



A new species of *Aphis* Linnaeus (Hemiptera: Aphididae) from *Cephalaria gigantea* (Dipsacaceae) in Georgia

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Abstract

Apterous and alate viviparous females of *Aphis cephalariae* sp. n. living on *Cephalaria gigantea* (Dipsacaceae) are described and illustrated. Differentiations between the new species and the morphologically similar *A. acetosae* are given. Based on apterous viviparous females, keys are provided to all aphid species recorded as feeding on *Cephalaria gigantea*, and to all *Aphis* species living on Dipsacaceae.

Key words: *Aphis cephalariae*, new species, *Cephalaria gigantea*, Dipsacaceae, Georgia

Introduction

The genus *Aphis* Linnaeus is represented by more than 400 species worldwide (Remaudière & Remaudière 1997, Blackman & Eastop 2006). Most species live on shrubs and herbs, with relatively few on trees. Species of this genus are mainly from the northern hemisphere, with more than 50 species found in Georgia (Barjadze pers. comm.), but a few are native to S. America, New Zealand and Australia (Blackman & Eastop 2006). During the study of the aphids collected in 2004–2009 in Shida Kartli, Mthkheta-Mtianeti (Eastern Georgia) and Samtskhe-Javakheti regions (Southern Georgia), a new species of *Aphis* was recognized, living on *Cephalaria gigantea*. In addition, slides with 5 apterous females were found in Dr. A. Dzhibladze's collection, gathered in Racha-Lechkhumi-Zemo Svaneti (Western Georgia) and Mthkheta-Mtianeti regions (Eastern Georgia) in 1955–1956.

Prior to this investigation eleven species of the genus *Aphis*, were known from Dipsacaceae (Blackman & Eastop 2006; Holman, 2009): *A. confusa* Walker, *A. craccivora* Koch, *A. eugeniae* van der Goot, *A. fabae* Scopoli, *A. gossypii* Glover, *A. longini* Huculak, *A. ochropus* Koch, *A. solanella* Theobald, *A. spiraeicola* Patch, *A. succisae* Holman, and *A. thomasi* (Börner).

Material and methods

A total of 44 apterous viviparous females and 18 alate viviparous females were collected, cleared and mounted in Canada balsam on microscope slides using methodology as described by Martin (1983). In addition, 5 apterous viviparous females collected and mounted by Dr. A. Dzhibladze were studied.

The specimens were studied using a PHENIX - H-200 microscope and each morphological character was measured by microscope ocular-micrometer. Measurements are recorded mainly in millimeters and listed as ranges. Seventy-two quantitative characteristics were used during species description. Measurements of morphological characters, ratios and chaetotaxy given in this paper are according to Holman (1987) and Perez Hidalgo and Nieto Nafria (2004). The holotype and paratypes of the new species are deposited in the Entomology and Biocontrol Research Centre of Ilia State University (EBRC).