



<http://dx.doi.org/10.11646/zootaxa.3608.1.3>

<http://zoobank.org/urn:lsid:zoobank.org:pub:E3A374EB-A804-4D82-90CE-1889C3AD9ABC>

## Mayflies of the Caucasus Mountains. II. Description of the first representative of the subgenus *Helvetoraeticus* Bauernfeind & Soldán, 2012 (Heptageniidae: *Ecdyonurus*)

NIKITA J. KLUGE<sup>1</sup>, ROMAN J. GODUNKO<sup>2,4</sup> & DMITRY A. APANASKEVICH<sup>3</sup>

<sup>1</sup>Department of Entomology, Biological Faculty, Saint-Petersburg State University, University Embankment 7, 199034 Saint-Petersburg, Russian Federation. E-mail: [kluge@FK13889.spb.edu](mailto:kluge@FK13889.spb.edu)

<sup>2</sup>State Museum of Natural History, National Academy of Sciences of Ukraine, Teatralna 18, 79008 Lviv, Ukraine and Biology Centre of the Academy of Sciences of the Czech Republic, Institute of Entomology, Branišovská 31, CZ-37005 České Budějovice, Czech Republic; E-mail: [godunko@museum.lviv.net](mailto:godunko@museum.lviv.net); [godunko@seznam.cz](mailto:godunko@seznam.cz)

<sup>3</sup>United States National Tick Collection, The James H. Oliver, Jr. Institute of Arthropodology and Parasitology, Georgia Southern University, P.O. Box 8056, Statesboro, Georgia 30460, USA; E-mail: [dapanaskevich@georgiasouthern.edu](mailto:dapanaskevich@georgiasouthern.edu)

<sup>4</sup>Corresponding author

### Abstract

The first representative of the subgenus *Helvetoraeticus* Bauernfeind & Soldán, 2012, from the Caucasus Mountains, *Ecdyonurus* (*Helvetoraeticus*) *adjaricus* sp. nov., is described on the basis of larvae, female imago (reared from larva) and male imago from the Autonomous Republic of Adjara, Georgia. The male imago of the new species can be separated from other representatives of *Helvetoraeticus* by its conspicuous yellowish wings coloration (especially of hind wings) and the shape of the penis lobes. The larva has a distinctive broad and apically pointed lateral projection on the pronotum, pointed bristles on the ventral side of the posterior border of the femora and markedly long, sharp posterolateral expansions of abdominal sterna. This last character is unique within *Helvetoraeticus*. The new species is most closely related to *E. krueperi* (Stein, 1863).

**Key words:** Ephemeroptera, new species, Georgia

### Introduction

Kimmins (1958) first proposed the “*Ecdyonurus helveticus* Complex” within the genus *Ecdyonurus* Eaton, 1868, and it has been widely used in taxonomical, faunistical and ecological papers in subsequent years. Bogoescu and Tabacaru (1962) later analyzed features of male genitalia of the genera *Heptagenia* Walsh, 1863, *Electrogena* Zurwerra & Tomka, 1985 (cited as “*lateralis*-Gruppe”) and *Ecdyonurus*, and placed four species earlier mentioned by Kimmins (1958) in the “*helveticus*-Gruppe”. Some important data on taxonomy of the *helveticus* species-group, including descriptions of new species and synonymy of several taxa, were published by Thomas (1968), Sowa (1973) and Puthz (1975).

Review of recent knowledge of the “*Ecdyonurus helveticus*-Großgruppe” was published by Jacob and Braasch (1984), and after this a series of remarkable papers by D. Hefti and coauthors were done, summarized by Hefti *et al.* (1989). In one of their publications, Hefti and Tomka (1988) proposed division of the *helveticus*-group into two subgroups, based on characters of the distal portion of the apical sclerite of the penis lobes: “alpine” species with a rounded tip of the apical sclerite and “East-European” species with a pointed tip. Later, Hefti *et al.* (1991: 65–72, fig. 4), on the basis of morphological and biochemical data, demonstrated a biogeographical cleavage into these two subgroups. This approach is used also by Belfiore and Buffagni (1994) in their paper on Italian species of the *helveticus* species-group. However, the proposed division into subgroups has been questioned because no diagnostic larval characters of these subgroups have been found (Hefti & Tomka 1988: 335). This dilemma follows