

**DESCRIPTION OF THE LARVA OF
TAURIPHILA ARGO HAGEN, 1869 FROM SÃO PAULO, BRAZIL
(ANISOPTERA: LIBELLULIDAE)**

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The final instar is described and compared with that of *T. australis* Hagen, 1867 and *Tauriphila* sp.? Needham & Fisher, 1936. It is the first larval stage described of any *Tauriphila* from South America.

INTRODUCTION

The genus *Tauriphila* Kirby, 1889 includes five valid species: *T. argo* Hagen, 1869 (South and Central America); *T. australis* Hagen, 1867 (South America, Central America and southern United States), *T. azteca* Calvert, 1906 (Central America); *T. risi* Martin, 1896 and *T. xiphea* Ris, 1913 (both from South America).

The final larval instar of *T. argo* is described and compared with previous descriptions of *T. australis* and *Tauriphila* sp.? Needham & Fisher, 1936. The description and figures are based on a female exuviae.

DESCRIPTION

Figures 1-6

Material. — 1 ♀ exuviae (preserved in 70% alcohol), Parque Nacional da Serra da Bocaina (alt. 1800 m), Rio de Janeiro, 25-II-1977, N.D. Santos & J.M. Costa leg. The adult female emerged in Rio de Janeiro, 10-III-1977.

The larva is small brownish, without significant pattern.

HEAD wider than thorax. Eyes rounded laterally (Fig. 1). Antennae 7-segmented. mandibles (Fig. 2) asymmetric; left mandible armed with 4 incisive teeth and 3

molar teeth; right mandible armed with 5 incisive teeth and 4 molar teeth; mandible formula (according to WATSON, 1956):

L 1234 0 abd / R 1234 y abcd.

Labium large, reaching the mesosternum. Prementum (Fig. 3) with 14 premental setae of varying size; the distal margin with 9 setae of equal size on each side and 2 apical setae; one short stout seta at each lateral margin at the junction with the labial palps. Labial palp (Fig. 4) large with small brownish spots; each palp with 9 palpal setae and a basal group of 7 minute setae; distal moveable hook larger than distal setae but smaller than proximal ones; distal margin of palp with 11 very shallow crenulations, each bearing 1-5 setae (the number of setae at each crenulation starting with the moveable hook is: 1, 2, 3, 3, 3, 3, 3, 4, 5, 3, 2); inner margin with 19 setae of varying size; outer margin without hairs or setae.

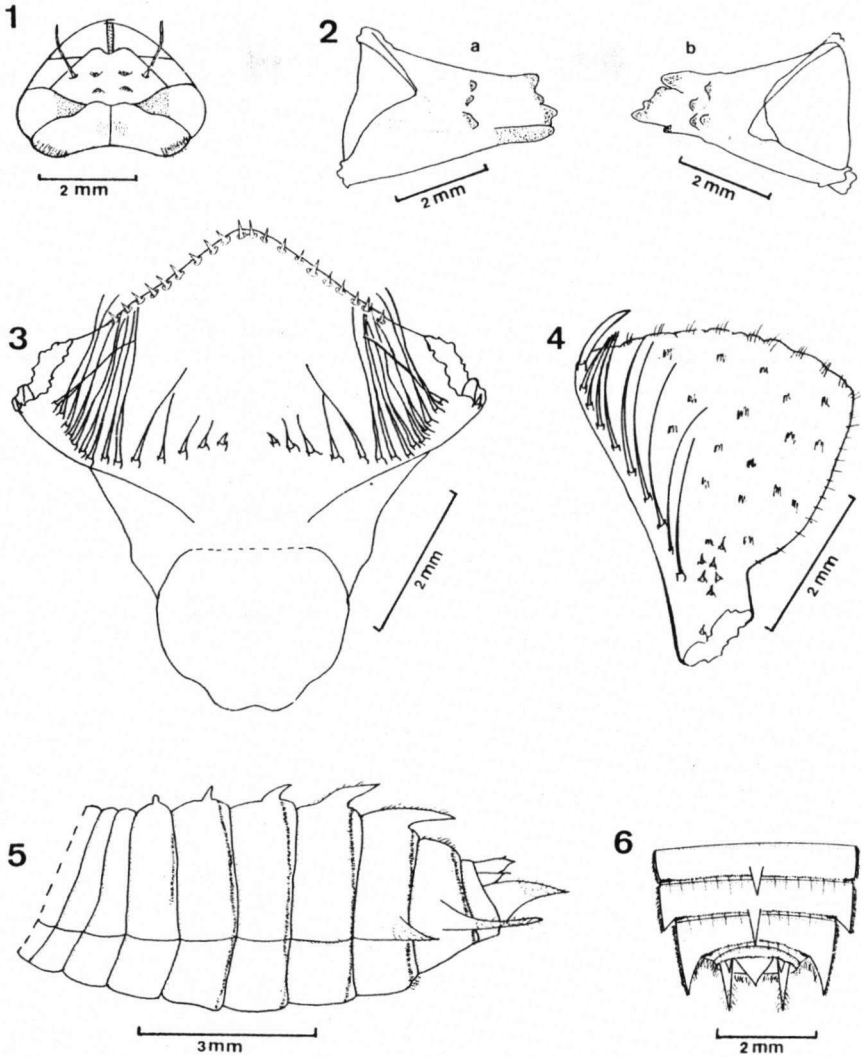
THORAX with supracoal process minute. Wing pads reaching the distal extremity of abdominal segment VI. Legs long with bristle-like hairs.

ABDOMEN (Figs 5-6) cylindrical, widest at segment VI. Middorsal hook on segments IV to VIII; they inverse in size from segment IV posteriorly, with those on segments IV and V being small, that on segment VI reaching the posterior border of that segment, that on segment VII extending about one third the length of segment VIII and that on segment VIII reaching the distal border of segment IX; the hooks on segments VII and VIII bear hairs along their dorsal border. Lateral spines are present on segments VIII and IX; that on segment VIII straight and extending to half of the mid-dorsal length of segment IX, that on segment IX curved up and twice as long the length of segment IX, reaching about half way along the paraproct. Epiproct triangular with a minute spine on its dorsal border. Paraprocts distinctly longer than the epiproct and curved down, bearing hairs on the tips. Cerci reaching one third length of the epiprocts, curved down and distinctly pointed.

Measurements (in mm). — Total length (excluding antennae): 19.65; antennae 3.49; the length of each segment from base outward is: 0.25; 0.29; 0.65; 0.50; 0.63; 0.67; 0.55; length of head 4.35; width of head 5.85; length of eyes 1.98; width of eyes 1.9; length of prementum 5.92; basal width of prementum 2.24; maximum width of prementum 5.36; length of labial palps 3.68; length of fore wing pads 5.4; length of hind wing pads 5.85; length of femora (F1 3.75, F2 4.65, F3 6.75); length of tibia (T1 3.45, T2 4.65, T3 7.2); length of abdomen 12.75; width of abdomen 6; length of lateral spine of segment VIII 0.8; basal width 0.32; length of lateral spine of segment IX 1.73; basal width 0.48; length of dorsal hook of segment VII 0.88; basal width 0.32; length of dorsal hook of segment VIII 1.2; basal width 0.4; length of epiproct 1.04; length of paraproct 2.16; length of cercus 0.27.

DISCUSSION AND CONCLUSION

NEEDHAM & WESTFALL (1955) show a photograph of the larva of *Tauriphila australis* and indicate, in a table of Libellulidae larval characters, dorsal hooks on abdominal segments III-IX in the genera *Tauriphila*, *Perithemis*, *Macrothemis* and *Dythemis*. *Dythemis alcebiadesi* Santos, 1945, *D. canacrioides* Calvert,



Figs 1-6. *Tauriphila argo* Hag., structural features of the ultimate larval instar: (1) head, dorsal view; – (2) mandibles: (a) left, (b) right inner surface; – (3) prementum, dorsal view; – (4) left labial palp, dorsal view; – (5) abdomen, lateral view; – (6) abdomen, dorsal view.

1906, *D. constricta* Calvert, 1898, *D. schubart* Santos, 1945 and *D. williamsoni* Ris, 1919, are now included in *Elasmotheremis* Westfall, 1988. The larvae of *E. williamsoni*, *E. constricta* and *E. cannacrioides* have dorsal hooks on abdominal segments III-VIII, but those of the other species in this latter genus are undescribed

(SANTOS, 1988).

The larva of *T. argo* described in this paper differs from *T. australis* (illustrated by NEEDHAM & WESTFALL, 1955) and from *Tauriphila* sp.? (described by NEEDHAM, 1936) only by having dorsal hooks on abdominal segments IV-VIII.

The lack of a description of the larva of *T. australis* and the description of *Tauriphila* sp.? (species by NEEDHAM & FISHER, 1936, not identified) lead us to doubt whether the respective species are referable to *Tauriphila*.

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