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Ten new species of *Rhagovelia* in the *angustipes* complex (Hemiptera: Heteroptera: Veliidae) from Colombia, with a key to the Colombian species

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Abstract

Ten new species of *Rhagovelia* are described from Colombia as follows: *Rhagovelia penta* sp. n., and *Rhagovelia santanderi* sp. n., from the Upper and Middle Magdalena River Valley respectively; *Rhagovelia carina* sp. n., *Rhagovelia tricoma* sp. n., and *Rhagovelia barbacoensis* sp. n., from Altaquer, Río Nambi; *Rhagovelia caunapi* sp. n. from Río Cau-napi; *Rhagovelia tumaquensis* sp. n., from Tumaco, Río Mejicano; *Rhagovelia jagua* sp. n., from Eastern Andes; *Rhagovelia mocoa* sp. n. and *Rhagovelia umbria* sp. n., from Amazonas region. *Rhagovelia tantilla* Drake & Harris is recorded from Colombia, for the first time; the description of macropterous morph of *Rhagovelia espriella* Padilla-Gil, 2011 and a key to the *Rhagovelia, angustipes* complex of Colombian species are provided.

Key words: new species, aquatic insects, water striders, taxonomy, Neotropical region, South America

Introduction

The water strider genus *Rhagovelia* Mayr, 1865, comprises approximately 184 American species, included in various complexes or grades, and in 18 species groups. The genus is distributed from the southern and central United States to Argentina; the most the Western Hemisphere species (97%) are inhabitants of the Neotropical region (Polhemus, 1997; Padilla-Gil & Moreira, 2013).

Bacon (1956) revised the genus *Rhagovelia*, including the *angustipes* complex; subsequently D. Polhemus (1997), based on a phylogenetic analysis, proposed three groups for the *angustipes* complex: the *bisignata*, *hambletoni* and *salina* groups. More recently, Nieser & Polhemus (1999) and Padilla-Gil (2010, 2011) described four and 12 new species respectively that belong to *angustipes* complex.

The *angustipes* complex is characterized by possessing a short pronotum in apterous forms. This complex is rich in species, containing 28.5% of the known Western Hemisphere *Rhagovelia* species (Padilla-Gil & Moreira, 2013). Colombian species from this complex are widely distributed in both the Pacific and Andean regions (Padilla-Gil 2011, 2012, 2013a). These species are relatively common and distinctive elements of lotic ecosystems.

Although the adults from the various species groups are well known, very few studies on the immature stages are available in the literature; Padilla-Gil (2013b) described the eggs and nymphs from the *R. gastrotricha* Padilla-Gil, 2011.

The three groups of the *angustipes* complex are present in Colombia, of which two, the *bisignata* and *hambletoni* groups, are treated here. Ten new species are described: *R. penta* sp. n., *R. santanderi* sp. n., *R. carina* sp. n., *R. tricoma* sp. n., *R. barbacoensis* sp. n., *R. caunapi* sp. n., *R. tumaquensis* sp. n., *R. jagua* sp. n., *R. mocoa* sp. n., and *R. umbria* sp. n.

Rhagovelia penta sp. n., *R. carina* sp. n., *R. espriella* Padilla-Gil, and *R. tricoma* sp. n. are members of the *hambletoni* group, while *R. jagua* sp. n., *R. mocoa* sp. n. and *R. umbria* sp. n., are members of the *bisignata* group. For the other three species the winged morphs were not collected, so these taxa are provisionally assigned to the *bisignata* group.