Cowen, 1895).** Muzafarabad: 2♂ 4♀, 2-[VI]-2007; 1♂ 3♀, 15-[VI]-2008. Astore: 2♂ 3♀, 11-[VI]-2007. Saidabad: 2♂ 3♀, 16-[VI]-2008, the host was *Mentha requienii* (Mint).

***A. punicae* (Passerini, 1860).** Jaglote: 1♂ 3♀, 30-[VI]-2007; 2♀, 13-[VI]-2008. Hunza: 2♂ 4♀, 2-[VI]-2007. Chilas: 1♂ 2♀, 09-[VI]-2008, the host plant was *Punica granatum* (Pomegerante).

Genus Macrosiphum, Passerini 1860

***Macrosiphum euphorbiae* (Thomas, 1878).** Gilgit: 1♂ 3♀, 31-[VI]-2007; 2♂ 2♀, 11-[VI]-2008. Gulmit: 2♂ 5♀, 8-[VI]-2007. Baseen: 1♂ 3♀, 10-[VI]-2008, the host plant was S*olanum tuberosum* (Potato).

***M. rosae* (Linnaeus, 1758).** Jaglote: 2♂ 5♀, 30-[VI]-2007; 3♂ 6♀, 13-[VI]-2008. Jalalabad: 3♂ 6♀, 5-[VI]-2007; 2♂ 4♀, 10-[VI]-2008, the host plant was *Rosa indica* (Rose).

Genus Rhopalosiphum, Koch, **1854**

***Rhopalosiphum padi* (Linnaeus, 1758).** Fundir: 5♂ 8♀, 17-[VI]-2008, the host plant was *Triticum spp.* (Wheat).

***R. nymphaeae* (Linnaeus, 1761).** Gilgit: 3♂ 3♀, 31-[V]-2007; 2♂ 3♀, 02-[VI]-2008, the host plant was Sonchus.

Genus Nearctaphis, Shaposhnikov

***Nearctaphis bakeri* (Cown, 1895)**. Gilgit: 2♂ 3♀, 1-[VI]-2007; 3♂ 3♀, 12-[VI]-2008. Gizer: 1♂ 2♀, 8-[VI]-2007; 1♂ 2♀, 14-[VI]-2008, the host plant was *Medicago sativa* (Alfalfa).

Genus Metopolophium, Mordvilko 1914

***Metopolophium dirhodum* (Walker, 1849).** Baseen: 1♂ 2♀, 3-[VI]-2007; 2♂ 3♀, 10-[VI]-2008. Saidabad: 3♀, 10-[VI]-2007; 2♂ 4♀, 16-[VI]-2008, the host plant was *Triticum spp.* (Wheat).

Genus Acyrthosiphon, Mordvilko 1914

***Acyrthosiphon pisum* (Harris, 1776).** Gopies: 1♂ 4♀, 9-[VI]-2007; 3♂ 1♀, 11-[VI]-2008. Jalalabad: 3♂ 5♀, 5-[VI]-2007; 2♂ 4♀, 10-[VI]-2008. Chilas: 3♂ 2♀, 12-[VI]-2007; 1♂ 2♀, 09-[VI]-2008. Nomal: 3♂ 2♀, 4-[VI]-2007; 1♂ 1♀, 16-[VI]-2008, the host plant was *Trifolium alexandrum* (Barsseem).

Genus Sitobion, Mordvilko 1914

***Sitobion fragariae* (Walker, 1846).** Gizer: 2♂ 5♀, 11-[VI]-2007; 3♂ 5♀, 14-[VI]-2008. Gilgit: 2♂ 4♀, 31-[V]-2007; 1♂ 3♀, 12-[VI]-2008, the host plant was *Triticum spp.* (Wheat).

Genus Myzus, Passerini 1860

***Myzus persicae* (Sultzer, 1776).** Jaglote: 1♂ 2♀, 30-[V]-2007; 3♂ 2♀, 13-[VI]-2008. Chilas: 2♂ 4♀, 30-[V]-2007; 2♂ 2♀, 09-[VI]-2008, the host plant was *Brassica ileracea* (Cabbage).

Genus Callaphis, Walker 1870

***Callaphis juglandis* (Goeze, 1778)**. Baseen: 1♂ 3♀, 3-[VI]-2007; 4♂ 5♀, 10-[VI]-2008. Rakaposhi: 2♂ 3♀, 4-[VI]-2007. Nomal: 3♂ 2♀, 19-[VI]-2008, the host plant was *Juglans vegia* (Walnut).

Family: Pemphigidae

Genus Eriosoma, Leach 1818

***Eriosoma lenigerum* (Hausmann, 1802).** Gilgit: 2♂ 3♀, 2-[VI]-2007; 3♂ 3♀, 12-

[VI]-2008, Fundir: 4♂ 6♀, 17-[VI]-2008, the host plant was *Malus pumila* (Apple).

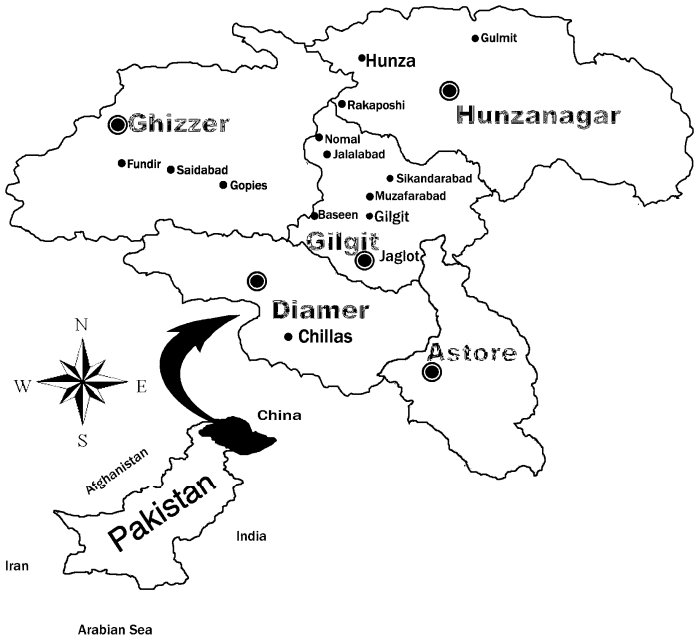

Fig. 1. Localities of Northern areas from where the aphids were collected

CONCLUSION AND RECOMMENDATIONS

In addition to these 15 species, more work needs to be done in that area to cover the remaining host plants with the purpose of finding additional aphid species and their distribution.

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