

ARTICLES

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CONTRIBUTION TO THE APHID FAUNA (HEMIPTERA APHIDOIDEA) OF KHEVI FLORISTIC REGION (EASTERN GEORGIA)

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Barjadze Sh., Bakhtadze N., Bakhtadze G., Kintsurashvili N., Chakvetadze N., Zhukovskaya N. – Contribution to the aphid fauna (Hemiptera Aphidoidea) of Khevi floristic region (Eastern Georgia).

Thirty four species of aphids found in Khevi floristic region during our investigation in 2007 are recorded in the annotated list. Twenty-one species of them are new records for Khevi floristic region. Five species, *Acyrtosiphon kondoi*, *Amphorophora rubi*, *Macrosiphoniella tanacetaria*, *Metopeurum buriaticum* and *Uroleucon pseudobscurum* are recorded for the first time from Transcaucasia, while *Aphis stachydis* – for the first time from Georgia.

KEY WORDS: aphids, new records, Khevi floristic region, Eastern Georgia.

INTRODUCTION

Khevi floristic region is situated in the eastern part of the greater Caucasus Mountain. This region is rich in plant species composition. There are recorded 1347 species of the vascular plants, while about 4100 species are recorded from Georgia (GAGNIDZE & DAVITADZE, 2000). In spite of high biodiversity of vascular plants, aphid fauna was poorly studied before our investigation.

A survey of aphid fauna of Khevi floristic region was carried out during 1955 by Dr. A. Dzhibladze. Until our investigation 30 species of aphids, united in 1 family, 3 subfamilies and 20 genera were recorded in the above mentioned territory (DZHIBLADZE, 1956).

MATERIALS AND METHODS

Apterous and alate viviparous females of aphids were collected on the above mentioned territory during 2007, cleared and individually mounted in Canada balsam on microscope slides using J. Martin's technique (MARTIN, 1983). The specimens were studied using an PH-100 microscope and each morphological character was measured by microscope ocular-micrometer.

For aphid identification following literatures were used: BLACKMAN and EASTOP (1994, 2006), DZHIBLADZE (1975) and HEIE (1994). Aphids slides are deposited at the Entomology and Biocontrol Research Centre of Ilia State University.

RESULTS

Thirty four species of aphids were recorded in Khevi floristic region during our investigation in 2007. Our collected species belonging to 5 genera are given in the annotated list. Of the aphids collected, 21 species were recorded for the first time from Khevi floristic region. *Acyrtosiphon kondoi* Shinji, 1938, *Amphorophora rubi*

(Kaltenbach, 1843), *Macrosiphoniella tanacetaria* (Kaltenbach, 1843), *Metopeurum buriaticum* (Pashtshenko, 1999) and *Uroleucon pseudobscurum* (Hille Ris Lambers, 1967) are recorded for the first time from Transcaucasia, while *Aphis stachydis* Mordvilko, 1929 – for the first time from Georgia.

Abbreviations: vill. - village; Mt. - mountain; riv. - river.

Remarks – In the annotated list newly recorded species from Transcaucasia are indicated by one asterisk, new records from Georgia by two asterisks, while new records from this Khevi region by three asterisks.

Annotated list of aphids of Khevi floristic region
(collected in 2007)
Superfamily APHIDOIDEA
Family APHIDIDAE

Subfamily *Aphidinae*
Tribe Aphidini
Genus *Aphis* L., 1758

1. *A. craccivora* Koch, 1854***

Distribution – Truso gorge, vill. Ketrisi-“Ghorghiani”, N42°35'13.68”, E44°26'7.26”, altitude: 2296 m, 24-VII-2007, *Trifolium ambiguum* M.Bieb., on inflorescences (Authors); at the bottom of the Kuro mountain, N42°39'24.84”, E44°39'32.99”, altitude: 1990 m, 29-VII-2007, *Onopordum acanthium* L., on inflorescences (Authors).

2. *A. fabae* Scopoli, 1763***

Distribution – Truso gorge-500 m. from the lake Abano, N42°35'16.68”, E44°25'52.37”, altitude: 2116 m, 25-VII-2007, *Orchis* sp., on flowers (Authors); Truso gorge-the left bank of the riv. Tergi, N42°35'22.56”, E44°25'57.17”, altitude: 2128 m, 25-VII-2007, *Heracleum sosnowskyi* Mandenova, on inflorescences (Authors); vill. Okrokana, N42°35'22.86”, E44°27'14.10”, altitude: 2106 m, 25-VII-2007, *Cirsium* sp., on stems (Authors); Elia mountain, N42°35'22.86”, E44°27'14.10”, altitude: 2106 m, 26-VII-

2007, *Chamerion angustifolium* (L.) Holub, *Libanotis transcaucasica* Schischk., on inflorescences (Authors); 1 km from the Gergeti Holy Trinity church, N42°40'1.62", E44°36'49.19", altitude: 2125 m, 26-VII-2007, *Heracleum sosnowskyi* Mandenova, on inflorescences (Authors); vill. Juta, N42°35'6.72", E44°45'5.28", altitude: 2198 m, 31-VII-2007, *Cirsium obvalatum* (M.Bieb.), *Heracleum asperum* M. Bieb., *Poligonum carneum* C. Koch, on inflorescences and stems (Authors); vill. Juta, N42°34'30.95", E44°44'15.84", altitude: 2096 m, 31-VII-2007, *Chamerion angustifolium* (L.) Holub, *Heracleum asperum* M.Bieb., on inflorescences (Authors); Kora gorge, N42°33'46.55", E44°42'24.48", altitude: 1829 m, 31-VII-2007, *Galium* sp., on leaves (Authors); Kora gorge, N42°33'46.55", E44°42'24.48", altitude: 1829 m, 31-VII-2007, *Pastinaca armena* Fisch. & Mey., *Valeriana officinalis* L., on inflorescences and stems (Authors).

3. *A. farinosa* Gmelin, 1790***

Distribution – Elia mountain, N42°35'22.86", E44°27'14.10", altitude: 2106 m, 26-VII-2007, *Salix pseudomedemii* E.L.Wolf, on leaves (Authors); at the bottom of the Kuro mountain, N42°39'24.84", E44°39'32.93", altitude: 1990 m, 29-VII-2007, *Salix caprea* L., on leaves (Authors).

4. *A. gossypii* Glover, 1877***

Distribution – Truso gorge, vill. Ketrisi-“Ghorghiani”, N42°35'6.78", E44°25'59.27", altitude: 2287 m, 24-VII-2007, *Chamerion angustifolium* (L.) Holub, on inflorescences (Authors).

5. *A. solanella* Theobald, 1914***

Distribution – Truso gorge-vill. Ketrisi, N42°35'44.39", E44°24'6.24", altitude: 2170 m, 24-VII-2007, *Rumex* sp., on stems and leaves (Authors).

6. *A. stachydis* Mordvilko, 1929**

Distribution – vill. Okrokana, N42°35'22.86", E44°27'14.10", altitude: 2106 m, 25-VII-2007, *Stachis silvatica* L., on inflorescences (Authors).

7. *A. urticata* Gmelin, 1790***

Distribution – Truso gorge-the left bank of the riv. Tergi, N42°35'22.56", E44°25'57.17", altitude: 2128 m, 25-VII-2007, *Urtica dioica* L., on leaves (Authors).

8. *A. veratri* Walker, 1852***

Distribution – Alpine meadow towards to summit Mkinivartsvveri, N42°39'43.85", E44°35'24.30", altitude: 2552 m, 26-VII-2007, *Veratrum lobelianum* Bernh., on leaves and stems (Authors); vill. Gveleti, N42°43'27.23", E44°35'48.71", altitude: 1792 m, 27-VII-2007, *Veratrum lobelianum* Bernh., on leaves and stems (Authors).

9. *A. verbasci* Schrank, 1801***

Distribution – vill. Karkucha, N42°33'46.55", E44°42'24.48", altitude: 1829 m, 31-VII-2007, *Verbascum* sp., on leaves (Authors).

Tribe Macrosiphini

Genus *Acyrtosiphon* Mordvilko, 1914

10. *A. cyprissiae propinquum* Mordvilko, 1914***

Distribution – vill. Okrokana, N42°35'26.39", E44°26'33.35", altitude: 2099 m, 25-VII-2007, *Euphorbia*

iberica Boiss., on leaves (Authors); vill. Gveleti, N42°43'33.83", E44°35'42.95", altitude: 1766 m, 27-VII-2007, *Euphorbia iberica* Boiss., on leaves (Authors); vill. Karkucha, N42°33'46.55", E44°42'24.48", altitude: 1829 m, 31-VII-2007, *Euphorbia iberica* Boiss., on leaves (Authors).

11. *A. kondoi* Shinji, 1938*

Distribution – Alpine meadow towards to Sabertse mountain, N42°39'37.37", E44°34'56.69", altitude: 2743 m, 26-VII-2007, *Trifolium ambiguum* M.Bieb., on leaves (Authors).

12. *A. malvae* (Mosley, 1841)***

Distribution – Alpine meadow towards to Sabertse mountain, N42°39'37.37", E44°34'56.69", altitude: 2743 m, 26-VII-2007, *Geranium ruprechtii* Woronow ex Grossh., on inflorescences and stems (Authors); vill. Gveleti, N42°43'28.07", E44°35'44.87", altitude: 1792 m, 27-VII-2007, *Geranium robertianum* L., on inflorescences (Authors).

13. *A. pisum* (Harris, 1776)

Distribution – Truso gorge-500 m. from the lake Abano, N42°35'16.68", E44°25'52.37", altitude: 2116 m, 25-VII-2007, *Galega orientalis* Lam., on leaves (Authors).

Genus *Amphorophora* Buckton, 1876

14. *A. rubi* (Kaltenbach, 1843)*

Distribution – Truso gorge, vill. Ketrisi-“Ghorghiani”, N42°35'12.66", E44°26'3.48", altitude: 2312 m, 24-VII-2007, *Rubus* sp., on leaves (Authors); vill. Juta, N42°35'6.72", E44°45'5.28", altitude: 2198 m, 31-VII-2007, *Rubus saxatilis* L., on leaves (Authors).

Genus *Brachycaudus* van der Goot, 1913

15. *B. cardui* (Linnaeus, 1758)

Distribution – vill. Okrokana, N42°35'26.39", E44°26'55", altitude: 2099 m, 25-VII-2007, *Cirsium horridum* Fisch., on stems (Authors); at the bottom of the Kuro mountain, N42°39'24.84", E44°39'32.93", altitude: 1990 m, 29-VII-2007, *Cirsium echinus* (M.Bieb.) Sch. Bip., *Onopordum acanthium* L., on stems (Authors); vill. Karkucha, N42°33'46.55", 44°42'24.48", altitude: 1829 m, 31-VII-2007, *Echium vulgare* L., on inflorescences (Authors).

Genus *Cavariella* Del Guercio, 1911

16. *C. aegopodii* (Scopoli, 1763)***

Distribution – near Gergeti Holy Trinity church, N42°40'1.62", E44°36'49.19", altitude: 2125 m, 26-VII-2007, *Heracleum sosnowskyi* Mandenova, on inflorescences and stems (Authors).

17. *C. pastinacae* (Linnaeus, 1758)

Distribution – Truso gorge-vill. Ketrisi, N42°35'44.39", E44°24'6.24", altitude: 2170 m, 24-VII-2007, *Heracleum asperum* M.Bieb., on inflorescences (Authors); vill. Juta, N42°34'30.95", E44°44'15.84", altitude: 2096 m, 31-VII-2007, *Heracleum asperum* M.Bieb., on inflorescences (Authors).

Genus *Dysaphis* Börner, 193118. *D. sorbi* (Kaltenbach, 1843)***

Distribution – Stepantsminda-Kazbegi High Mountain Ecological Research Station, N42°35'22.86", E44°27'14.10", altitude: 1900 m, 31-VII-2007, *Sorbus caucasigena* Kom. ex Gatsch., on leaves (Authors).

Genus *Liosomaphis* Walker, 186819. *L. berberidis* (Kaltenbach, 1843)***

Distribution – vill. Gveleti, N42°43'28.07", E44°35'44.87", altitude: 1792 m, 27-VII-2007, *Berberis vulgaris* L., on leaves (Authors).

Genus *Macrosiphoniella* del Guercio, 191120. *M. absinthii* (Linnaeus, 1758)***

Distribution – Truso gorge-the right bank of the riv. Tergi-600 m. from the lake Abano, N42°35'22.56", E44°25'57.17", altitude: 2128 m, 25-VII-2007, *Artemisia splendens* Willd., on stems (Authors); Kora gorge, N42°33'46.55", E44°42'24.48", altitude: 1829 m, 31-VII-2007, *Artemisia absinthium* L., on stems (Authors).

21. *M. millefolii* (de Geer, 1773)***

Distribution – Elia mountain, N42°35'22.86", E44°27'14.10", altitude: 2106 m, 26-VII-2007, *Achillea nabelekii* Heimerl ex Náblek, on stems (Authors); vill. Gergeti, N42°39'50.09", E44°37'40.43", altitude: 1921 m, 26-VII-2007, on stems (Authors); vill. Gveleti, N42°43'33.83", E44°35'42.95", altitude: 1766 m, 27-VII-2007, on stems (Authors).

22. *M. tanacetaria* (Kaltenbach, 1843)*

Distribution – Truso gorge-the left bank of the riv. Tergi, N42°35'26.57", E44°26'3.12", altitude: 2107 m, 25-VII-2007, *Pyrethrum fruticosum* Fenzl ex Boiss., on stems (Authors); vill. Gergeti, N42°39'50.09", E44°37'40.43", altitude: 1921 m, 26-VII-2007, *Tanacetum vulgare* L., on stems (Authors).

Genus *Macrosiphum* Passerini, 186023. *M. rosae* (Linnaeus, 1758)

Distribution – 1 km from Gergeti Holy Trinity church, N42°40'1.62", E44°36'49.19", altitude: 2125 m, 26-VII-2007, *Scabiosa caucasica* M.Bieb., on stems (Authors); at the bottom of the Kuro mountain, N42°39'24.84", E44°39'32.93", altitude: 1990 m, 29-VII-2007, *Scabiosa caucasica* M.Bieb., on stems (Authors); vill. Juta, N42°35'6.72", E44°45'5.28", altitude: 2198 m, 31-VII-2007, *Cephalaria gigantea* (Ledeb.) Bobrov, on stems (Authors).

24. *M. symphyti* Barjadze & Chakvetadze, 2008

Distribution – vill. Juta-near bridge, N42°34'46.76", E44°44'40.19", altitude: 2178 m, 31-VII-2007, *Symphytum asperum* Lepech., on leaves and stems (Authors).

Genus *Metopeurum* Mordvilko, 191425. *M. buriaticum* (Pashtshenko, 1999)*

Distribution – Near Gveleti waterfall, N42°42'17.16", E44°37'10.86", altitude: 1557 m, 27-VII-2007, *Tanacetum vulgare* L., on leaves and stems (Authors).

Genus *Ovatus* van der Goot, 191326. *O. crataegarius* (Walker, 1850)***

Distribution – lake Gveleti, N42°43'21.18", E44°37'21.60", altitude: 1522 m, 27-VII-2007, *Mentha piperita* L., on leaves (Authors).

Genus *Sitobion* Mordvilko, 191427. *S. avenae* (Fabricius, 1775)

Distribution – vill. Gveleti, N42°43'33.83", E44°35'42.95", altitude: 1766 m, 27-VII-2007, *Bromopsis* sp., *Hordeum violaceum* Boiss. & Hohen., on inflorescences (Authors); at the bottom of the Kuro mountain, N42°39'24.84", E44°39'32.93", altitude: 1990 m, 29-VII-2007, *Bromopsis variegata* (M.Bieb.) Holub, on inflorescences (Authors); vill. Juta, N42°35'6.72", E44°45'5.28", altitude: 2198 m, 31-VII-2007, *Poligonum carneum* C. Koch, on inflorescences (Authors).

28. *S. fragariae* (Walker, 1848)***

Distribution – at the bottom of the Kuro mountain, N42°39'24.84", E44°39'32.99", altitude: 1990 m, 29-VII-2007, *Bromopsis variegata* (M.Bieb.) Holub, *Koeleria luerssenii* Domin, on inflorescences (Authors).

Genus *Uroleucon* Mordvilko, 191429. *U. aeneum* (Hille Ris Lambers, 1939)***

Distribution – vill. Gveleti, N42°43'33.83", E44°35'46.79", altitude: 1766 m, 27-VII-2007, *Carduus nutans* L., on stems (Authors); vill. Juta-near bridge, N42°34'46.79", E44°44'40.19", altitude: 2178 m, 31-VII-2007, *Cirsium* sp., on stems (Authors).

30. *U. cichorii* (Koch, 1855)***

Distribution – Truso gorge, vill. Ketrisi -"Ghorghiani", N42°35'12.66", E44°26'3.48", altitude: 2312 m, 24-VII-2007, *Pterotheca marshalliana* Dörf., on stems (Authors).

31. *U. pseudobscurum* (Hille Ris Lambers, 1967)*

Distribution – Elia mountain, N42°35'22.86", E44°27'14.10", altitude: 2106 m, 26-VII-2007, *Hieracium umbellatum* L., *Hieracium* sp., on stems (Authors).

32. *U. sonchi* (Linnaeus, 1767)***

Distribution – Truso gorge, vill. Ketrisi -"Ghorghiani", N42°35'13.68", E44°26'7.26", altitude: 2296 m, 24-VII-2007, *Senecio othonnae* M.Bieb., on stems (Authors).

Subfamily *Drepanosiphinae*
Genus *Euceraphis* Walker, 187033. *E. punctipennis* (Zetterstedt, 1828)

Distribution – Truso gorge, vill. Ketrisi -"Ghorghiani", N42°35'13.68", E44°26'7.26", altitude: 2296 m, 24-VII-

2007, *Betula litwinowii* Doluch., on leaves (Authors); 1 km near Gergeti Holy Trinity church, N42°39'58.19", E44°36'51.53", altitude: 2160 m, 26-VII-2007, *Betula litwinowii* Doluch., on leaves (Authors); at the bottom of the Kuro mountain, N42°39'24.84", E 44°39'32.93", altitude: 1990 m, 29-VII-2007, *Betula* sp., on leaves (Authors).

Subfamily *Lachninae*

Genus *Cinara* Curtis, 1835

Subgen *Cupressobium* Börner, 1940

34. *C. (Cupressobium) mordvilkoii* (Pašek, 1954)***

Distribution – near to Gveleti waterfall, N42°42'17.16", E44°37'10.86", altitude: 1557 m, 27-VII-2007, *Juniperus depressa* Raf., on stems (Authors).

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