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Larva of *Nothotrichia shasta* Harris & Armitage (Trichoptera: Hydroptilidae) from California, USA, with its phylogenetic and taxonomic implications

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Abstract

Nothotrichia Flint 1967 is a small genus of infrequently collected microcaddisflies known from Chile and Brazil in South America, Costa Rica in Central America, and the United States in North America. Previously known only from adult specimens, we provide the first description and illustration of a larva in the genus, the larva of *N. shasta* from California, USA. We provide characters to separate *Nothotrichia* from other similar genera and an updated key to larval Hydroptilidae modified from that of Wiggins (1996). Larval characters provide additional evidence for the phylogeny and classification of the genus, which we now place tentatively in tribe Ochrotrichiini (subfamily Hydroptilinae).

Key words: caddisflies, microcaddisflies, United States

Introduction

The genus *Nothotrichia* was erected by Flint (1967) for *N. illiesi* in Chile. A second species, *N. cautinensis*, also from Chile was added by Flint in 1983. The genus was thought to be Neotropical in distribution until a third species, *N. shasta*, was described from California, USA, by Harris and Armitage (1997). In 2002, two additional species were described from Brazil and Costa Rica by Holzenthal and Harris. In 1997, Harris and Armitage described the females of the Chilean species, but the larvae remained undescribed. Despite the fairly wide distribution, *Nothotrichia* are infrequently collected and all current records are based on adults. In this paper, we describe the larva of *N. shasta* and provide a key to the genera of larval Hydroptilidae of North America, modified from that of Wiggins (1996).

Material and methods

Larvae of *Nothotrichia shasta* were hand-collected from rocks in fast-moving streams and preserved in 70% ethyl alcohol. Metamorphotypes (Milne 1938) collected at the same time as the final instar larvae were determined to be *N. shasta*. Larval sclerites remaining in the pupal cases matched those of the final instar larvae of *N. shasta*. Larvae were mounted in depression slides using CMCP media and drawn using a compound microscope at magnifications of 40X, 100X, and 250X. Penciled drawings were scanned and inked using Adobe Illustrator CS5. Voucher specimens are deposited at the U.S. National Museum of Natural History, Smithsonian Institution, and collections of the authors. Description terminology follows that of Wiggins (1996).

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