

**DESCRIPTION OF THE LARVA OF *PERISSOLESTES MAGDALENAE*
(WILLIAMSON & WILLIAMSON, 1924) (ZYGOPTERA: PERILESTIDAE)**

R. NOVELO GUTIÉRREZ¹ and E. GONZÁLEZ SORIANO²

¹Insectario, DPAA, DCBS, Universidad Autónoma Metropolitana —
Xochimilco, Apartado Postal 23-181, MX-04960 México, D.F., Mexico

²Departamento de Zoología, Instituto de Biología, Universidad Nacional
Autónoma de México, Apartado Postal 70-153, MX-04510 México, D.F., Mexico

Received April 24, 1985 | Accepted May 7, 1985

The larva of *P. magdalенаe* is described and figured from Veracruz, Mexico, based on a ♀ exuvia, a ♂ ultimate instar, and on 7 specimens of both sexes, referable probably to the penultimate instar. This is the first description of a larva in this genus. Notes on larval habitat and taxonomic comments on the family are added.

INTRODUCTION

This paper is part of a broader project to associate larval and imaginal stages of Mexico odonates, particularly those of neotropical genera and species which are unknown or little studied (cf. NOVELO & GONZÁLEZ, 1985).

The family Perilestidae comprises a group of neotropical zygopterans whose distributional pattern closely follows that of the tropical rain forest (GONZÁLEZ & VILLEDA, 1978); it contains the genera *Perilestes* and *Perissolestes*, the latter comprising 11 species (KENNEDY, 1941a, 1941b). The northernmost record of *Perissolestes* was given by GONZÁLEZ & VILLEDA (1978) who found *P. magdalенаe* in the mountainous area at "Los Tuxtlas", Veracruz, Mexico.

Adults of *P. magdalенаe* are scarce at "Los Tuxtlas" and little is known about their habits. We found larvae among decayed leaves and twigs accumulated at backwaters and puddles of streams running through the forest. A teneral adult female was found near her larval exuvia. This exuvia was attached to moss of a rocky wall approximately 60 cm above the water surface. The teneral was collected and maintained alive until she was sufficiently hardened to confirm our previous determination. The exuvia was preserved in 70% ethanol.

DESCRIPTION

Material. — 1 exuviae (♀) 1 ultimate instar (♂), 7 penultimate (?) instar (♂, ♀): Mexico, Veracruz, Estación de Biología Tropical "Los Tuxtlas", streams of Laguna Escondida; R. Novelo, 14-V-1983, 2 ♂; E. González, R. Novelo and V. García, 24-V-1984, 3 ♂, 4 ♀ (1 exuviae); deposited at Colección de Insectos Acuáticos del Insectario CBS, Universidad Autónoma Metropolitana, also at IBUNAM (Colección Entomológica, Instituto de Biología, UNAM); Mexico City, D.F.

Morphology and color. — Body delicate and slender; dark brown with tawny middorsal stripe (Fig. 1); coloration on ventral part of head, thorax and abdominal segments I-III more clear than on remaining abdominal segments. Head subtriangular, wider than long; occipital margin widely concave, cephalic lobes bordered with small setae. Inner line of ocelli with a black stripe. Antennae long and slender (Fig. 2), 7-jointed; the second the longest, the seventh the smallest; first antennal joint mostly pale, its apical end obscure; the second mostly obscure with a pale central ring; basal half of 3rd pale, apical half obscure; remaining joints light brown. Labium longer than wide

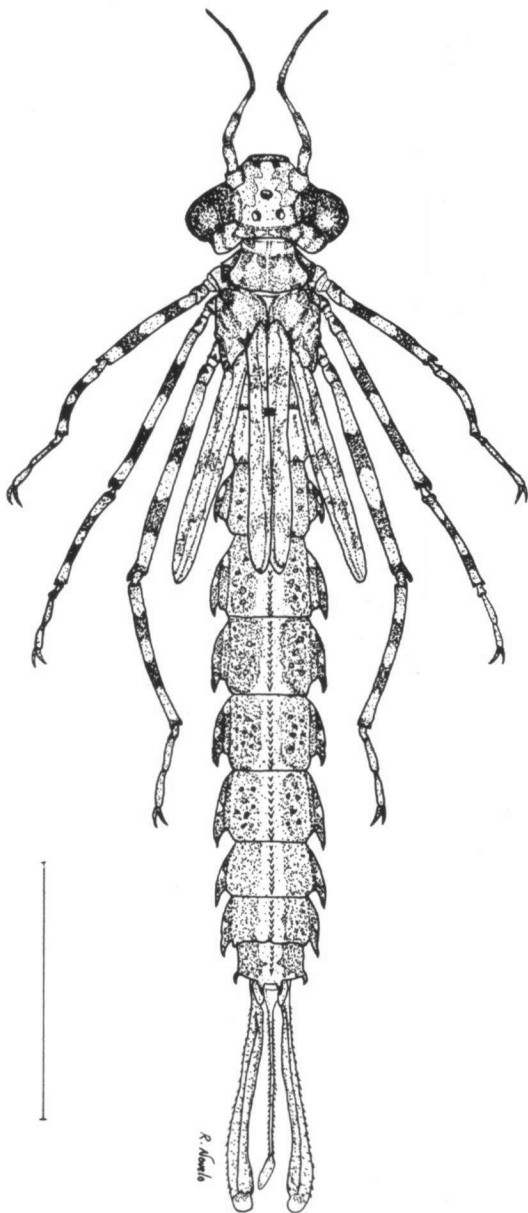
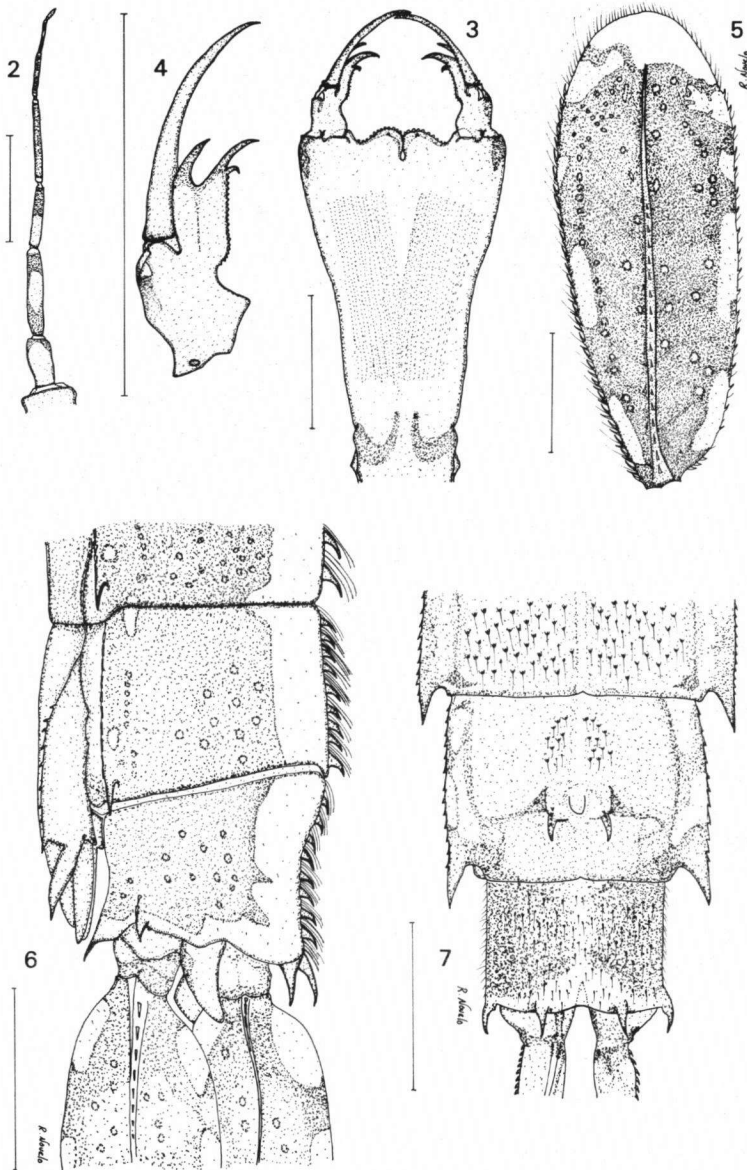


Fig. 1. *Perissolestes magdalenae*, ultimate instar, ♂ (bar: 5 mm).



Figs 2-7. *Perissolestes magdalenae*, structural features of the larva (all bars: 1 mm): (2) Left antenna, dorsal view; — (3) Labium (dorsal view); — (4) Right labial palp, ventral view; — (5) Left lateral gill; — (6) Female abdominal segments VIII-X, left lateral view, showing gonapophyses, dorsal row of spines, cercus, base of gills, and the characteristic color pattern; — (7) Male abdominal segments VIII-X, ventral view, showing gonapophyses, lateral expansions, and ventro-caudal spines of X.

(Fig. 3), at rest reaching posterior margin of mesosternum; mental and palpal setae absent; labial palp with three apical teeth (Fig. 4), the median the longest and the mesal the shortest. Internal margin of palp with a concavity followed by a single row of denticles. Median lobe finely crenulated at its distal margin and with a drop-like central cleft flanked at each side by a small spine; sides with a slight depression.

Posterolateral margins of prothorax widened and finely serrated, posterior margin almost straight. Anterodorsal corners of mesothorax bearing scarce, diminute, scattered spines. Legs long, exhibiting a characteristic color pattern of intercalated light brown and dark rings. Femora with four carinae; two dorsal, one internal and one external; these carinae and tibial borders finely serrated. Tarsi pale, three-jointed, basal joint minute and distal one largest; claws simple. Wing sheaths of full grown larva extending to basal half of abdominal segment IV. Abdominal segment I wider than long, segments II-VIII similar in length and width, IX and X shorter and narrower than preceding ones. Segments I-IX expanded laterally to form keels (Fig. 1), these keels increasing gradually from anterior to posterior segments; borders of keels finely serrated (Fig. 7), ending in an acute spine; segments I-II lacking these spines, but present again on X. Segments IV-X with dorsal row of posteriorly directed small spines (Figs 1, 6), last spine of each segment bigger than preceding ones. Numerous white long setae intercalated between spines. Caudal margins of X with two pairs of spines, one dorsal and one ventral (Figs 6, 7). Male gonapophyses small, acute, serrated ventrally, not reaching posterior margin of IX (Fig. 7); female gonapophyses slightly surpassing X (Fig. 6); inferior borders of lateral valvae serrated, those of internal valvae smooth. Cerci slightly curved dorsally from basal third. Gills dark brown with clear spots and dots (Fig. 5), oval and flattened, three times longer than wide and with margins beset with small spinulets basally, apical fifth only with delicate setae; lateral gills slightly longer than central one; gills not petiolated.

Measurements (mm). — Total length, including gills: 20.2 (exuviae ♀); 23.6 (♂ last instar larva); 18.2-19.1 (probably penultimate instar larvae). Posterior femur: 3.6 (♀), 3.7 (♂). Lateral gills: 3.8 (♀), 4.0 (♂).

DISCUSSION

At present, the larva of only one perilestid, *Perilestes fragilis* Selys, has been described (SANTOS, 1969). The characteristics shared by *Perissolestes magdalenae* and *Perilestes fragilis* are: the pale middorsal stripe throughout, legs with intercalated clear and dark rings, the dorsal row of small spines and those lateral of abdomen, and obscure gills with pale spots and dots. Perhaps other species of Perilestidae share these features, which could characterize the family.

The larvae of *P. magdalenae* can be separated from those of *P. fragilis* in the

lateral keels of abdominal segments I-IX, in the gill margins beset with spinulets, and in the greater length of the body of the former. Although our knowledge about the immature stages of Perilestidae is very scarce, we think that the features exhibited by *P. magdalenae* (abdominal keels, gills with spinulets) are good traits supporting the separation of the genera *Perilestes* and *Perissolestes* proposed by KENNEDY (1941a). However, some investigators (Dr R.W. Garrison, pers. comm., 1985) think that both genera are synonyms because only minor venational characters distinguish them in the adult stage. For this reason, it is necessary to accumulate more information about the larvae of other species of Perilestidae that could help us resolve this problem.

ACKNOWLEDGEMENTS

We thank VIRGINIA GARCÍA C. for her valuable help in collecting the specimens studied. The authors are much indebted to Drs R.W. GARRISON and A.N. GARCÍA ALDRETE who read the drafts and whose comments were invaluable in preparing the manuscript.

REFERENCES

- GONZALEZ, S.E. & M. DEL PILAR VILLEDA, 1978. The first mexican record of *Perissolestes magdalenae* (Williamson & Williamson) (Zygoptera: Perilestidae). *Notul. odonatol.* 1: 22-23.
- KENNEDY, C.H., 1941a. Perilestinae in Ecuador and Peru: Revisional notes and descriptions (Lestidae: Odonata). *Ann. ent. Soc. Am.* 34: 658-688.
- KENNEDY, C.H., 1941b. *Perissolestes paprzyckii*, a new Perilestinae dragonfly from Peru. *Ann. ent. soc. Am.* 34: 852-854.
- NOVELO, G.R. & E. GONZALEZ S., 1985. Descripción de la náyade de Cora marina Selys, (Odonata: Polythoridae). *Fol. ent. mex.* 63. (In press).
- SANTOS, N.D., 1969. Contribuicao ao conhecimento da fauna do estado da Guanabara 70. Descrição da ninfa de *Perilestes fragilis* Hagen in Selys, 1862 e notas sobre o imago (Odonata: Perilestidae). *Atas Soc. Biol. Rio de J.* 12(5/6): 303-304.