

SHORT COMMUNICATIONS

DESCRIPTION OF THE LARVA OF *GYNACANTHA BIFIDA* RAMBUR
(ANISOPTERA: AESHNIDAE)

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The ultimate instar larva is described and figured, based on exuviae of reared specimens. Some biological notes of the species are added.

INTRODUCTION

The immature stages of 2 species only of *Gynacantha* Rambur, 1842 have been described from South America (SANTOS, 1981), though the actual number of described regional members of this genus is 22 (DAVIES & TOBIN, 1985). The evident cause for this amazing difference is related to the habits of *Gynacantha* species, which usually breed in small ponds in the forest interior, and thus are difficult to reach and collect (SANTOS, 1973).

Gynacantha bifida Rambur, 1842, widespread in South America, occurs in Brazil throughout the year and in the entire country. It is the species of the genus represented by the greatest number of specimens in our collections. The adults are essentially crepuscular in habits. They have been observed and collected near city lights, where they occasionally enter buildings in early night, as recorded earlier for *G. nervosa* Rambur (WILLIAMSON, 1923).

DESCRIPTION

Material — Ultimate instar exuviae from 2 male larvae: Rodovia Rio / Santos, km 10, Picinguaba — São Paulo, 13 October 1985; and Charitas, Niterói — Rio de Janeiro, 16 March 1986, both collected by the author; adults emerged on 10-11 November 1985 and 5-6 April 1986, respectively.

Measurements (in mm, from exuviae preserved in 70% ethanol) — Total length 40.0; length of abdomen (including caudal appendages) 27.0; maximum abdomen width 7.3 (seg. 6); maximum head width 8.5; maximum head length 5.6; length of wing-cases 9.6; length of hind tibia 6.0; length of hind femur 6.1; — Anal appendages — cerci 3.0; epiproct 3.2; paraprocts 3.3; male projection 1.6 from base; — Labium — length of prementum 7.4; width of prementum 5.4 (maximum); width of postmentum 2.9.

Ground colour ochraceous, with 3 distinct brown longitudinal stripes, a median-dorsal and two lateral ones, extending from the epiproct and paraprocts respectively to the median and latero-posterior regions of the head, quite distinct on the abdomen (Fig. 1).

Head pentagonal. Antenna filiform, 7-segmented, with the third segment longest, length of the segments: 0.28, 0.36, 0.75, 0.40, 0.56, 0.58, 0.47 mm. Compound eyes forming the antero-lateral angles of head, like other *Gynacantha* larvae described.

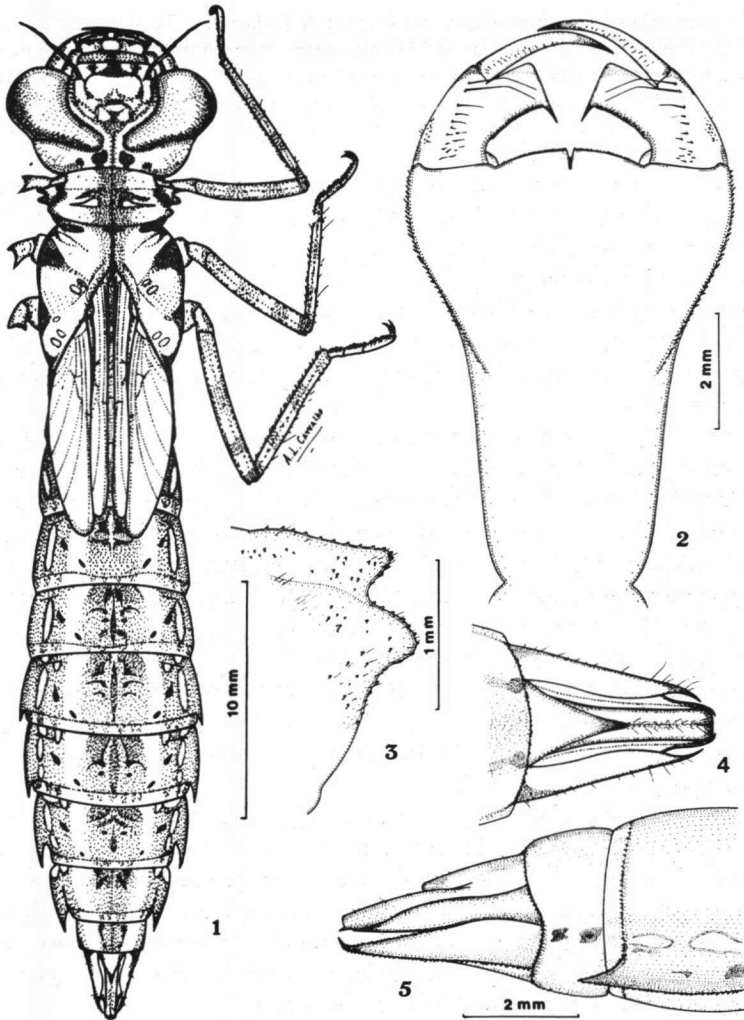
Labium with a goblet-shaped prementum, carrying a pair of inconspicuous teeth on the sides of the distinct median cleft (Fig. 2). Labial palps truncate, each provided with a row of setae disposed in the following way: two equal distal ones, long, arched and prominent; one of medium size; and proximally a group of a variable number of little setae. Each labial palp presents small and dull denticulated processes on its internal margin, provided distally with a prominent and sharp tooth. Movable hooks sharp and armed with smaller setae. Labium, when folded, reaching to the level of the second coxae.

Prothoracic pleuron with a pair of prominent and obtuse processes on its lower margin (Fig. 3). Wing-cases nearly parallel, with hind wing-cases reaching approximately the middle of the fourth abdominal segment. Femora and tibiae marked with four brown annuli.

Abdominal segments showing the brown longitudinal stripes described above, including in each segment a different arrangement of spots, bands, puncta and scars (Fig. 1). Lateral spines present on abdominal segments 6-9. Epiproct almost as long as the paraprocts. Apex of epiproct truncated and not distinctly bifurcated (Figs 4-5). Cerci lighter in colour in relation to the other appendages in the living larvae, almost as long as the epiproct. Male projection triangular and reaching approximately the middle of the epiproct.

BIOLOGY

The two larvae were collected in two apparently different habitats. That from São Paulo was taken from a small, shallow, open-country pond. The vegetation of such ponds is composed of *Typha* sp. (Typhaceae) and also by *Rotala* sp. (Litraceae), that covers the muddy bottom completely. Besides the single *G. bifida* specimen it was only possible to collect 10 *Anax amazili* (Burm.) larvae. On the other hand, the Rio de Janeiro larva was found in a small well, supported by rain water, and dug out in a slope of a deforested path, (diameter 1.0 m, depth



Figs 1-5. *Gynacantha bifida*, ♂ exuviae: (1) dorsal view of the last instar larva; — (2) labium, dorsal view; — (3) prothoracic pleural processes, dorsal view; — (4) caudal appendages, dorsal view; — (5) caudal appendages, lateral view.

0.6 m); it serves as a waterpit for horses. Grassy plants grow at its edges. In this peculiar habitat also the larvae of *Acanthagrion gracile* (Ramb.), *Erythrodiplax connata fusca* (Ramb.), *E. juliana* Ris and *Orthemis ferruginea* (Fabr.) were found.

Maintained in the laboratory in small styrofoam boxes and fed on earth-

worms, small fish and tadpoles, the ultimate instar of the *Gynacantha* larvae lasted 27 and 20 days, and ceased feeding approximately 11 and 8 days before emergence, respectively. The larva collected in São Paulo left the water at about 7:00 p.m. on the day before emergence, which occurred soon after midnight.

DISCUSSION

Despite the scanty information on the immature stage of *G. bifida* based on the observations gathered during several trips, we can assume it breeds in small, open temporary water bodies, in small numbers, in peripheral areas of rain forest.

Larvae of South American *Gynacantha* have been described by WILLIAMS (1937; *nervosa*) and SANTOS (1973, *gracilis*). The latter can be readily separated from *G. bifida* and *G. nervosa* by the following characters: Absence of dark longitudinal stripes on thorax and abdomen; labium when folded reaching to the level of the third coxae; presence of a pair of sharp-pointed teeth on the sides of the median cleft; row of palpal setae composed by only very small ones; lateral spines present on abdominal segments 5-9; cerci distinctly smaller than the epiproct; male projection reaching approximately the basal third of the epiproct. Structurally the larvae of *G. bifida* and *G. nervosa* are quite similar. However, *bifida* can be differentiated from *nervosa* by the distinct, dark medio-dorsal longitudinal abdominal stripe which is diffuse in *G. nervosa*. *G. bifida* generally also has a smaller number of fully developed setae than *G. nervosa*.

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