

SHORT COMMUNICATIONS

**DESCRIPTION OF THE LARVA OF *COENAGRION INTERMEDIUM*
LOHMANN, 1990 FROM CRETE, GREECE
(ZYGOPTERA: COENAGRIONIDAE)**

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The ultimate instar is described and figured, based on exuviae and larvae from Crete, Greece. It is the first larva described of a sp. of the eastern mediterranean *C. puella*-complex. Brief notes on the habitat are provided.

INTRODUCTION

Coenagrion intermedium was first described as a subspecies of *C. ponticum* by LOHMANN (1990a). However, most recent studies show that species rank would better fit the Cretan population (Battin, in preparation). *C. intermedium* may be expected to be endemic to the island of Crete.

At present, information on larval taxonomy of the representatives of the genus *Coenagrion* in the eastern Mediterranean is practically non-existent.

Ultimate instar larvae of *C. intermedium* were collected from a streamlet near Fodhèle, Crete and successfully reared to the adult stage. The description and figures are based on larvae and exuviae, both male and female. Terminology used for the labium is adopted from CORBET (1953).

DESCRIPTION

Material. — 5 ♂ and 2 ♀ larvae, 3 ♂ and 2 ♀ exuviae (preserved in 70% ethanol), Fodhèle, W. Iraklion, Crete, Greece (35°22'N, 24°57'E), 18-V-1988. C. Woreadou (Univ. Crete) leg.; the adults emerged in Vienna, 29-V/4-VI-1988.

The larva is of the typical *Coenagrion* habitus. The ground colour is brownish, without significant patterns.

Measurements (in mm). — Body length (excluding antennae and caudal lamellae): 12.5; — antennae: 2.6; — caudal appendages 5.5; — praementum, length: 2.7; width 1.9; — prothoracal leg (femur-tibia-tarsi): 2.0-2.5-1.4; — metathoracal leg: 2.6-3.0-1.2; — metathoracal leg: 2.9-3.4-1.2.

Antennae 7-segmented, pedicellus about twice as long as scapus (Fig. 1). Postocular region with small-spot colouring and rudimentary spine shaped setae. Ventral margin of eye with a row of spiniform setae.

Prementum (Fig. 2) with 5 equally sized premental setae. The distal margin of the median lobe presents very small, blunt spines (Fig. 3). Each labial palp provided with 7 palpal setae, about as long as the movable hook. Distal margin of labial palps (Fig. 4) with 5 to 7 blunt teeth and a strong, inward curved end hook. Mandibles (Fig. 5) armed with 4-5 unequally sized outer teeth, connected on each side to a pointed lateral tooth. Inner margin with a stout, solitary tooth. Maxilla (Fig. 6) with galea simple and provided with diminutive, slightly feathered setae, the lacinia with 5 unequally sized, large curved and strong teeth as well as with 5-6 smaller ones.

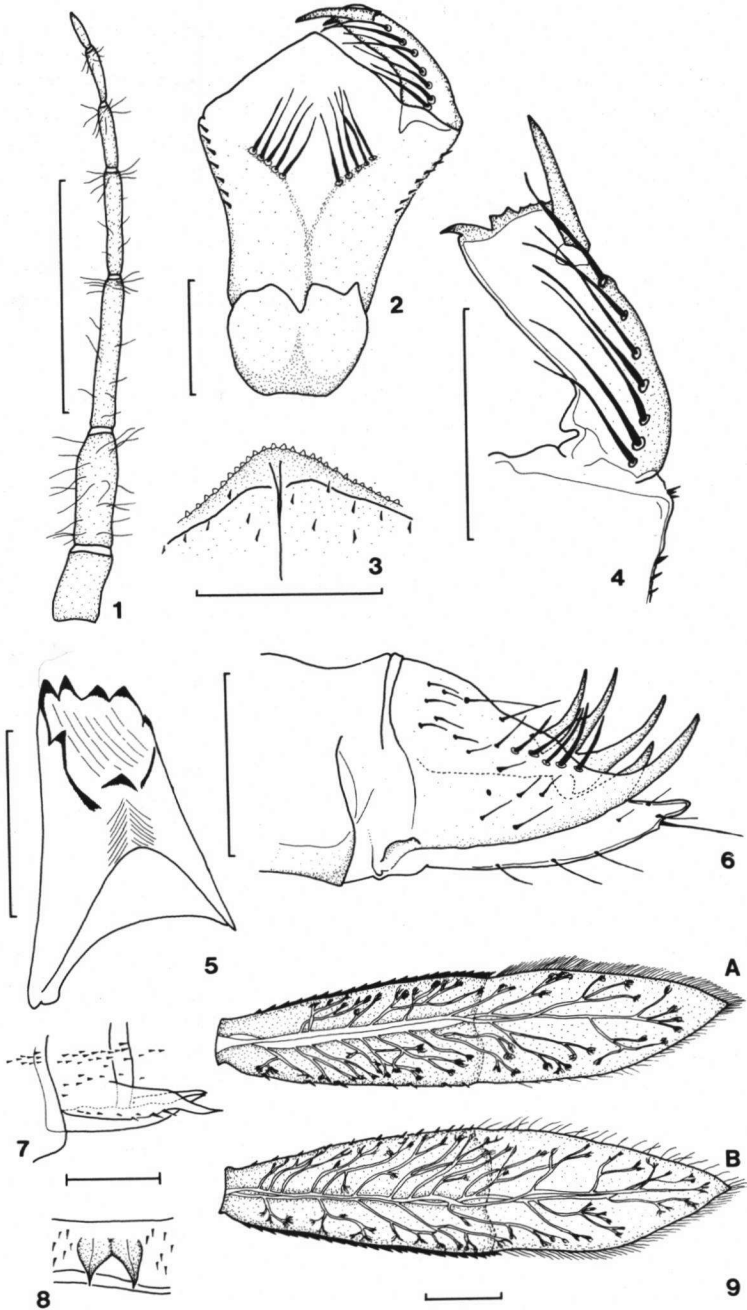
Wing sheaths reaching about the posterior third of abdominal segment 4. Proximal part of femora incompletely and distal parts distinctly banded with dark brown. The inside of the apical tibiae is densely provided with tridentate setae, while unidentate, feathered setae are predominant on the inner side of tarsi.

Female gonapophysis (Fig. 7) extending to the posterior border of segment 10. The apex of the valvula presents 2 sharp spiniform setae. Male genitalia as in Figure 8. Caudal lamellae without distinct pigmentation (Fig. 9). Nodal line undulated, apices slightly pointed. Median caudal lamella: dorsal margin of antenodal part with strong spiniform setae, postnodal part densely set with piliform setae. Ventrally, spiniform and piliform setae shorter and less densely set than dorsally. In lateral caudal lamellae dorsoventral position and shaping of setae reversed with respect to the median one.

NOTES ON HABITAT

The larvae of *C. intermedium* were collected in the permanent part of a streamlet, mainly surrounded by cultivated areas. In August the water temperature varies between 19.5 and 20°C with an oxygen concentration of about 78 mg/l and a pH of about 7.6. In riffle areas the substrate predominantly consists of stones and gravel. Important amounts of detritus deposits are accumulated in pools. The anisopteran fauna of the streamlet is rather varied, other associated Zygoptera were *Calopteryx splendens* and *Ischnura elegans ebneri*.

Figs 1-9. *Coenagrion intermedium* (Lohmann): (1) antenna; — (2) labium, inner view of prementum; — (3) distal margin of prementum; — (4) right labial palp of prementum; — (5) left mandible, inner side; — (6) right maxilla, inner side; — (7) end of female abdomen, left lateral view; — (8) male gonapophysis, ventral view; — (9) median (a), and lateral (b) caudal lamella. — [Scale bar for Figs 1, 2, 4, 7, 8, 9: 1 mm; — for Figs 3, 5, 6: 0.5 mm].



DISCUSSION

This is the first larva described from the eastern Mediterranean *Coenagrion puella*-complex sensu LOHMAN (1990b), originally including *C. syriacum*, *C. p. ponticum*, *C. p. intermedium* and *C. puella*. Striking affinities can be noticed between the larva of *C. intermedium* and the description by CARCHINI (1983) of *C. puella* from Italy, which, by the way, cannot be clearly differentiated from Italian *C. pulchellum*. However, because of the rather high intraspecific variability of some diagnostic features in coenagrionid larvae (e.g. GARDNER, 1977), it would be premature to draw any conclusions from these scanty data as to the taxonomic affinities within the species complex at this stage.

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