



## Preimaginal stages of *Acostatrichia simulans* Mosely 1939, a Neotropical microcaddisfly (Trichoptera: Hydroptilidae: Leucotrichiinae)

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### Abstract

The preimaginal stages and cases of *Acostatrichia simulans* Mosely 1939, collected in Salto Encantado Provincial Park (Misiones province, Argentina) are described. This is the first description of the immature stages of this genus, and its first record from Argentina. The larvae were collected manually and transported to the laboratory, where they completed their development. Their identity was established using the metamorphotype method. They show strong resemblance to the larvae of *Abtrichia* Mosely, *Anchitrichia* Flint, *Ceratotrichia* Flint, *Leucotrichia* Mosely and *Zumatrichia* Mosely, especially to *Zumatrichia*.

**Key words:** larva, pupa, new records, Argentina, Neotropical

### Introduction

According to Marshall (1979), the family Hydroptilidae included two subfamilies: Hydroptilinae (with 44 genera in 6 tribes) and Ptilocolepinae (with 2 genera). Recently, Malicky (2001, 2005) elevated Ptilocolepinae to family status, such that the six tribes of former Hydroptilinae became subfamilies of Hydroptilidae: Stactobiinae, Leucotrichiinae, Hydroptilinae, Ochrotrichiinae, Orthotrichiinae, and Neotrichiinae, all represented in the Neotropics.

The subfamily Leucotrichiinae is found in only North and South America. It contains 15 recognizable genera whose relationships are under discussion. Some of the morphological characteristics of the larvae have been interpreted as characteristics of Stactobiinae (Bowles et al. 1999). Knowledge of the characteristics of the preimaginal stages could help to elucidate these relationships, but for most of the genera the larvae of only 1 or a few species are known, the pupae have not been described, the descriptions are inadequate for comparisons, or the immatures are unknown, as is the situation for *Ascotrichia* Mosely, *Betrichia* Mosely, and *Costatrichia* Mosely.

The larvae of the Leucotrichiinae, as in Hydroptilidae generally, have the thoracic nota sclerotized, the anal prolegs relatively long, and the gills absent. They undergo hypermetamorphosis: the first instars are very small, free-living forms; the fifth (last larval) instar increase their body size with the abdomen becoming distended, especially in the intermediate segments, and showing deep intersegmental constrictions. Generally at the outset of the final larval instar, the larvae construct cases which they inhabit, and in which they pupate.

Fifth instar leucotrichiine larvae are characterized by coronal and frontoclypeal sutures absent or incomplete; thoracic terga with an ecdysial line only on the pronotum; legs all similar in shape, — short and robust, without modifications; and abdominal segments with conspicuous, dorsal sclerites. Two groups can be recognized: (a) those whose larvae have their bodies and cases compressed, and (b) those with bodies and cases depressed (in some of the genera of this group the larval abdomen is fusiform, while in the others it is conspicuously widened).