



Revision of the *Rhyacophila stigmatica* Species Group in Turkey with descriptions of three new species (Trichoptera, Rhyacophilidae)

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Abstract

The *Rhyacophila stigmatica* Species Group in Turkey is revised and three new species (*Rhyacophila alaplica* **sp. n.** from northwestern Turkey, and *Rhyacophila camiliensis* **sp. n.**, and *R. torulensis* **sp. n.**, both from northeastern Turkey) are described and illustrated. A redescription of *R. zwickorum* Malicky 1972 is given. A key to the Turkish males and females of the Group is provided.

Key words: taxonomy, caddisflies, northern Anatolia

Introduction

Rhyacophila Pictet is the largest genus in Trichoptera, with 801 recorded species, represented in the West Palaearctic region by 142 species and subspecies (Morse 2013). In Turkey, 26 species/subspecies occur; the most of the species belong to the *R. vulgaris* Group. A list of *Rhyacophila* species known from Turkey is given in Table 1.

The European *Rhyacophila stigmatica* Species Group is found in the mountains of southern and western Europe and the Anatolian part of northern Turkey. In western Europe, namely in the Pyrenees and Cordillera Cantabria Mountains in Spain (Sipahiler 2000) and Portugal (Malicky 1979) the group is represented by five species, while in the Alps (Malicky 2009), and the Balkans (Kumanski 1986) five species each are found. A list of all species of the *R. stigmatica* Group, including the new species described in this paper, is given in Table 2. In Turkey, the group was previously represented by a single species, *R. zwickorum* Malicky 1972, described from Rize Province in northeastern Turkey (Malicky 1972). Later, specimens collected from different parts of northern Turkey were recorded as the mentioned species (Sipahiler & Malicky 1987; Sipahiler 2005). In the present study, the material belonging to the *R. stigmatica* Group, collected during nearly 30 years, is revised and three new species (*R. alaplica* **sp. n.** from northwestern Turkey and *R. camiliensis* **sp. n.** and *R. torulensis* **sp. n.**, both from northeastern Turkey) are described. A redescription of *R. zwickorum* is also given.

Material and methods

Material collected from northern Turkey between 1982 and 2011 were studied. The specimens were collected by hand net and light trap with a blacklight tube (6 W), preserved in alcohol (75%). In the laboratory the posterior half of the abdomen cut off with dissecting needles and put in 10% KOH solution for several hours; after maceration, the genitalia were washed in water and transferred to 80 % alcohol and a few drops glycerin. The figures were drawn using a Zeiss Stemi SV 6 microscope. Holotypes are deposited in the Museum für Naturkunde Berlin, Germany; other materials are deposited in the insect collection of the department of Biology Education, Hacettepe University, Ankara, Turkey. Abbreviations are used for the code of depository (=depository catalog number) (CD) and for the Museum für Naturkunde Berlin (MNB). Genital terminology follows those of Ross (1956) and Schmid (1970).