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Some new records of aphid species (Hemiptera: Aphididae) from the Middle East and the Caucasus

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Abstract: Seven aphid species are recorded from the countries of the Middle East and the Caucasus for the first time, of which three aphid species are new records for Turkey, two species for Lebanon, and one species each for Iran and Georgia. New host plant genera are reported for *Aphis cephalariae* Barjadze, *Anoecia vagans* (Koch), and *Macrosiphum symphyti* Barjadze & Chakvetadze. Information on biology and geographical distribution for each species is also provided.

Key words: Aphid, new record, new host plant, Caucasus, Middle East

The aphid fauna of the Middle East and the Caucasus has been studied intensively. About 500 species are recorded from Turkey (Şenol et al., 2014), 486 species from Iran (Rezwani, 2010), 300 from Pakistan (Naumann-Etienne and Remaudière, 1995), 194 from Israel (Swirski and Amitai, 1999), 167 from Lebanon and Syria (Remaudière and Talohouk, 1999), and more than 320 from Georgia (Barjadze et al., 2010). Despite the fact that the aphid fauna has been intensively investigated in the above-mentioned regions, there is a strong probability of finding additional newly recorded species and species new to science, because of the high level of endemism of vascular plants in the Middle East and the Caucasus. Here, we report new records of seven species for Turkey, Georgia, Iran, and Lebanon, based on an investigation of aphid slides deposited at Nazife Tuatay Bitki Koruma Müzesi Directorate of Plant Protection Central Research Institute Ankara, Turkey; at the Institute of Entomology, Agricultural University of Georgia; and at the Natural History Museum in London (BMNH).

Tetraneura africana van der Goot, 1912 (Eriosomatinae: Eriosomatini)

Material examined: Three apterous viviparous females, on *Cynodon dactylon* (Graminae), Ankara Province, Beypazarı District, Tahir village (40°01'N, 31°52'E), altitude 742 m, 02.ix.2001, leg. I. Özdemir.

Biology: Primary host plants are *Ulmus glabra* Huds. (= *Ulmus campestris*) and *Ulmus minor* Mill. (Ulmaceae) (Holman, 2009; Blackman and Eastop, 2014). Secondary

host populations are on roots of various wild grasses (*Andropogon*, *Brachypodium*, *Calamagrostis*, *Cynodon*, *Echinaria*, *Echinochloa*) and sometimes cultivated Poaceae (*Hordeum vulgare*, *Sorghum halepense*) (Holman, 2009; Blackman and Eastop, 2014). The population on roots of *Cynodon dactylon* L. (Poaceae) is probably anholocyclic (Blackman and Eastop, 2014).

Distribution: Europe, Caucasus, Middle East, Central Asia, Morocco, and Pakistan (Holman, 2009). New record for Turkey.

Comment: It is listed in Holman (2009) as occurring on *Triticum durum* in Turkey, citing Bodenheimer and Swirski (1957), but this seems to be a mistake, as these authors only record *T. africana* from Egypt and Israel.

Anoecia vagans (Koch, 1856) (Anoeciinae)

Material examined: One alate viviparous female, on roots of *Aegilops* sp. (Poaceae), Turkey, Ankara Province, Yenimahalle District (39°56'35"N, 32°47'26"E), altitude 810 m, 20.vi.2002, leg. I. Özdemir.

Biology: Heteroecious holocyclic with sexual phase on *Cornus sanguine* L. (Cornaceae) (primary host plant) (Zwölfer, 1957). Secondary host plants: it lives on roots of various Poaceae (*Agropyron*, *Arrhenatherum*, *Avena*, *Bromus*, *Calamagrostis*, *Cynodon*, *Dactylis*, *Deschampsia*, *Digitaria*, *Echinochloa*, *Elymus*, *Eragrostis*, *Festuca*, *Hordeum*, *Leymus*, *Lolium*, *Panicum*, *Poa*, *Setaria*, *Sorghum*, *Triticum*, *Zea*) (Holman, 2009; Blackman and Eastop, 2014).

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Distribution: Europe, Transcaucasia, Egypt, Iran, Israel, Turkey, India, E Siberia, and Pakistan (Holman, 2009; Blackman and Eastop, 2014). New record for Turkey, and *Aegilops* has not previously been recorded as a host plant of *A. vagans*.

Comment: The record of this species from Turkey in Blackman and Eastop (2014) seems to be in error, as we can find no publication on the Turkish aphid fauna that mentions this species, and there are no specimens of *A. vagans* from Turkey in the BMNH collection (P Brown and R Blackman, pers. comm.).

Aphis cephalariae Barjadze 2011 (Aphidinae: Aphidini)

Material examined: Three apterous and one alate viviparous females, on the stems of *Dipsacus* sp. (Dipsacaceae), Turkey, Erzurum Province, Tortum town (40°23'50"N, 41°28'38"E), altitude 1587 m, 09.vii.1970, leg. N. Tuatay; Three apterous viviparous females, on the stems of *Cephalaria gigantea* (Ledeb.) Bobrov (Dipsacaceae), Turkey, Ardahan Province, Posof town (41°30'N, 42°43'E), altitude 1840 m, 19.ix.2012, leg. Sh. Barjadze.

Biology: Unknown, but probably monoecious and holocyclic on Dipsacaceae.

Distribution: Previously known only from Georgia (Barjadze, 2011). New record for Turkey.

Remark: This species was described from *Cephalaria gigantea*. *Dipsacus* is a new host plant genus for *A. cephalariae*.

Aphis teucree (Börner, 1942) (Aphidinae: Aphidini)

Material examined: 3 apterous and viviparous females, on shoot apices of *Teucrium divaricatum* Sieber ex Heldr. (Lamiaceae), Lebanon, Mount Lebanon Governorate, Keserwan District, Hrajel village (34°0'51"N, 35°47'43"E), altitude 1255 m, 24.v.1973, leg. D. Hille Ris Lambers.

Biology: Monoecious and holocyclic on *Teucrium* spp.

Distribution: Europe and Iraq (Holman, 2009; Blackman and Eastop, 2014). New record for Lebanon.

Macrosiphum stellariae Theobald, 1913 (Aphidinae: Macrosiphini)

Material examined: Two apterous viviparous females, on stems of *Oberna multifida* Ikonn. (Caryophyllaceae), Georgia, Racha-Lechkhumi and QvemoSvaneti Region, Lentekhi District, Koruldashi village (42°57'06"N, 43°08'53"E), altitude 1940 m, 30.vii.2011, leg. Sh.

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Barjadze.

Biology: It is a monoecious holocyclic species. It lives in small, loose colonies on young shoots of various Caryophyllaceae (*Dianthus*, *Gypsophila*, *Moehringia*, *Silene*, *Stellaria*) and sometimes on other plants (*Aegopodium*, *Helipterum*, *Papaver*, *Ranunculus*, *Salix*, *Senecio*, *Valeriana*) (Holman, 2009; Blackman and Eastop, 2014).

Distribution: Europe, and introduced to Canada and New Zealand (Blackman and Eastop, 2014). New record for Georgia.

Macrosiphum symphyti Barjadze & Chakvetadze, 2008 (Aphidinae: Macrosiphini)

Material examined: Four apterous viviparous females, on *Anchusa* sp. (Boraginaceae), Iran, there is no written locality on the slide label, 2.v.1981, leg. S.H. Hodjat.

Biology: It is a holocyclic species and lives in sparse colonies on undersides of leaves and stems of *Symphytum asperum* Lepech. (Barjadze and Chakvetadze, 2008).

Distribution: Previously only known from Georgia (Barjadze and Chakvetadze, 2008). New record for Iran.

Remark: This species was described from *Symphytum asperum* Lepech. *Anchusa* is a new host plant genus for *M. symphyti*.

Uroleucon carthami (Hille Ris Lambers, 1948) (Aphidinae: Macrosiphini)

Material examined: Two apterous viviparous females, on *Carthamus glaucus* M. Bieb. (Asteraceae), Lebanon, Mount Lebanon Governorate, Chouf District, Deir el Kamar (33°41'49"N, 35°33'39"E), altitude 802 m, 29.v.1973, leg. D. Hille Ris Lambers.

Biology: Sexual morphs and life cycle unknown (Blackman and Eastop, 2014). It lives on *Carthamus* spp. (Asteraceae) (Hille Ris Lambers, 1954; Blackman and Eastop, 2014).

Distribution: South and Central Europe, Israel, Turkey, Kazakhstan, Pakistan, and India (Holman, 2009; Blackman & Eastop, 2014). New record for Lebanon.

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