

**TWO UNDESCRIBED *ACANTHAESCHNA* LARVAE FROM
NEW SOUTH WALES, AUSTRALIA
(ANISOPTERA: AESHNIDAE)**

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Descriptions are given of aeshnid exuviae collected in New South Wales (Australia). The specimens probably belong to *Acanthaeschna inermis* (Martin, 1901) and *A. tripunctata* (Martin, 1901).

INTRODUCTION

The larvae of five of the eight species of *Acanthaeschna* occurring in New South Wales (WATSON, 1974) have been described by TILLYARD (1916). Two large exuviae belonging to one species identical with none of those five were taken by my friend, Leonard Müller (Sydney), on overhanging rocks of a river between Khancoban and Geehi in the Snowy Mountains not more than one meter from an egg-laying female of *Acanthaeschna inermis*, while a number of exuviae — all of one species — resembling those of both *Acanthaeschna* and *Notoaeschna*, were found by L. Müller and myself in north-eastern and south-eastern New South Wales. They were collected in habitats frequented by *Acanthaeschna tripunctata*. With the exception of the two species mentioned above, and *A. flavomaculata* (a small insect with about the same range as *inermis*), the larvae of all regional *Acanthaeschna* are known to me. Therefore the exuviae A and B described below, very likely belong to *A. inermis* and *A. tripunctata*, respectively (cf. Fig. 1).

The supposed larva of *Acanthaeschna inermis* (larva A in Fig. 1) looks quite similar to those of *A. atrata* and *A. longissima*, but can easily be distinguished from all others by the specific shape of its prementum, prothoracic processes,

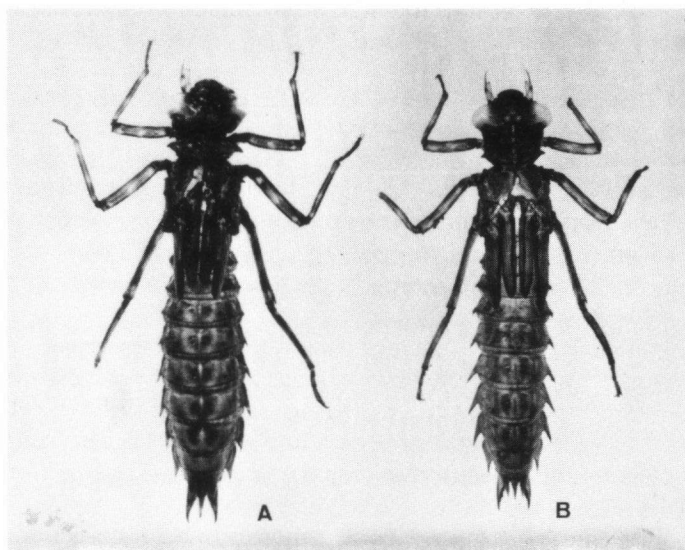


Fig. 1. Supposed exuviae of: (A) *Acanthaeschna inermis* (Martin), male and (B) *A. tripunctata* (Martin), female.

male epiproctal projection and by the presence of lateral spines on segment 4. The latter character is unique among the hitherto described larvae of *Acanthaeschna*. The supposed larva of *A. tripunctata* (larva B in Fig. 1) is easily separated from every single described larva of its congeners by specific features, such as the shape of prementum and prothoracic processes, and also from all by having only six-segmented antennae, a very spiny epiproct and paraprocts and a "female projection". Although the latter three peculiarities are common to *Notoaeschna* and larva B only, it does not make sense to discuss the interrelationships of the genera *Acanthaeschna* and *Notoaeschna* without having studied the imagines and larvae of all species. Larva B differs from that of *Notoaeschna sagittata* (Martin) in its much slenderer body, labium and legs, and by wanting a tooth on the profemur and dorsal spines on the abdomen. From all described larvae of *Acanthaeschna* and *Notoaeschna* larva B is separated by having lateral spines on segment 3.

DESCRIPTIONS

MALE LARVAL EXUVIAE A (= *ACANTHAESCHNA ?INERMIS*)

Figures 1A, 2-6

Material: 2 male exuviae, river between Khancoban and Geehi, Snowy Mountains, New South Wales, Australia, 1.3.1975, L. Müller leg.

Measurements: Total length 40,5 mm; length of posterior femur 7,0 mm; length of abdomen 27,5 mm; width of head over the eyes 8,2 mm; greatest width of abdomen 8,3 mm.

Colour: Dark brownish-grey with light brownish-yellow markings as seen in the photograph (Fig. 1A).

Head: Labium (Fig. 2) ventrally extending up to the mesocoxae; prementum 6,8 mm long, 5,1 mm wide at distal end and 2,6 mm at base; distal margin of prementum convex, bearing two small triangular teeth on both sides of a weakly developed median cleft. Palpus as shown in Figure 3; end hook rather obtuse; movable hook slightly shorter than palpus. Antennae (Fig. 4) piliform, seven-segmented.

Prothorax with a sharply pointed slim anterior and a large posterior process directed backwards including an angle of about 60° (Fig. 5). Mesothorax armed with one well visible slightly bent lateral tooth at the base of postcoxae, epimerum with one flat cone just above metathoracic stigma. Legs robust, long with strong claws. Wing-sheaths of normal length. Abdomen with lateral spines on segments 4 to 9 (well visible in ventral view). Anal pyramid as in Figure 6. The male projection is distinctly bilobed and of almost the same outline as the appendix inferior of *Acanthaeschna inermis*.

LARVAL EXUVIAE B (= ? *ACANTHAESCHNA TRIPUNCTATA*)

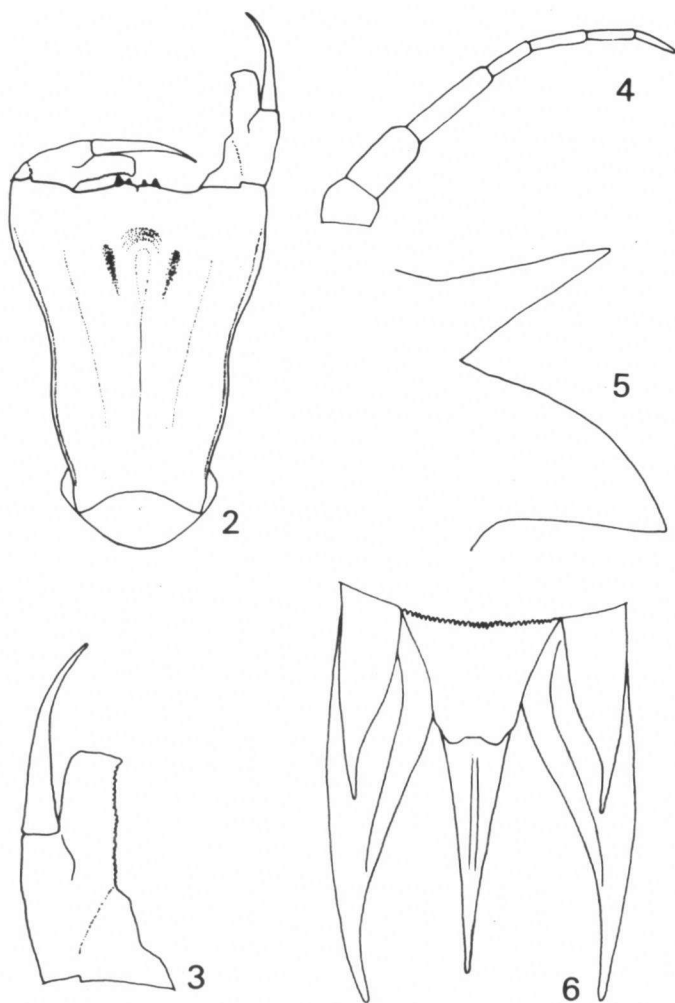
Figures 1B, 7-15

Material: 3 male, 4 female exuviae, Blinks River, NE New South Wales, November 1969, L. Müller & G. Theischinger leg.; 1 male, 2 female exuviae, Wollondilly River, SE New South Wales, December 1969, L. Müller & G. Theischinger leg.

Measurements: Total length 38,0 mm; length of posterior femur 6,7 mm; length of abdomen 26,0 mm; width of head over the eyes 7,3 mm; greatest width of abdomen 8,7 mm.

Colour: Brownish- or yellowish-grey with lighter markings as seen in the photograph (Fig. 1B).

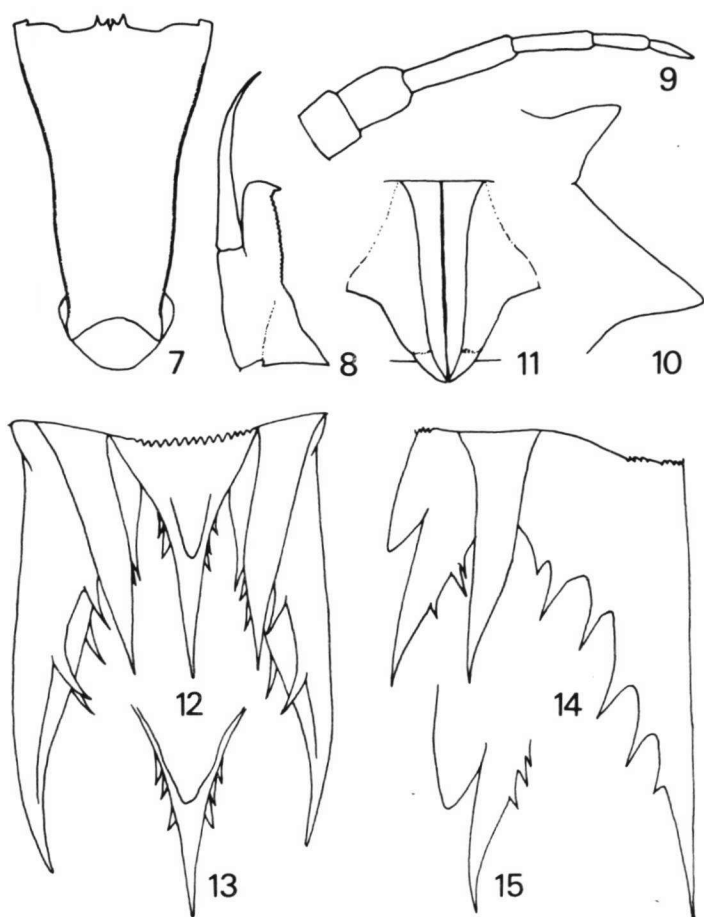
Head: Labium (Fig. 7) ventrally extending up to the mesocoxae; prementum 6,5 mm long, 2,0 mm wide at base and 4,0 mm at distal end; distal margin of prementum convex, two triangular teeth on each side of an only indicated



Figs. 2-6. Male larval exuviae of *Acanthaeschna inermis* (Martin) (supposition): (2) labium, ventral view; - (3) right palpus, ventral view; - (4) right antenna, dorsal view; - (5) right prothoracic processes, dorsal view; - (6) anal pyramid, dorsal view.

median cleft, the inner teeth very close together and directed in a pointed angle against each other. Palpus (Fig. 8') with well developed end hook; movable hook and palpus of about equal length. Antennae (Fig. 9) piliform, six-segmented.

Prothorax with a smaller anterior and a larger posterior process including an angle of about 100° (Fig. 10), both processes beset with many very small spines. Base of mesopraecoxale extending forwards as a hook. Legs robust and long.



Figs. 7-15. Larval exuviae of *Acanthaeschna tripunctata* (Martin) (supposition): (7) labium, ventral view; – (8) right palpus, ventral view; – (9) right antenna, dorsal view; – (10) right prothoracic processes, dorsal view; – (11) female gonapophyses; – (12) anal pyramid of female, dorsal view; – (13) epiproct and male projection, dorsal view; – (14) anal pyramid of female, lateral view; – (15) epiproct and male projection, lateral view.

Wingsheaths of normal length. Abdomen with well developed lateral spines on segments 3 to 9. Posterior margin of tergite 10 bearing about one dozen triangular teeth dorsally. Female gonapophyses (Fig. 11) a little longer than sternite 9. Anal pyramid (Figs. 12, 14) of about the same proportions in both sexes, only the male projection (Figs. 13, 15) being larger and stronger than that on the epiproct of the female larva. Epiproct and paraprocts armed with long strong spines of variable number, cerci and projections unarmed.

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