

**DESCRIPTION OF THE LAST LARVAL INSTAR
OF *ACANTHAGRION ABLUTUM* CALVERT
(ZYGOPTERA: COENAGRIONIDAE)**

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The final larval instar is here described for the first time and it is compared with the other known *Acanthagrion* larvae. It differs from them mainly in the number of palpal and premental setae and shape of head posterolateral margin.

INTRODUCTION

Acanthagrion is a widespread neotropical genus, composed of almost forty known species, from which eight have been recorded in Argentina (MUZÓN & VON ELLENRIEDER, 1998; MUZÓN et al., 2001). The last larval instars of only the following six species have been described: *A. adustum* Williamson, *A. fluvatile* De Marmels, *A. hildegarda* Gloger, *A. indefensum* Williamson, *A. ascendens* Calvert and *A. quadratum* Selys (GEIJSKES, 1941, 1943; DE MARMELS, 1984; MUZÓN, 1995; WESTFALL & MAY, 1996; MUZÓN et al., 2001).

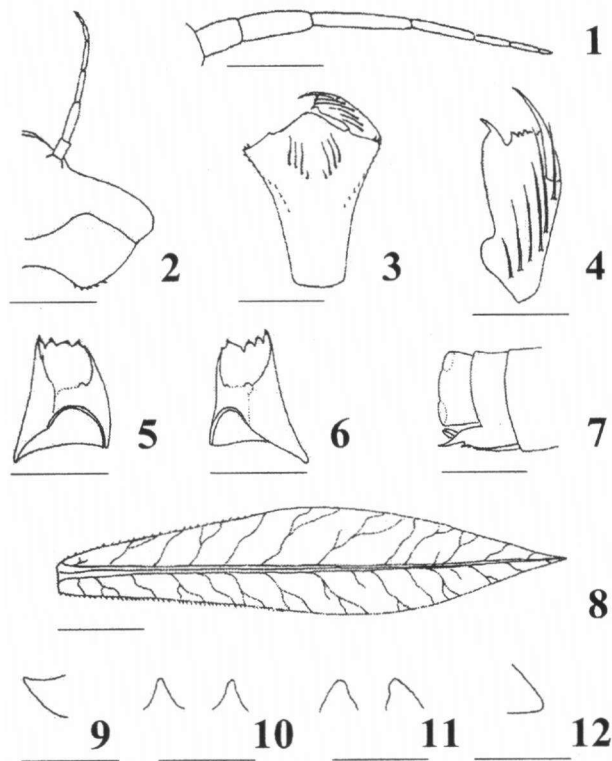
Acanthagrion ablutum Calvert is presently known from Bolivia, Paraguay and Argentina (LEONARD, 1977; MUZÓN & VON ELLENRIEDER, 1998). In the present study we describe the final larval instar of *Acanthagrion ablutum* based on reared specimens from Salta province, Argentina, and compare it with the other known larvae of this genus.

ACANTHAGRION ABLUTUM CALVERT

Figures 1-12

Material. — Argentina, Salta province: provincial Route 9, charca (pond) aprox. 5 km. boundary with Jujuy province, 3-IV-1997, N. von Ellenrieder & Perez Goodwyn leg., 2 ♀ last instar exuviae; — Dique Campo Alegre, charca desaguadero, 9-I-1998, Perez Goodwyn & N. von Ellenrieder leg., 1 ♀ last instar exuviae; — Lesser stream, 24°40'57" S 65° 28'39" W, 1312 m, 11-I-1998, N. von Ellenrieder & Perez Goodwyn leg., 3 ♀ and 2 ♂ last instar exuviae. — The specimens were reared in laboratory; the resulting exuviae and adults were fixed in 70% alcohol. The specimens are deposited in the Collection of Departamento Científico Entomología, Museo de La Plata, Argentina.

DESCRIPTION. — **H e a d** (Fig. 1): Almost two times as wide as long, posterolateral margins slightly concave, not produced or angulated, posterior angle with several short spines. Posterior margin



Figs 1-11. *Acanthagrion ablutum* Calvert: (1) antenna; — (2) head, dorsal view; — (3) prementum, dorsal view; — (4) labial palp, dorsal view; — (5) right mandible; — (6) left mandible; — (7) female gonapophyses; — (8) lateral caudal lamellae; — (9) female cercus, lateral view; — (10) female cerci, dorsal view; — (11) male cerci, dorsal view; — (12) male cercus, lateral view. — [Scales Figs 2-3, 7-8: 1 mm, Figs 1, 4-6, 9-12: 0.5 mm]

concave. Antennae (Fig. 2) 7-segmented, the 3th antennomere the longest. Labium (Figs 3-4) reaching second coxa, prementum almost 1.5 as long as wide, with three or four long setae and usually a smaller inner one; lateral sides with a row of spini-form setae. Palpal (Fig. 4) setae 5 to 6; movable hook slender and sharp, about 1.4 times as long as distal margin of palp. Outer half of distal margin of palp with 4 or 5 small teeth, inner half with 3 teeth and the typical curved end hook; inner margin of palp finely crenulated. Mandibular formula (*sensu* WATSON, 1956) as follows (Figs 5-6): L 1+2345 0 ab; R 1+2345 y a

T h o r a x. — Wing

pads nearly parallel, the external ones reaching middle of 4th abdominal segment.

Abdomen. — Cylindrical. Female gonapophyses as in Figure 7. Caudal lamellae lanceolated. Lateral lamellae (Fig. 8) about five times as long as wide; nodus located at 0.52 of its length, dorsal carina with approximately 24-26 antenodal setae, ventral carina with approximately 45-50 antenodal setae, ventral setae series about 1.2 times longer than dorsal series. Central lamella about four times as long as wide; nodus located at 0.45 of its length, dorsal carina with approximately 45-50 antenodal setae, ventral carina with approximately 16 antenodal setae, dorsal setae series about 1.25 times longer than ventral series. Male and female cercus as in Figures 9-12; male cercus presents a small central concavity on its inner surface.

Measurements (in mm, N = 8). — Body length (without caudal lamellae): approximately 8.0; head maximum width: 2.85 ± 0.1 , head maximum length: 1.54 ± 0.14 ; prementum maximum length: 2.46 ± 0.61 , prementum maximum width 1.7 ± 0.14 ; femur I length: 1.5 ± 0.1 , femur II: 1.8 ± 0.1 , femur III: 2.57 ± 0.11 ; tibia I length: 1.84 ± 0.074 , tibia II: 1.98 ± 0.04 , tibia III: 2.57 ± 0.09 ; external wing pads length: 3.83 ± 0.20 , internal wing pads length: 3.98 ± 0.1 , cerci: 0.3; caudal lamellae 5.85 ± 0.4 .

DISCUSSION

The external morphology of the known last larval instars of *Acanthagrion* can be characterized by a slender body, posterolateral margin of head variable: straight to concave, not produced (i.e. *A. ablutum*, *A. hildegarda*, *A. luteum* and *A. quadratum*) or distinctly produced and angulated (i.e. *A. adustum*, *A. fluviatile* and *A. indefensum*); mandibles with 4-5 incisors and 1-2 molar teeth; distal margin of prementum produced, premental setae 1-4, palpal setae 4-8; caudal lamellae lanceolated with acuminate tips, as long as abdomen, five to six times as long as wide, nodus located at 0.45 to 0.75 of their length and tracheation closely branched.

The last instar larva of *A. ablutum* (characters of *A. ablutum* in parentheses), can be easily distinguished from those of *A. adustum*, *A. fluviatile* and *A. indefensum* by the concave posterolateral margin of head (slightly concave), the presence of one pair of long premental setae (3-4), four palpal setae (5-6) and conspicuous nodus on caudal lamellae (inconspicuous). It differs from *A. hildegarda* by the absence of spines on the posterior angle of head (presence) and presence of 4-5 palpal setae (5-6), and from *A. luteum* and *A. quadratum* by the presence of short spines in the last abdominal segments (absence) and four palpal setae (5-6).

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