

**DESCRIPTION OF THE LARVA  
OF *PLANIPLAX PHOENICURA* RIS,  
FROM PANTANAL SUL-MATOGROSSENSE, BRAZIL  
(ANISOPTERA: LIBELLULIDAE)**

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The ultimate instar larva is for the first time described and illustrated. A key to the larvae of Libellulidae with dorsal hooks on abdominal segments III – IX and lateral spines on abdominal segments VIII – IX is appended.

**INTRODUCTION**

The genus *Planiplax* Muttkowski, 1910 includes five valid species: *P. arachne* Ris, 1912 (South America), *P. erythopyga* (Karsch, 1891) (South America), *P. machadoi* Santos, 1949 (Brazil), *P. phoenicura* Ris, 1912 (South and Central America) and *P. sanguiventris* (Calvert, 1907) (Central America) (GARRISON, 1993).

This paper presents the description of the final instar of *P. phoenicura* based on a female exuviae and subsequently identified material from Pantanal, Brazil. The larvae of the other species in this genus are undescribed (SANTOS, 1988). This species is widely distributed through Brazil (Pará, Pernambuco, Espírito Santo, Rio de Janeiro, Bahia, Minas Gerais and Mato Grosso do Sul).

**MATERIAL AND METHODS**

One female larva of *P. phoenicura* from Passo do Lontra, Corumbá, Mato Grosso do Sul ( 19° 34' 37" S and 57° 02' 09" W) was collected on Oct.23, 1994 in a temporary lake among aquatic plants during its emergence. Species determination was from the teneral imago (SANTOS, 1949). The exuviae was stored in 75% ethyl alcohol, and drawn using a microscope and camera lucida. Mandibles,

prementum, labial palps, antenna segments and abdomen terminal parts to the scale of 2mm; head to the scale of 4mm; exuviae and abdomen to the scale of 10mm.

CORBET (1953) terminology for the labium was adopted. Mandibular formula according to WATSON (1956). The material is deposited in the Museu Nacional, Rio de Janeiro, Brazil.

## DESCRIPTION

Figures 1-8

Body typical of the Libellulidae (Fig. 1), i.e. similar to some of the Trithemistinae (*Dythemis* and *Macrothemis*) and to the Palpopleurinae (*Perithemis*), but bigger. General color light brown.

Head wider than thorax. Eyes small and prominent similar to *Brechmorhoga*, of globular form as seen in frontal aspect, tapering down along the subocular area; frontal shelf low with 12 setae (6 + 6); front with one group of other setae more posteriorly (Figs. 1-2); antennae 7-segmented (Fig. 3), the 3<sup>rd</sup> and 6<sup>th</sup> segments biggest; mandibles (Fig. 6) asymmetric; left mandible armed with 4 incisor teeth and 3 molar teeth; right mandible armed with 5 incisor teeth and 3 molar teeth; mandibles formula:

L 1 2 3 4 0 a b d / R 1 2 3 4 y a b c d

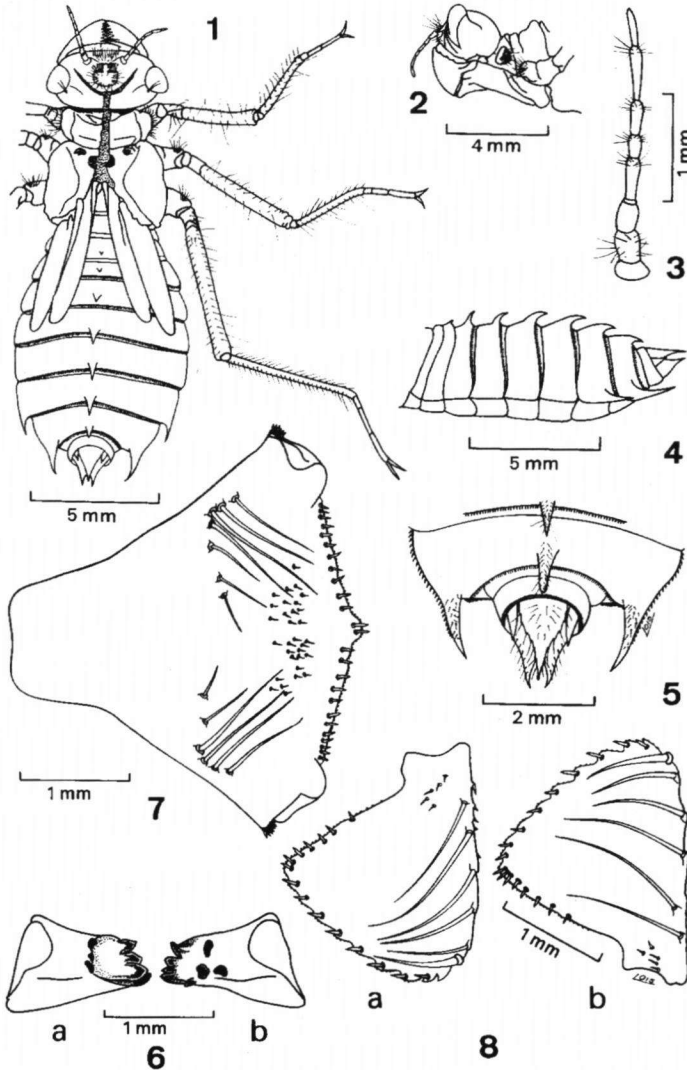
Labium large, reaching mesosternum, prementum (Fig. 7) with 7 premental setae of varying size on left side and 6 premental setae of varying size on right side; the left distal margin with 11 spiniform setae in decreasing series and 2 apical setae; a group of 7 spiniform setae at each lateral margin at the junction with the labial palps; 30 small setae between the internal margin and distal margin of prementum. Labial palp (Fig. 8) large with small brownish spots; each palp with 5 major palpal setae and a basal group of 5 minute spiniform setae; moveable hook as large as adjacent setae, reaching 4<sup>th</sup> crenulation; distal margin of palp with 9 crenulations, each bearing 1 spiniform seta (left palp with 8 crenulations); internal margin with 7 and 8 (left and right respectively) spiniform setae; outer margin with small spiniform setae.

Thorax (Fig. 1) with supracoxal process prominent and rounded; wing pads, reach proximal extremity of abdominal segment 6. Legs long and moderately hairy; posterior pair longer than abdomen.

Abdomen (Figs. 1, 4 and 5) cylindrical, widest at segment 6. Middorsal hooks on segments 3 to 9; decreasing in size from segment 3 posteriorly, those on segments 3 and 4 small, that on segment 5 reaching posterior border of that segment, that on segment 6 extending about one third length of segment 7, that on segment 7 extending about one third length of segment 8, that on segment 8 extending about one fourth length of segment 9 and that on segment 9 reaching the distal border of segment 10. All hooks bear hairs along their dorsal border. Lateral spines on segment 8 extending to half middorsal length of segment 9, that on segment 9 twice as long as the segment, reaching about half way along paraprost. Epiproct (Fig. 5) only slightly smaller than paraprocts, bearing hairs on dorsal border. Paraprocts

with minute spines on dorsal borders. Cerci reaching about half length of epiprocts.

**Measurements** (in mm) – Total length (excluding antennae): 18.00; length of head 2.22 (excluding labium); width of head 4.40; length of eyes 1.40; width of eyes 0.50; total length of antennae 2.45; length of antennomeres 0.30/ 0.32/ 0.40/ 0.23/ 0.32/ 0.50/ 0.37; length of prementum 3.25; basal width of prementum 1.30; maximum width of prementum 3.75; length of labial palps 2.30;



**Figs 1-8.** *Planiplax phoenicura* Ris, structural features of the ultimate larval instar: (1) ultimate instar, general aspect; - (2) head, lateral view; - (3) antenna; - (4) abdomen, lateral view; - (5) abdomen, terminal segments; - (6) mandibles: (a) left (b) right; - (7) prementum, dorsal view; - (8) labial palp, dorsal view: (a) left (b) right.

maximum width of labial palps 1.93; length of fore wing pads 5.85; length of hind wing pads 5.50; length of femora (F1 3.25, F2 4.50, F3 5.95); length of tibia (T1 3.90, T2 5.00, T3 6.80); length of abdomen 13.00; maximum width of abdomen 6.80; length of lateral spine VIII 0.72; basal width of lateral spine VIII 0.29; length of lateral spine IX 1.16; basal width of lateral spine IX 0.36; length of epiproct 1.00; length of paraproct 0.81; basal width of paraproct 0.50; length of cercus 0.66; basal width of cercus 0.26.

**HABITAT.** – The example was collected in a “vazante” (River drainage canal). During drought the canal forms a long lagoon, which dries up during prolonged drought. During flooding, the canal receives water from the Rio Miranda. The larva was collected at the end of the drought and beginning of the rainy season, at a depth of 0.40m, while the greatest depth of the “vazante” was approximately 1.20m. The temperature of the air at that time varied from 25° to 30°C. The site where the larva was collected was covered homogeneously with macrophytes, predominantly *Salvinia* sp. There were also small-uncovered areas and smaller areas containing *Eichhornia azurea*. At the site where the larva was collected, there was a predominance of grass. Surrounding vegetation: open field with scattered shrubbery.

## DISCUSSION AND CONCLUSION

There are five species of *Planiplax* recorded for South and Central America, well represented in Brazil, only *P. sanguiventris* has not been registered. In the Museu Nacional, collection, there are specimens from different regions, which are related in this paper.

Four genera of New World Libellulidae have dorsal hooks on abdominal segments 3-9 and lateral spines on abdominal segments 8-9 only (NEEDHAM & WESTFALL, 1955): *Dythemis*, *Macrothemis*, *Perithemis* and *Tauriphila* (except *T. argo* [Costa & de Assis, 1994]). With the discovery of the *Planiplax phoenicura* larva, there are five libellulid genera whose larvae have these characters.

The key below, modified from RODRIGUES CAPÍTULO (1996) allows the identification of larvae of these five genera:

- |   |   |
|---|---|
| 1 Dorsal hooks cultriform .....                           | <i>Perithemis</i>                                   |
| - Dorsal hooks more spinelike .....                       | 2   |
| 2 Abdomen broadly depressed, little longer than wide..... | <i>Tauriphila</i> (in part) ( <i>T. australis</i> ) |
| - Abdomen about twice as long as wide .....               | 3   |
| 3 Teeth on palp of labium large .....                     | 4   |
| - Teeth on palp obsolete .....                            | <i>Dythemis</i>                                     |
| 4 Palpal setae six .....                                  | <i>Macrothemis</i>                                  |
| - Palpal setae five .....                                 | <i>Planiplax</i>                                    |

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