

## Article

## Fourth larval species of *Calypstostoma* (Acari: Prostigmata: Calypstostomatidae)

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### Abstract

*Calypstostoma gorganica* Saboori & Soukhtsarai **sp. nov.** (Acari: Calypstostomatidae) is described and illustrated from larvae ectoparasitic on *Limonia caucasica* Lackschewitz, 1940 (Diptera: Tipulidae) from Shast Kalateh forest, Gorgan, Golestan Province, Northern Iran. It is the first report of the representatives of the superfamily Calypstostomatoidea from the Middle East. *Calypstostoma latiseta* and *C. simplex* are not synonymous with *C. velutinum*. A key to larval species of *Calypstostoma* of the world is presented.

**Key words:** *Calypstostoma gorganica* Saboori & Soukhtsarai **sp. nov.**, Tipulidae, larva, ectoparasite, Parasitengona, *Limonia caucasica*, new record, key

### Introduction

*Calypstostoma* Cambridge, 1875, the only genus of Calypstostomatidae has seven species; four species, namely, *C. brevirostris* Wainstein, 1976, *C. caelatum* (Berlese, 1905), *C. extranea* (L. Koch, 1867) and *C. longirostris* Wainstein, 1976, are known from the adult stage and *C. velutinum* (Müller 1776) and *C. latiseta* Shiba, 1976 are known from both larval and adult stages and *C. simplex* Shiba, 1976 is known only from the larval stage (Müller 1776; L. Koch 1867; Berlese 1905; Vistorin Theis 1974; Wainstein 1976; Shiba 1976; Beron 2008). *Calypstostoma velutinum* larvae parasitize species of Tipulinae and Limoniinae (Diptera: Tipulidae) (Wohltmann *et al.* 2007). This genus has a worldwide distribution, except Antarctica, with some species inquirenda in Africa (*C. exculpta* (Berlese, 1917) & *C. tracheatum* Lawrence, 1944), Asia (*C. caelatum*, *C. latiseta* & *C. simplex*), Australia (*C. extranea*) and Europe (*C. velutinum*, etc.) (Berlese 1905; Vitzthum 1926; Lawrence 1944; Shiba 1969; Womersley 1942; Southcott 1961). Vistorin Theis (1977) synonymized all but two European species with *C. velutinum*. The two remaining ones, *C. longirostris* Wainstein, 1976 and *C. brevirostris* Wainstein, 1976 from Russia, were obviously not known by her and certainly deserve re-evaluation.

The aim of the present manuscript is to describe the larva of *Calypstostoma gorganica* **sp. nov.** ectoparasitic on *Limonia caucasica* Lackschewitz, 1940 (Diptera: Tipulidae) from Iran.

### Material and Methods

The mites were attached on leg segments of adults of *Limonia caucasica* Lackschewitz, 1940 (Diptera: Tipulidae). They were detached by an entomological pin and preserved in Oudemans' fluid,