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Description of the larva of *Argia chelata* Calvert, 1902 (Odonata: Coenagrionidae)

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Abstract

The larva of *Argia chelata* is described and figured. It falls into the group of *Argia* larvae with a moderately prominent ligula and two palpal seta, but it differs from its closest relatives by having labial palp with 2 setae plus one basal setella; the length of the ligula is 30% of its maximum width; basal tergites (1–5) lacking long, fine setae, mainly on midline; S8–10 mostly dark brown; paraprocts with spiniform setae on basal 0.25 and 0.55 of dorsal and ventral borders, respectively. Larvae were found in 2nd to 4th order shallow streams in cloud forest, crawling among debris, fine sand and mud where the water flow is slow or still, close to the shoreline. The larva is compared with *A. lacrimans* (Hagen), *A. pima* Garrison, and *A. tonto* Calvert, species apparently closely related.

Key words: Odonata, Zygoptera, damselfly, *Argia chelata*, larval description, Mexico

Resumen

Se describe e ilustra la larva de *Argia chelata*. Pertenece al grupo de larvas de *Argia* con lígula moderadamente prominente y dos sedas en el palpo, aunque difiere de sus parientes más cercanas por tener el palpo con 2 sedas más una sedilla basal; la longitud de la lígula es igual al 30% de su anchura máxima; los terguitos basales (1–5) carecen de sedas largas y finas, principalmente en la línea media; S8–10 principalmente pardo oscuro; paraproctos con sedas espiniformes en los 0.25 y 0.55 basales de los bordes dorsal y ventral, respectivamente. Las larvas se encontraron en arroyos someros de 2° a 4° orden en bosque de niebla, entre detritus, arena fina y lodo en aguas quietas o de flujo lento cerca de las orillas. Se compara esta larva con las de *A. lacrimans* (Hagen), *A. pima* Garrison, and *A. tonto* Calvert, especies aparentemente muy cercanas.

Palabras clave: Odonata, Zygoptera, damselfly, *Argia chelata*, larval description, México

Introduction

Argia chelata Calvert is a species rarely collected in Mexico. At present, it has been recorded only from middle elevations in the states of Chiapas, Oaxaca and Veracruz (González-Soriano and Novelo-Gutiérrez 2007), ranging from 1200 m at Coatepec in Veracruz (González-Soriano & Novelo-Gutiérrez 2011) to 1979 m at Biosphere Reserve “El Triunfo” in Chiapas (González-Soriano & Paulson 2011); specific localities in Oaxaca are unknown to the author. In both localities the original vegetation corresponds to cloud forest, although in Coatepec the forest has been largely replaced by coffee plantations and pasture land. In this paper, I describe the last-instar larva based upon larvae reared to emergence.

Methods

Larvae were collected with a D-frame aquatic net and preserved in the field in 96% ethanol. Afterwards, they were transferred to vials containing 80% ethanol. Mandible nomenclature follows Watson (1956); labium nomenclature

setae [8–9 stout spiniform setae]; caudal lamellae variable but usually uniformly grayish-violet in most of their surface, with some white dots and spots on apical third [usually with a mottled aspect]. In summary, the larvae of *Argia pima* and *A. tonto* appear as the closest relatives of *A. chelata*.

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