

SHORT COMMUNICATIONS

***HETERAGRION AZULUM* SPEC. NOV., A NEW DAMSELFLY FROM MEXICO (ZYGOPTERA: MEGAPODAGRIONIDAE)**

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H. azulum sp. n. is described from a single ♂ (holotype) collected in Mexico, Veracruz, 2.0 km E Coyame and 12.4 km ENE Catemaco (18°26'N, 95°01'W), deposited at FSCA, Gainesville, FL, USA. It differs from all known Central American *Heteragrion* by the blue-gray coloration of the face and sides of the thorax, the upturned and appressed posterior spines of the paraprocts, and the flattened penis flagellae.

INTRODUCTION

The pale thoracic markings of all known Central American species of the genus *Heteragrion* are yellow or orange. Here, I describe the first mostly blue species from the region.

***HETERAGRION AZULUM* SPEC. NOV.**

Figures 1-3

Material examined. — 1 ♂ (holotype), Mexico, Veracruz State, stream 2.0 km E Coyame and 12.4 km ENE Catemaco, 18 Aug. 1976, J.A. Garrison coll. Deposited Florida State Collection of Arthropods, Gainesville, Florida, USA.

Diagnosis. — Male differs from all other Central American *Heteragrion* by blue-gray coloration of face and thorax, upturned appressed paraproctal spines, and flattened penis flagellae. Female and larva unknown.

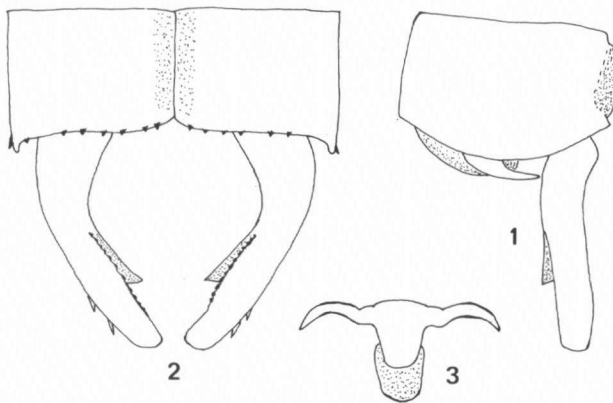
Etymology. — Named from the Spanish adjective azul, meaning blue.

MALE (holotype). — Colors well preserved by acetone treatment. Labrum black, with a gray transverse basal median spot, its free edge downturned but without distinct transverse carina of some other *Heteragrion*. Mandibular bases,

genae, clypeus, and frons pale gray except for prominent black band on the frontoclypeal suture. Frons and clypeus right-angled in profile view; frons with distinct cornerlike angle, clypeal angle rounded. Vertex and occiput black, vertex lacks flattened pale reflecting area found in most male *Heteragrion*. Antennal scape black, remainder of antenna brown. Rear of head and labium tan.

Anterior and posterior lobes of prothorax black, remainder blue-gray. Posterior margin of posterior lobe evenly arcuate except for a slight median depression. Mesepisternum black except for 0.5 mm wide blue-gray stripe just anterior to humeral suture. Remainder of pterothorax blue-gray, except for 0.5 mm wide black stripe just posterior to humeral suture, this stripe continuing indistinctly onto meskatepisternum, and an obscure black stripe on metepisternum. Black of mesepisternum and black humeral stripe connected dorsally. Coxa blue-gray, trochanter and femur mostly tan, remainder of leg and spurs ("spines" of many authors) brown.

Venation as in other Central American *Heteragrion*. Two postquadrangular cells in all wings, pterostigmata brown.



Figs 1-3. *Heteragrion azulum* sp. n., holotype male: (1) Left lateral view of abdominal segment 10 and appendages, showing black middorsal keel on segment 10 and the upcurved paraproct spine which is mostly appressed to paraproct; — (2) Dorsal view of segment 10 and cerci; — (3) Ventral view of distal end of penis showing distolateral flattened flagellae; stippling indicates a membranous flap.

Abdomen mostly black, pale on sides of segments 1-2, an obscure pale ring at base of each of 3-7, obscure wide brown ring at posterior 3/4 of each of segments 3-6, 8-10 orange including sterna, except for black middorsal keel on 10. A pale middorsal hairline extends from segment 2 to 2/3 length of 9; this is apparently a joint allowing flattening of the abdomen during displays (see PAULSON, 1981). Cerci robust, orange basally, brown distally, with prominent medioventral tooth

on each at 4/5 length. Distal half of each cercus with a dorsomedial denticulated shelf-like carina located dorsal to tooth (Fig. 2). Posterior paraproctal spines hooked dorsally and pressed against body of paraproct except at sharp tips (Fig. 1). Secondary genitalia as in other *Heteragrion* but penile flagellae pointed and flattened (Fig. 3), not rod-like with blunt tips as in other Central American *Heteragrion*.

Measurements (in mm). — Total length including cerci 48.5, abdomen 40.0, hindwings 27.0.

DISCUSSION

In WILLIAMSON's (1919) monograph, *azulum* belongs in group 3 along with other Central American species, but does not key to any species in that group. It does not seem to be especially closely related to any other *Heteragrion*, and in fact its blue-gray coloration and its penis are more similar to those of *Oxyagrion* (GEIJSKES, 1976, figs 34-36). However, the venation and other characters of *Heteragrion*, as given by WILLIAMSON (1919), are present in *H. azulum*. *H. azulum* is apparently rare, because in spite of considerable odonate collecting in the lowland rainforest where it occurs, only one specimen has been taken. *H. alienum* Williamson was common at the type locality, along with 2 spp. *Hetaerina*, 3 spp. *Argia*, and *Palaemnema paulitoyaca* Calvert (R.W. Garrison, pers. comm.). *Heteragrion albifrons* Ris is common on other streams in the area, but was not found with *H. azulum*.

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